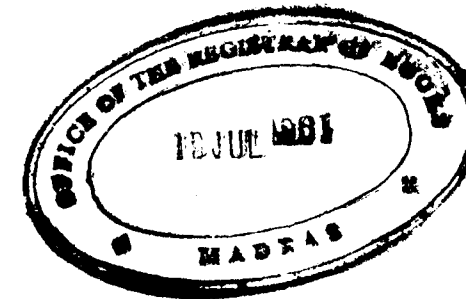


Vol. XIII, No. 1



MARCH 1961

Conference Number

360

INDIAN JOURNAL

OF

OTOLARYNGOLOGY



PUBLISHED BY

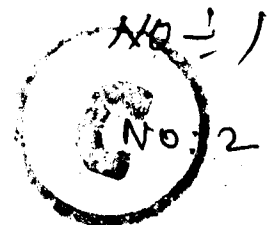
The Association of Otolaryngologists of India

Indian Journal of
OTOLARYNGOLOGY

VOL. XII

MARCH
1961

June. 1961



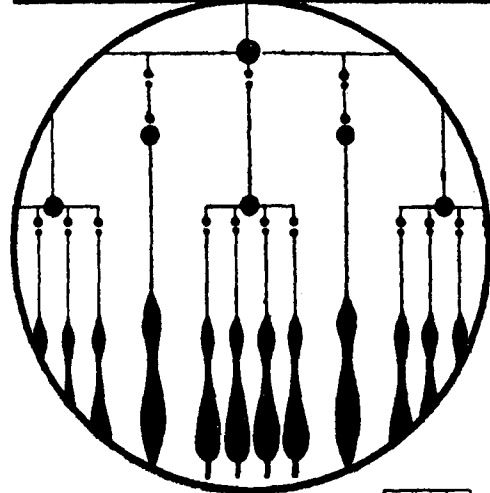
JL
L183:4mN490 F.
N61.31.1.
14530

Arovit

Trade Mark

ROCHE

SYNTHETIC VITAMIN A



- Often produces good results in acne vulgaris
- Increases resistance of the mucosae to bacterial infection
- Improves hearing in inner-ear deafness
- Favours dark adaptation
- Protects tissues of ectodermal origin

PACKINGS:

Sugar-coated

Tablets: 50,000 I.U. 30 & 100

Ampoules: 300,000 I.U. per ml. 3

Drops: 150,000 I.U. per ml. ... 7.5 ml.



ROCHE PRODUCTS LIMITED

Medical Service Department, P.O. Box 748, Bombay

Sole Distributors: VOLTAS LIMITED

INDIAN JOURNAL OF OTOLARYNGOLOGY

Official Scientific Journal of the Association of
Otolaryngologists of India

Vol. XIII, No. 1

MARCH 1961

Editorial Board

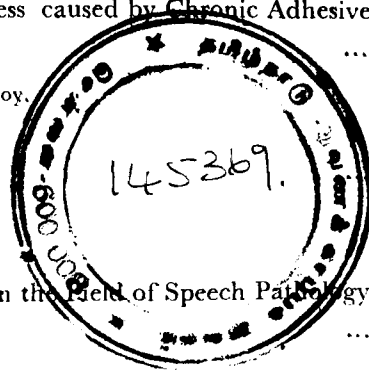
<i>Chairman</i>	... Major N. DUTT
<i>Editor</i>	... Dr. V. S. SUBRAMANIAN
<i>Treasurer</i>	... Dr. C. M. LEELAVATHY
<i>Editorial Secretary</i>	... Dr. U. ANANDA RAO

INDIAN JOURNAL OF OTOLARYNGOLOGY

1-A, MARSHALL'S ROAD :: EGMORE, MADRAS-8

CONTENTS

	Page
Conservative Treatment of Deafness caused by Chronic Adhesive Otitis Media Dr. M. L. Bhatia and Dr. T. S. Roy.	1
Fluorosis and VIII Nerve Dr. R. V. Rao.	15
The Role of the Otolaryngologist in the Field of Speech Pathology and Audiology John K. Duffy.	23
Association Notes	30



Protein Biscuits **VITAL PROTEIN**
IN
AN EXCEEDINGLY PLEASING AND CONVENIENT FORM
IS AVAILABLE IN

THREPTIN BISCUITS

The Palatable
PROTEIN-CARBOHYDRATE-B VITAMIN FOOD
IN CRISP AND DELICIOUS BISCUITS

Accessible even to lower income groups, because 3 oz. (18 biscuits) supply as much protein as 1½ seers of milk or 8 oz. boneless lean meat or 7 eggs.

CONTENTS PER OUNCE : Protein (intact casein) 50%, Carbohydrate 30%, Thiamine and Riboflavin 1 mg. each, Vegetable fat 7.5%, Flavouring Agents q.s.

Particulars from : Available in 0.45 kg. (1 lb.) tins.
RAPTAKOS, BRETT & CO., PRIVATE LTD., WORLI, BOMBAY

new

for your next patient

with
ALLERGIC RHINITIS
NASOPHARYNGITIS
SINUSITIS

PREDSOLAN-N Nasal Drops

10 ml. bottles

Easy breathing within minutes..hours of relief

ANTI-INFLAMMATORY
ANTI-ALLERGIC

Prednisolone 0.1%

DECONGESTIVE

Naphazoline nitrate 0.05%

ANTI-BACTERIAL

Neomycin sulphate 0.5%

AQUEOUS NASAL DROPS

Safe for adults and children



GLAXO LABORATORIES (INDIA) PRIVATE LIMITED. Bombay • Calcutta • Madras • New Delhi
Depots: Gauhati • Vijayawada • Srinagar

Enteromycetin

(CHLORAMPHENICOL U. S. P.)

OTIC SOLUTION

**For topical therapy in external
and middle ear infections**

ENTEROMYCETIN Otic Solution contains 10% chloramphenicol in propylene glycol base providing local bactericidal concentration in each drop to the commonly occurring organism in acute or chronic otorrhœa.

INDICATION

Acute or chronic otorrhœa particularly due to *B. Coll*, *Strepto*, *Staphylo*, *Proteus*, *Pseudomonas*, etc, following ear operation (mastoid), it can also be used topically in other wound infections, e.g. infected ulcers, pedicle flaps, skin grafting, abscess cavities, etc.

Manufactured by



JEY'S MEDICAL STORES (Mfg.) PRIVATE LTD.
CALCUTTA-19

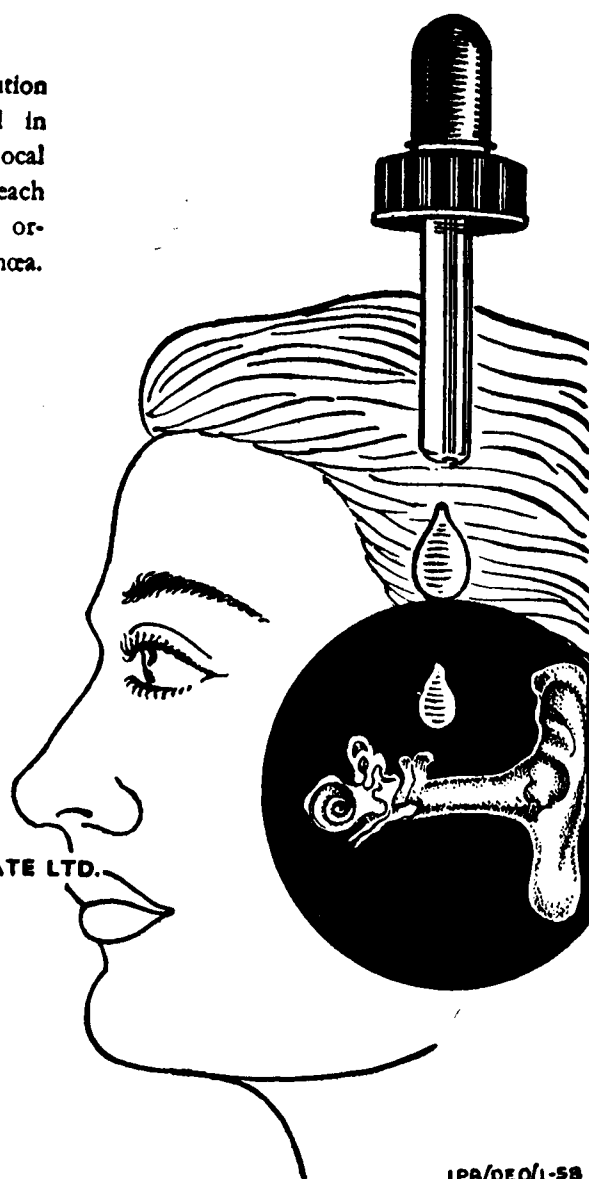
Under Licence from

AMBON S.p.A. VICENZA (Italy)

Exclusive Distributors

JEY'S MEDICAL STORES PRIVATE LTD.

ALGUTTA - BOMBAY - DELHI - MADRAS
ATNA - GAUHATI - CUTTACK



IPB/DEO/1-58

Indian Journal

OF

OTOLARYNGOLOGY

OFFICIAL SCIENTIFIC JOURNAL OF THE ASSOCIATION OF OTOLARYNGOLOGISTS OF INDIA

Vol. XIII, No. 1

MARCH 1961

Conservative Treatment of Deafness caused by Chronic Adhesive Otitis Media

BY

Dr. M. L. BHATIA, M.S., D.L.O.,

Reader (E.N.T.), K. G. Medical College, Lucknow

AND

Dr. T. S. ROY, M.B., B.S.,

Senior Resident, Gandhi Memorial & Associated Hospitals, Lucknow.

We all know what is chronic adhesive otitis media but we do not know of any suitable remedy for the deafness caused by it. Cawthorne has rightly said that we need to know more about this condition in order to be able to offer some effective treatment for it.

As described by MacNaughton (J.L.O. 1956), it is a condition of the middle ear in which adhesions have developed as a result of previous infection.

The narrowness of the tympanic cavity, presence of pockets and folds in the mucosa investing the ossicles and the tympanic opening of the eustachian tube not being well-placed, render the drainage of the middle ear rather complicated.

Long standing and repeated infection occurring at short intervals provokes a fibrinous exudate in the middle ear in spite of chemotherapy giving rise to connective tissue proliferation and formation of new adhesions resulting in progressive loss of hearing.

It produces conductive type of deafness and the hearing loss is not usually more than 45 db. (Cawthorne).

The audiograms show no typical pattern of chronic adhesive otitis media (Lumio); therefore its recognition from otosclerosis may sometimes be rendered difficult (MacNaughton and Cawthorne).

The diagnosis of cases taken up for treatment in the present series was however based on the following factors:—

- (i) Difficulty in hearing complained of, having no relation to age, sex or heredity, pregnancy or lactation.
- (ii) The impairment of hearing usually related to intermittent episodes of pain, tinnitus and heaviness in the ears and the course being not so gradual and progressive as in otosclerosis.
- (iii) Positive history of recurrent nasopharyngitis.
- (iv) Retraction and impaired mobility of the drum.
- (v) Blocking of eustachian tube (in some cases).
- (vi) Conductive type of deafness.

The treatment of deafness caused by this condition still remains an unsolved problem. Non-surgical treatment like inflation of the middle ears by Valsalva's method, Politzerisation or Catheterisation, Pneumomassage and Diathermy often give comfort but are helpful only during the early onset of the disease.

Surgical treatment attempted by Coates and Esner by cutting the adhesions and separating the tympanic membrane from the medial wall of Cavum tympani proved to be temporary and transitory in nature because of the rapid reformation of new adhesions. Partial or complete myringotomy proved valueless. Cawthorne tried fenestration on 11 cases but all failed to respond and so he lost his enthusiasm of treatment.

JL
L 188: 4M N 69 07 N 61. 13' 1.

Esner (1959) therefore says that operative treatment for chronic adhesive otitis media is not very encouraging and suggests the use of hearing aid as the only suitable means of management.

The biggest problem confronting the otologist is to try to prevent formation of new adhesions because it offers the same problem as that of rheumatoid arthritis.

This paper is, therefore, based on the observations on hearing improvement made by the use of a new treatment being suggested by the authors which comprises "the *Intratympanic topical medication of ears affected by Chronic Adhesive Otitis Media with Decadron Solution via Eustachian Tube*".

Decadron solution is a preparation by Merk Sharp and Dome. It contains Dexamethasone 21 phosph. 1 mgm. and Neomycin sulph. 5 mgm. per c.c. It is said to be 10 times more potent than any other cortisone solution. The dose used was 0.25 mgm. of Dexamethasone for each ear. Therefore 0.25 c.c. of Decadron solution was diluted upto 0.50 c.c. solution for each ear with normal saline solution to which 1 drop of adrenalin 1/1000 was added as a decongestive.

MODE OF MEDICATION

After about a week's use of Ephedrine argyrol nasal drops by the patient, prior to treatment, a eustachian catheter was passed and kept *in situ* supported by a small strip of leukoplast stuck on the external nose. About 0.50 c.c. of diluted solution of Decadron was introduced into the catheter with the help of a 2.0 c.c. syringe and it was pushed in by means of Politzer bag to pass through the eustachian tube in the middle ear while the patient made swallowing movements.

In some cases particularly where blockage of the eustachian tube was suspected, a thin polythene tube of 1 m.m. bore was passed through the catheter to go in beyond the tip of the catheter as well as the isthmus of eustachian tube. A little discomfort if any, experienced by the patient was covered by instilling a few drops of anaesthetic solution.

145369

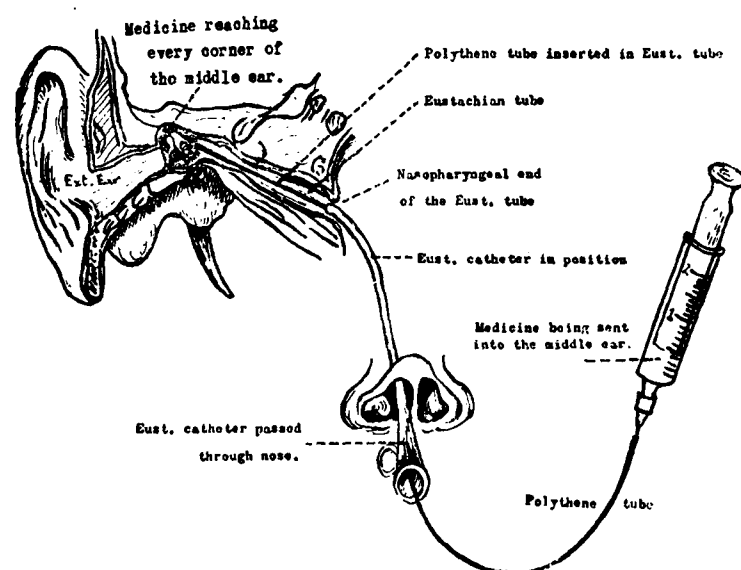


Fig. 4. USE OF POLYTHENE TUBE
FOR MEDICATING MIDDLE EAR
VIA EUSTACHIAN TUBE (Bhatia)

The medicine was then introduced through the Polythene tube and pushed in, as before, with the help of Politzer's bag this time applied to the outer end of Polythene tube. This method helped the medicine to spread widely within the middle ear even upto inaccessible areas and it also maintained and restored the patency of the eustachian tube.

The treatment was given for about a month covering 5 sittings with 5 days interval each time.

After taking the initial hearing record, the first check up of hearing was made 15 days after the commencement of the treatment, the second after another 15 days when the full course of prescribed treatment had been completed. The third reading was taken another month later and during this time routine treatment with autoinflation of the tympanic membrane was carried out, without any further intra-tympanic medication.

All these observations were compared with each other in order to note any change in hearing.

OBSERVATIONS

In all, 48 cases of chronic adhesive otitis media with 86 affected ears were given this treatment. 20 control cases were treated in addition to it.

The period of deafness in these cases varied from 8 months to 18 years but most of them were within 5 years.

The longer was the duration of symptoms, more marked was the impairment of hearing.

The drum appearance showed definite changes from the normal indicating distortion scarring, retraction and impaired mobility.

For the study of effects of treatment by this method the affected ears were divided into 5 groups:—

Effects of Treatment with Decadron

Group of ears treated.	No. ears treated.	Average initial hearing loss in decibels.	First check up 15 days after.	Second check up 30 days after.		Third check up 2 months after.		% of ears imp.	Max. imp. in a single ear in decibels.
			No. Av. imp. imp.	No. imp.	Av. imp.	No. imp.	Av. imp.		
G I Below 40 db. less.	12	L. 25-35 H. 10-20	No change	10	5-10 5	9	5 5	83.3%	15-20 5-15
G II 40-60 db. less.	32	L. 40-55 H. 30-35	No change	24	5-10 5	24	5 5	75%	15-30 15-20
G III Above 60 db. ABC Normal.	18	L. 50-70 H. 40-45	No change	10	5 x	No further imp.		55.5%	10-20 in all
G IV Above 60 db. ABC dim.	24	40-65 Poor ABC	No change	9	5 x	No further imp.		37.5%	10-20 in all
G V Control cases.	20	As in G I & II	No change	20	5-10 in all	5 in all		100%	

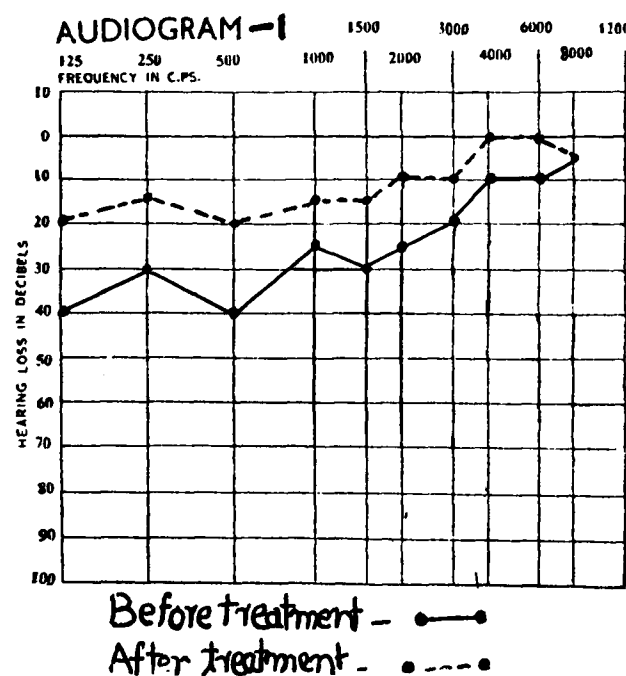
GROUP I

Most Favourable Cases.—12 ears were treated, in which the initial loss of hearing was limited within 40 db. in lower frequencies and even a lesser loss in higher frequencies, absolute bone conduction remaining unaltered.

Out of these 10 *i.e.* 83.3% showed hearing improvement.

The first check up done 15 days after the commencement of treatment did not show any change in hearing, the second check up done 30 days after showed average improvement by 5 db. in all frequencies but even more *i.e.* 10 db. at 125 cps. The third hearing check up done 2 months after 1st medication showed a further improvement in hearing by 5 db. on an average. The maximum gain in hearing achieved by a single ear was noted in case No. 40 who showed 15-20 db. gain in low tones and 10-15 db. in high tones.

G.I. Case No. 40 Right ear

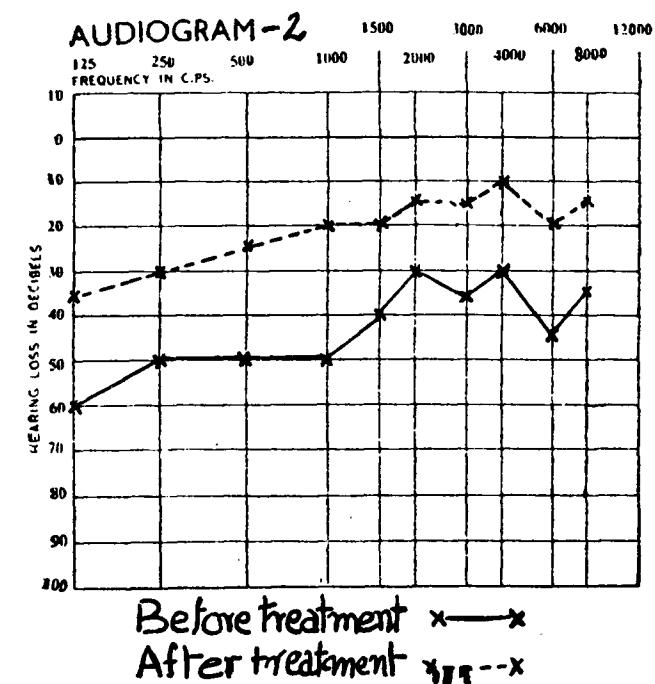
**GROUP II**

Favourable Cases.—32 ears were treated who had low tone loss between 40 and 60 db. and even lesser loss in higher frequencies, with no change in A. B. C. Out of these 24 *i.e.* 75% showed improvement in hearing. The first check up did not show any improvement while the second, done on 30th day revealed improvement by 5 db. in all frequencies and by 10 db. in 125 cps.

The third check up showed a further improvement by 5 db. showing thereby that hearing continued to improve in Group I and II even after medication had been stopped.

The maximum hearing improvement achieved by a single ear was in case No. 15 who improved by 15-30 db. in low tones and 15-20 in high tones.

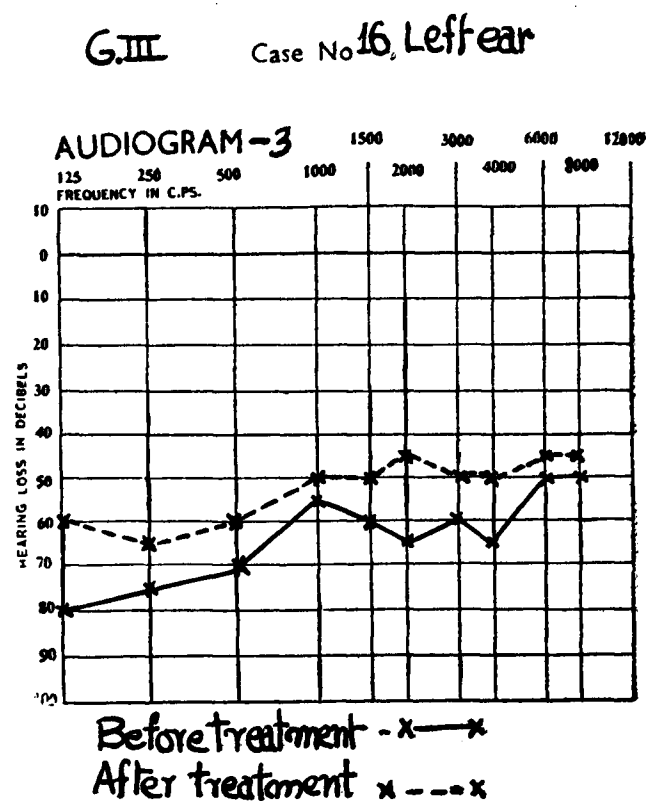
G.II. Case No. 15 Left ear



GROUP III

Fairly Favourable Cases.—18 ears were treated with 60 dbs. or even more loss in low tones and A. B. C. not diminished. Out of these 10 i.e. 55.5% showed improvement in hearing. The only improvement on an average was by 5 dbs. in low tones detected at the 2nd check up without any further improvement at the 3rd check up.

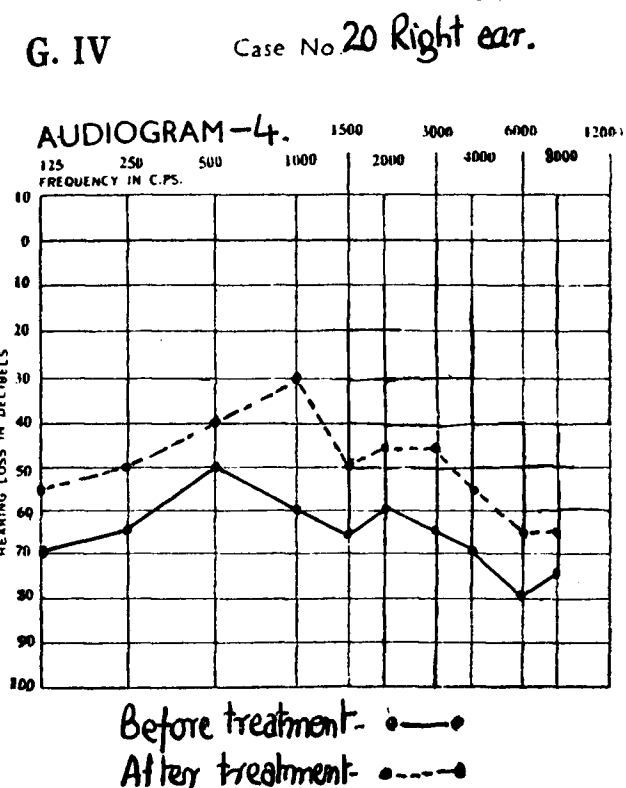
The maximum improvement in one single ear was noticed in case No. 16 who showed an improvement between 10 and 20 dbs. in all frequencies.

**GROUP IV**

Unfavourable Cases.—24 ears were treated who had hearing loss more than 60 dbs. but A. B. C. was also diminished. Out

of these only 9 i.e. 37.5% showed some improvement which was noticed only during the 2nd check up by about 5 dbs. on the average. This was however well maintained upto the 3rd check up as in other cases.

The maximum improvement noticed in a single ear ranged from 10-20 dbs. in different frequencies.

**GROUP V**

Control Cases.—20 ears were those who belonged to group I or II and were first subjected to routine treatment prior to intratympanic Decadron treatment.

The routine treatment, in these ears was also supplemented by repeated intra-eustachian instillation of adrenaline solution

but there was no improvement noticed even after 2 months. Later on they were given the same regime of Decadron treatment as in other ears of Groups I, II, III and IV.

Regular periodic check up of hearing was done in these ears also in the same manner, and results were compared. The first check up did not show any improvement but the 2nd check up showed improvement from 5-10 dbs. on average in all frequencies and they showed improvement by 5 dbs. in the 3rd check up.

DISCUSSION

The existing literature does not furnish sufficient material for any suitable or satisfactory method of treatment of chronic adhesive otitis media.

The present suggestion of a new treatment of topical use of cortisone solution pushed through eustachian tube was chosen for trial on account of the following reasons :—

(i) Impairment of hearing in chronic adhesive otitis media is essentially attributed to the formation of fibrous adhesions between the middle ear structures and the tympanic membrane. This has been observed by Cawthorne, MacNaughton and the authors on more than one occasions at ear operations.

(ii) The blockage of eustachian tube in addition to mild degree of infection is an important cause of adhesive processes in the middle ear.

(iii) The operative treatment is not very encouraging due to reformation of new adhesions (Esner). Esner, however, pointed out that chronic adhesive otitis media offers the same problems in treatment as rheumatoid arthritis does. He further added that if cortisone act upon synovial membrane and affects the collagen substances and reduces the fixity of the joints giving rise to freer mobility the same drug should have some effects on chronic adhesive otitis media. He did not however try this treatment.

(iv) Intra-articular injection of aqueous solution of cortisone first used by *Hench* in 1948 showed a rapid response in rheumatoid arthritis.

(v) The fibrolytic action of cortisone has also been experienced by *DeSa* who is reported to have treated 64 cases of submucous fibrosis with local injection of cortisone.

(vi) In view of the intrigue anatomy of the middle ear consisting of some pouches and crevices, the intra-eustachian method of medicating the middle ear with the help of eustachian catheter has been reported to be superb (*Pitman, Bhatia, Mitchel*). Further modification of this method which includes the use of polythene tube through eustachian catheter, has been reported to be the surest and perfect method of medicating the middle ear (*Bhatia J.O.L. 1956*).

Medicine pushed in this way with the help of Politzerbag manages to reach even the inaccessible areas in the middle ear and it also ensures the patency of the eustachian tube.

(vii) Dexamethasone is said to be much more effective than any other cortisone; therefore its combination with Neomycin under the name *Decadron* is said to exert the most rapid anti-inflammatory and anti-fibroblastic activity.

(viii) Technique is simple and no elaborate armamentarium is required.

(ix) No untoward incident occurs during or after the medication as there is no risk of making the patient or his hearing worse.

It was noticed that at least 5 sittings of medication by this special method were essential before any notable improvement in hearing could be expected. Hearing continued to improve even after medication had been stopped and it was mostly in speech area. Pneumomassage or cortisone given by mouth to some patients who failed to respond after the 3rd check up did not prove beneficial.

Poor response in hearing improvement or in mobility of the drum in some cases was probably due to long standing firm adhesions in the middle ears. Such ears were perhaps suitable for surgical freeing of the drum if possible followed by intra-eustachian medication to prevent reformation of adhesions.

In some ears belonging to Group IV the hearing did not improve although the drum showed partial restoration of its mobility. This could be due either to extensive tympano-otosclerosis jamming up the footplate of stapes or to the presence of some perceptive element in deafness. Some of these ears could perhaps be successfully operated upon by sectioning of the adhesions and mobilisation of stapes with Rosen's approach and followed by the intra-tympanic treatment with Decadron solution.

Only one case No. 2 could be operated and treated in this way and he showed a good response.

CONCLUSIONS AND SUGGESTIONS

1. Cases with shorter duration of hearing showed better results.
2. This method of medication should be given a fair trial not only to chronic adhesive otitis media but even in otosclerosis before undertaking surgical procedures.
3. It can be a useful post-operative treatment to surgical sectioning of the bands in tympano-sclerosis and after stapes mobilisation for preventing the reformation of adhesions and re-stiffening of stapes.
4. Longer follow ups and repeated courses of treatment may still prove to be more beneficial.

In view of the hearing improvement achieved upto 30 dbs. though in one of case and 15-25 db. in a large number of cases in speech area and the returns of mobility of the drum with subjective relief of tinnitus & deafness, this method is worth a trial.

This new method is being suggested to be given a fair trial in the field of Otology on the grounds given above.

The authors are very hopeful that with a repeated course of treatment, proper adjustment of the dose and a longer follow-up, better results can be achieved.

ACKNOWLEDGEMENTS

The authors are highly grateful to Professor R. N. Misra, M.S., D.L.O. (London), Head of the Department of E.N.T. for his valuable suggestions and for referring cases for treatment by this method.

M/s. Merk Sharp and Dine who presented liberal and free supply of Decadron solution vials for use in this treatment deserve the author's special thanks.

REFERENCES

1. Bhatia, M. L.: "Result of treatment of C. S. O. M. by topical medication via eustachian tube", pp. 53, I. J. O. L. 1957.
2. Cawthorne, T.: "Chronic adhesive otitis", pp. 559, J. L. O., Vol. 70, 1956.
3. Coates, G. M.: "Otolaryngology", Vol. 1, 1959.
4. DeSa, J. V.: "Submucous fibrosis of the palate and cheek", pp. 1143, Ann. of Otol. Rh. Laryng. Vol. 66, 1957.
5. Ersner, M. S.: "Diseases of E.N.T. (Text-Book) By Jackson & Jackson, 1959.
6. Lumio, J. S.: "Acta Otolaryngologica", pp. 196, Vol. 39, 1951.
7. MacNaughtan, J. P. J.: "Chronic adh. otitis media", pp. 549, J. L. O., Vol. 70, 1956.
8. Mitchel, J. F. O.: "Intra-tympanic injection for tinnitus aurium", J. L. O., Vol. 64, pp. 576, 1950.
9. Pitman, L. K.: "Treatment for chronic supp. otitis media", Arch. of Otolaryng. Vol. 59, pp. 75, 1954.

For the best results in E.N.T. practice

REVERIN®

Pyrrolidinomethyl tetracycline

the outstanding broad-spectrum antibiotic
for direct intravenous injection.

Advantages

Very high initial blood levels
Effective tissue concentrations
Reliable therapeutic action
No disturbance of the
intestinal flora
Excellent general tolerance
No thromboses or tissue
necroses
Ease of administration (in-
jection in 1 minute with
10 ml. double distilled
water as solvent)

Indications

Sinusitis
Tonsillitis
Peritonsillar abscess
Retropharyngeal abscess
Acute otitis media
Mastoiditis
Oto- and rhinogenic
meningitis
Nasal furuncles
Antibiotic cover in
plastic surgery

Presentation

Vials of 275 mg.

Detailed information from

HOECHST
PHARMACEUTICALS
PRIVATE LIMITED
BOMBAY • CALCUTTA • MADRAS • NEW DELHI



Fluorosis and VIII Nerve

BY

Dr. R. V. RAO

It has been recognised that fluorine in small quantities is essential for the healthy growth of the enamel of the teeth and prevents dental caries. But excessive intake of fluorine is harmful and results in a condition called Fluorosis by Moller and Gudjonsson (1932) characterised by osteosclerotic changes in the bones of the body. These changes are also seen in animals and poultry in endemic areas, where the fluorine content of water, soil, and food is excessive (Siddiqui).

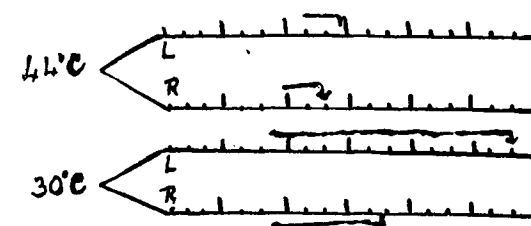
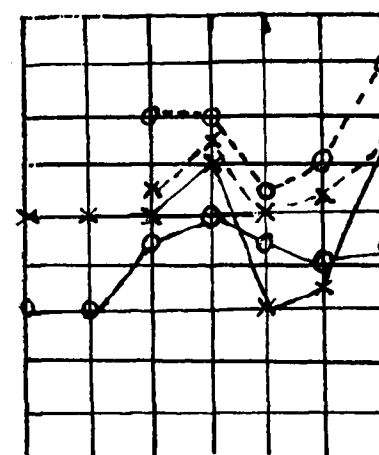


Fig. 1

My interest in investigating the condition of the VIII nerve was the result of spirasarticle on the aetiology of otosclerosis. A discussion with Dr. Siddiqui, who was then surveying the incidence and neurological manifestations of fluorosis in the endemic areas of Nalgonda district, in the erstwhile Hyderabad State is responsible for this clinical work.

For the following data, I am indebted to Siddiqui; and they seem to me relevant before I proceed further.

- i. Soil—sandy interspersed with granite associated with fluorite. Average fluorine content of mud sample 0.12%.
- ii. Water—for domestic use is from wells and contains 10.5 parts of fluorine per million parts of water in some areas. Average annual rainfall is 25 in.

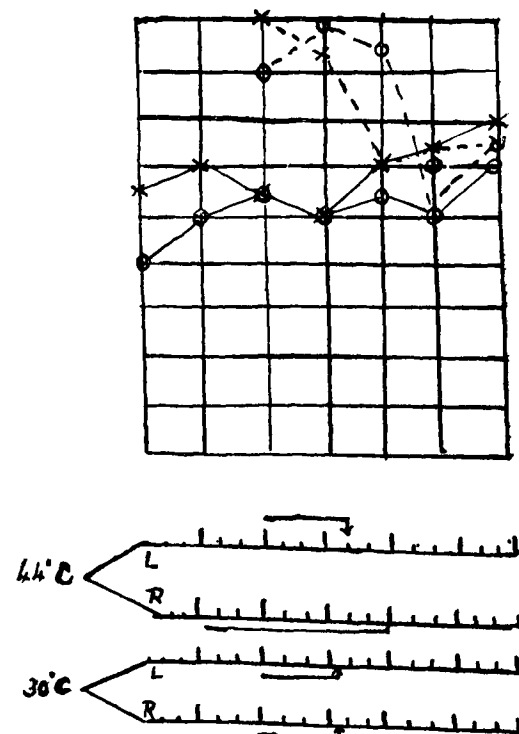


Fig. 2

- iii. Temperature—Temperature in summer is 115 F.
- iv. Cattle—advanced skeletal changes and laboured gait. Poultry usually resistant to fluorosis was found to be affected.
- v. Nutritional state of the patients suffering from fluorosis was poor; diet deficient in animal proteins, fats, calcium, and vitamins A & C.

Since the endemic area being surveyed was fairly distant from Hyderabad, it was decided to subject only those cases that were found deaf for detailed investigations in my clinic at Hyderabad. Being a very capable neurologist of an Eye and Ear, Nose and Throat hospital, Dr. Siddiqui, I am sure he has referred every case that required investigation.

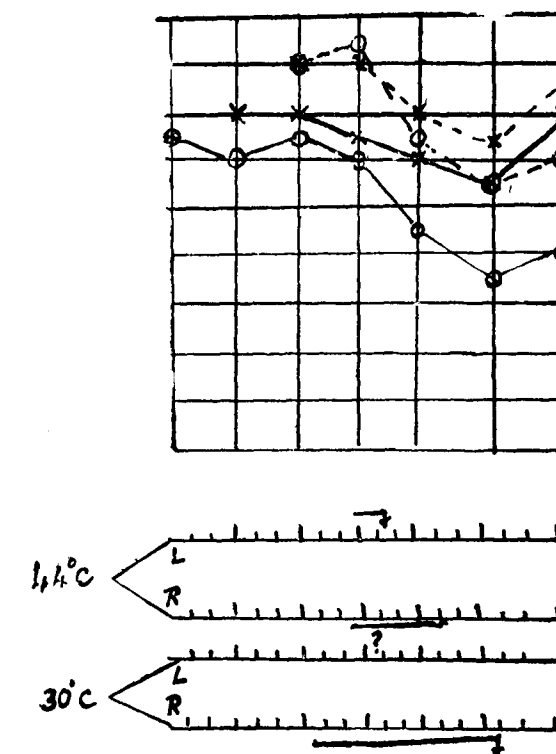


Fig. 3

Out of the 32 cases of advanced fluorosis seven were found to be deaf, nearly 22%.

Routine E. N. T. examination revealed:—

- i. Anatomically normal structures,
- ii. Capacity to hear conversation voice more or less in either ear defective,
- iii. Rinne's test—positive.

Pure Tone Audiometry.—Table gives a comprehensive idea of hearing loss in all the seven cases; the loss is for both air and bone; besides the loss is for ears in the same individual with a fair amount of difference.

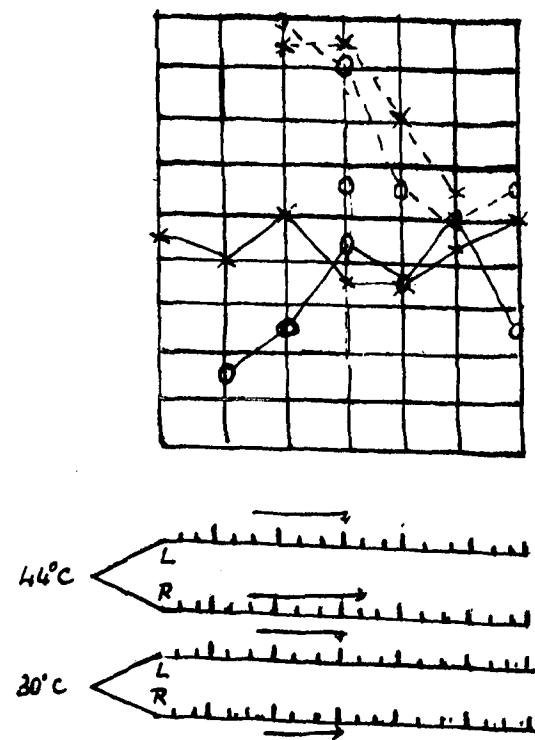


Fig. 4

CALORIMETRY (Fitzgerald and Hallpike Method).

Sluggish labyrinthine response on both sides.

Observations.—Both ears are involved in all the cases. Hence it has to be determined whether the lesion is a pressure effect of newly formed bone, or neuro-toxic effect of fluorosis. Again the pressure of newly formed bone is not in the internal auditory canal, since facial nerve has been seen to be normal on both sides in every case. Besides, no other cranial nerve has been found to be involved, though most of them traverse through bony openings.

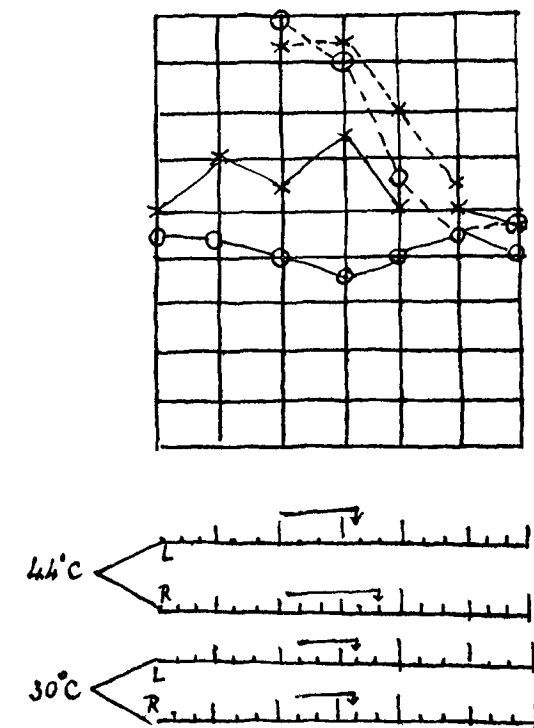


Fig. 5

The data collected are from only seven cases and no post-mortem findings are available. With this meagre clinical material it is unfair to draw any definite conclusions.

I am inclined to suggest that the disfunction of the VIII nerve in fluorosis is similar to the effect of Streptomycin or quinine.

- i. *Suggestions for further work.*—More extensive field survey in endemic areas, and in industrial workers, where fluorine is extensively liberated as in the manufacture of super-phosphates from phosphate, glass, enamel, and aluminium. These industries are going to be increasingly found in our country in the next few years.

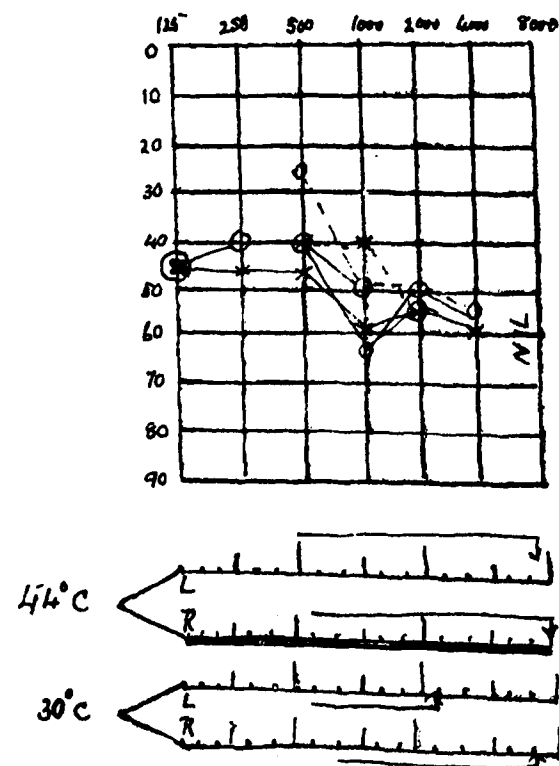


Fig. 6

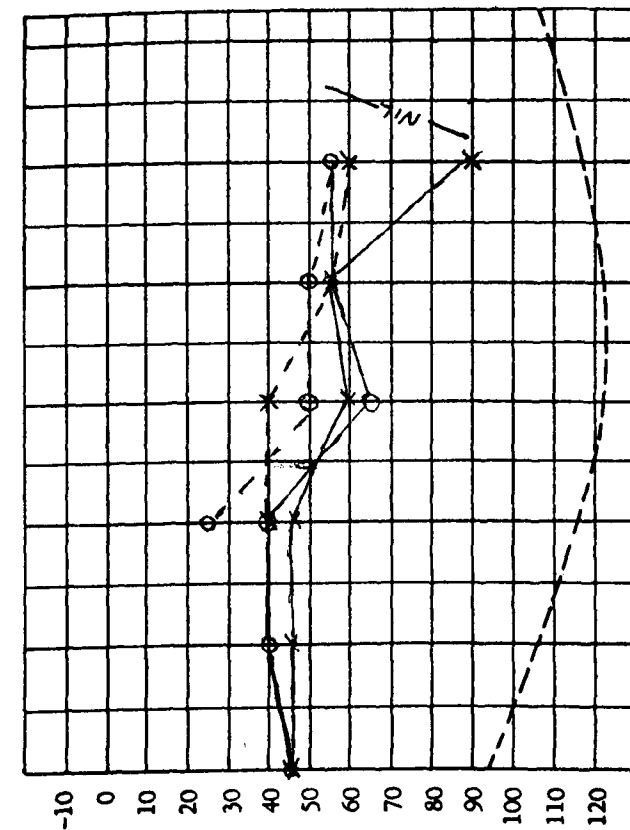
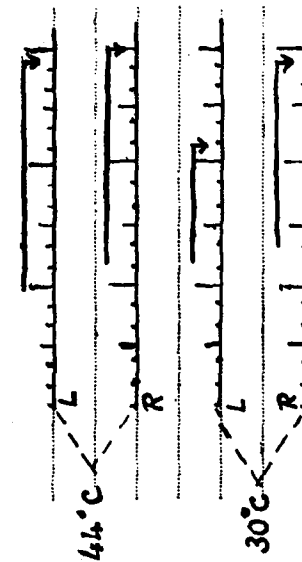


Fig. 7



- ii. Follow up of cases of fluoride deafness to the postmortem room.

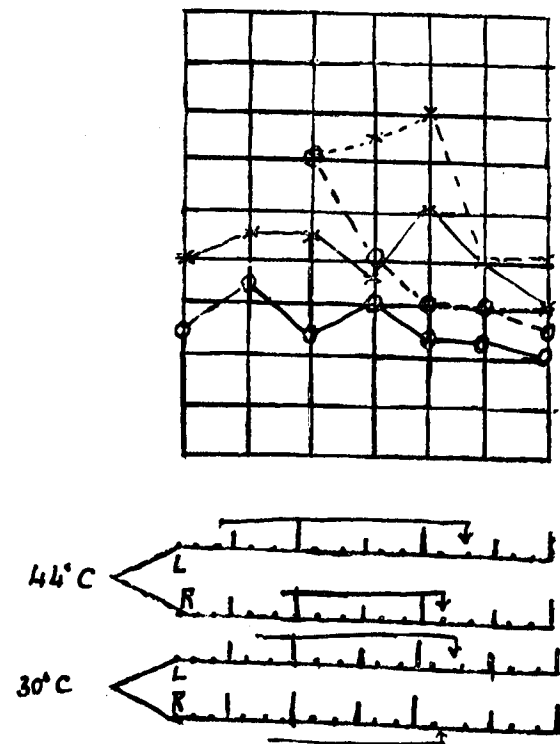


Fig. 8

- iii. Simulation of Fluorosis in experimental animals and laboratory findings, (histopathological) regarding pressure syndrome by bone and Biochemical methods for fluorine in poeri, and endolumphs.

REFERENCES

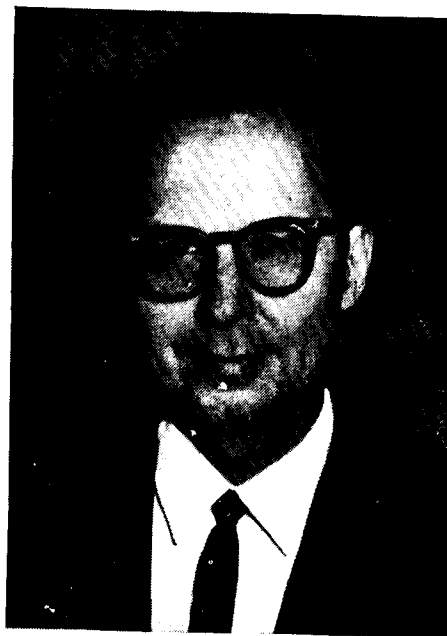
1. Moller, P. F. and Gudjonsson, S. V. (1932), Acta radiol., Stockh., 13, 269. Quoted by Roholm K. (1937).
2. Siddiqui, A. H.: B. M. J., Vol. iv, p. 1408, 1955.
3. Spira, L.: Lancet, 1, 649, 1942.
4., J. Laryng., 58, 151, 1943.

The Role of the Otolaryngologist in the Field of Speech Pathology and Audiology

BY

JOHN K. DUFFY, Ph.D.,

*Associate Professor, Department of Speech, Brooklyn College, Brooklyn, N.Y.
and Audiologist and Speech Pathologist, Lenox Hill Hospital, New York, N.Y.*



JOHN K. DUFFY, Ph.D.,

Associate Professor,

Department of Speech, Brooklyn College, Brooklyn, N.Y.

and Audiologist and Speech Pathologist, Lenox Hill Hospital, New York, N.Y.

As I recall the history of modern audiology the first electronic audiometer was developed at the University of Iowa in the late twenties by Carl Seashore, the well known experimental psychologist. The first book on the subject was written by Bunch, also an experimental psychologist and a colleague of Seashore and later a professor at Northwestern University. This device, the audiometer, produces pure tones like the tuning fork but, unlike the tuning fork, the sounds are presented to the ears through head phones at known intensities. With the audiometer the minimum intensity at which an individual hears a tone of a given frequency can be measured. Thus the threshold of hearing for the frequency is determined. Although this apparatus was first introduced to the medical profession at a national convention of ophthalmologists and otolaryngologists in Chicago some thirty years ago and the electronic hearing aid was introduced a few years later to the same medical group, the responsibility for the rehabilitation of the defective of hearing has not, until only recently, received much attention from otologists. With the impetus given to audiology by the United States Army and Navy Aural Rehabilitation Programs during and after World War II many hospitals and medical centers throughout the United States have established speech and hearing rehabilitation centers.

With few exceptions the personnel employed to carry out this work received their training in colleges of Letters and Science. Not until recently have any medical colleges in the United States assumed some responsibility for training in audiology and speech pathology.

In the United States the professional workers in audiology, speech pathology and speech and hearing therapy are medically oriented but, except for a very few, are not trained as medical practitioners and are not trained in medical colleges. In a developing country like India where the need for good physicians and surgeons is great it is not feasible, as a general practice, for medical practitioners to take up this para-medical speciality. However, in India, the responsibility for the training of such professional workers and for establishing centers for speech and hearing therapy logically rests with the medical profession and particularly with the otolaryngologists. In India where, at present, very little speech and hearing therapy is being done, the medical colleges rather than the academic institutions should assume the initiative in promoting this profession. And it is the otolaryngologists who should assume the leadership.

But before such leadership can be exercised, the otolaryngologist must put his own house in order. He must have, first of all, a modern, properly calibrated audiometer. The tuning fork is adolescent. Such an antiquated instrument is to the audiometer what the ex-cart is to an Air-India 707 jet. Fortunately, in most of the better medical colleges in India the departments of otolaryngology have modern audiometers, especially where the departments have modernized to the point of separating otolaryngology from general surgery. In some less progressive medical colleges where a general surgeon, untrained in otolaryngology, is assuming the duties of the otolaryngologist audiometers are non-existent. They are satisfied to use the old fashioned tuning fork, symbolizing their lack of training and their ill-fitness for the ever expanding and increasingly specialized field of otolaryngology.

With the great strides being made in middle ear surgery, the field of otology has assumed a new importance in medical care and the accurate measurement of hearing has become a very essential aspect of this work.

The rehabilitation of the patient whose hearing deficiency is not amenable to medical or surgical care must also become the concern of the otologist because such persons seek his assistance and rely on him as the medical practitioner best qualified to help him. It is in this area and in the measurement of hearing that the otologist must enlist the aid of the audiologist and the speech and hearing therapist. These individuals should be specially trained in this aspect of rehabilitation and not be otologists, general practitioners or former school teachers who have visited a few speech and hearing therapy centers in the United Kingdom or in the United States and then call themselves audiologists or speech and hearing therapists. Recognized degrees, diplomas or certificates should be earned by properly trained and qualified persons before they are recognized as fully qualified professional workers in this field.

When parents have a child of two and a half or three years of age who has not begun to speak they logically turn to the family doctor for advice. He may suggest that they are being over-anxious and send them away with the assurance that all the child needs is a little more time. A year later these anxious parents again complain that there must be something wrong with a four year old child who does not speak. The doctor may then decide that the child is "tongue-tied" in spite of the fact that the child has sufficient tongue tip activity to nurse and to masticate his food. After clipping the frenulum, "untying the tongue", the child still does not speak. Why should he? True tongue-tie is so rare that many speech pathologists with vast experience have seen only a few children who were defective of speech for that reason. Yet all over the world surgeons are still performing this surgical ritual as a remedy for lack of speech development when other causes are responsible.

When this same child is five years of age the general practitioner might decide to seek the aid of the otolaryngologist. This specialist examines the ears, the nose, the mouth and throat. Since it may be obvious by this time that the child has defective

hearing the otologist performs a tonsilectomy and an adenoidectomy on the child in the hope that he will then hear and begin to talk. However, after surgery the child still does not speak. An attempt is then made to test the child's hearing, either with tuning forks or with an audiometer but the testing is quickly abandoned because the child does not understand what is expected of him and consequently does not respond. The otologist then assumes that the child is deaf and recommends that he be placed in a school for the deaf.

Of course, the foregoing is a hypothetical case and does not apply to all otologists. Some otologists do test children early and prescribe hearing aids and special speech and hearing training for those who have sufficient hearing to profit from such treatment. Unfortunately in India there are, as yet, too few who do.

At the present time most of the children attending schools for the deaf in India have never had an audiometric test. Of those that have been tested, about twenty per cent have a hearing loss in the speech range which averages not more than 80 decibels. Such children could, with suitable hearing aids and proper training, learn to understand language and to acquire intelligible speech. Thus, they could be re-classified as hard-of-hearing rather than as deaf. We should think of the hard-of-hearing as those who, with or without the use of a hearing aid, have sufficient hearing to develop speech through the sensory avenue of hearing. The deaf are those who do not have sufficient hearing to develop speech through hearing but who can learn to speak only through intensive training, using visual, kinesthetic and motor cues.

The general practitioner, pediatrician or otologist and those who operate schools for the deaf are guilty of a grave disservice to potentially hard-of-hearing children by failing to measure the hearing of these youngsters at an early age and by failing to provide, at an early age, speech and hearing therapy and academic training in a good speech environment.

A hard-of-hearing child will imitate the speech in his environment. Therefore, the speech he hears must be good. The speech of the deaf will be far more detrimental to the hard-of-hearing child than the better speech of the hard-of-hearing will be of benefit to the deaf. For this reason the hard-of-hearing child should be segregated from the deaf and placed with other hard-of-hearing children or, better still, with normal speaking children if his potential for developing language and speech is to be utilized to the fullest extent. It has been reported often that hard-of-hearing children attending schools for the deaf improve in their speech during vacations from school when they associate with normal brothers and sisters and neighbourhood children and that they retrogress in speech after returning to the poor speech environment and the sign language so common to schools for the deaf.

Another common observation is that the speech of the hard-of-hearing child in the schools for the deaf is best in the early years when an emphasis is placed on speech but that it fails to develop further as the child moves into higher grades and devotes more time to academic subjects and less time to speech. An intelligent and conscientious teacher of the deaf expressed the problem in these words: "As the children get older their speech gets worse instead of better".

The otolaryngologist neither has the time to condition young children to take audiometric tests nor does he have the time or the training necessary to do speech and hearing therapy. But he does have the responsibility to do all in his power to provide such services for his patients. The space required and the equipment necessary is not great. They consist of a relatively quiet, sound treated room, an audiometer, an amplifier and loud-speaker for sound-field audiometry, a tape-recorder and hearing aids. Such equipment is readily available in India. What is of paramount importance and as yet not so readily available is the proper personnel to do the speech and hearing therapy. But this problem also can be solved.

At first, persons interested and suited for this work could be trained abroad. Courses of study and clinical practice for the training of speech and hearing therapists could then be established in Indian universities and medical colleges and the professional workers trained abroad could then teach the specialized courses in audiology, speech pathology and speech and hearing therapy in the Indian institutions. In this way, the need for trained personnel in this field could be met. As more speech and hearing therapists become available more speech and hearing therapy centers can be established throughout the country.

However, unless the otolaryngologists as the medical practitioner most intimately concerned with the problems of speech and hearing takes an interest and assumes the leadership in developing such facilities, the establishment of speech and hearing therapy services will be delayed. It is gratifying to note that two plastic surgeons and an oral surgeon at two separate medical college hospitals in India have taken the initiative in providing speech therapy for their cleft palate patients. The otolaryngologists would do well to emulate the example of these surgeons and in like manner provide for the needs of the defective of hearing as soon as possible.

Because so many other medical specialities have need for the services of the speech and hearing therapist the establishment of such services is not necessarily dependent upon the initiative of the otolaryngologist although he is the one with whom it should logically rest. Institutes of physical medicine and rehabilitation are becoming increasingly conscious of the great need for speech and hearing therapy in their work of rehabilitation and are moving to fill this need. The pediatrician with his patients with delayed speech, with faulty articulation and with the problem of stuttering; the neurologist with his dysarthric, aphasic and cerebral palsied patients as well as the orthopaedic surgeon who is also concerned with the child with cerebral palsy; the neuro-psychiatrist with his emotionally disturbed and autistic children who need speech therapy—all of these patients require

the help of the speech pathologist, the audiologist and the speech and hearing therapist which would be available in a good speech and hearing therapy center.

The facilities necessary to serve all types of defects of speech and hearing must be more than just an audiology clinic. Audiology will only be a part, although a very important part, of the ideal speech and hearing therapy center. The otolaryngologist as the specialist most concerned with the organs upon which speech largely depends would certainly be justified in assuming the initiative for the establishment of centers for speech and hearing habilitation. From my close association with many excellent otolaryngologists, excellent as people and as doctors, in the six months that I have been travelling throughout India, I am deeply convinced that they will undertake this great humanitarian service, that they will give their hearts and minds and hands to the task of serving the defective of speech and hearing and in helping those to hear and speak who would otherwise remain deaf and mute.

Association Notes

The Thirteenth Annual Conference of the Association of Otolaryngologists of India was held in Bangalore from Friday, 3rd February to Sunday, 5th February 1961. The members were accommodated in some of the very good hotels at Bangalore; and the Conference was very well attended, with 142 members as delegates as against only 83 members during the Baroda conference. Excellent arrangements were made by the Reception Committee with Dr. N. A. Aiyengar as the Chairman, Dr. T. Manickam as Secretary, Drs. Suryanarayana Rao and Misquith as Associate Secretaries, and Dr. Hiranya as Treasurer. The Conference was held in the newly built auditorium of the Bangalore Medical College. After the usual group photograph, the Inauguration was held at 9-30 a.m. on Friday, 3rd February. His Highness the Governor of Mysore who was to have inaugurated the function, was unable to do so as he was ill on that day and his inaugural address was read by the Hon'ble Minister for Health, Dr. Hegde. Both the inaugural address, and the Presidential speech by Dr. Srinivasan were very much appreciated by all assembled for the function.

Professor Wullstein from Wurzburg (West Germany) delivered the Joshi Memorial Lecture at 11 a.m. after the Conference. The subject was on "Tympanoplasty". The lecture was very educative and was very highly appreciated by the E.N.T. Surgeons from all over India. The Association is very grateful to Professor and Mrs. Wullstein for having taken all the trouble and time to come and deliver the "Joshi Memorial Lecture" which was one of the highlights of the Conference.

The other highlight of the Conference was the lecture by Sir C. V. Raman, the Nobel Laureate, at the Raman Research Institute in the evening. The subject of his lecture was on his new concept regarding the "Physiology of Hearing". All the delegates were kept spell-bound by his most interesting lecture along with all his experiments and diagrams. Frankly, the delegates were all thrilled by his lecture and more than that they realised that the great Physicist knew much more on the Physiology of Hearing than any of the E.N.T. Surgeons present in the lecture. Furthermore his lecture was a challenge to the old accepted theories on the Physiology of Hearing. The Association is very grateful to Sir C. V. Raman for having taken so much trouble in preparing for the lecture and delivering it to the members of the Association; and the Association is also grateful to the Organizers of the Conference for having arranged his lecture.

13th Annual Conference of the Association of Oto-Laryngologists of India, Bangalore, 1961.





DR. R. N. MISRA, M.S.
Past President



DR. N. SRINIVASAN
President



DR. H. L. ANAND
President-elect

The Exhibition of E.N.T. instruments was opened by the Hon'ble Minister Dr. Hegde, and the Scientific Session was inaugurated by Dr. V. R. Naidu, Director of Medical Services, Bangalore.

The President's Dinner at the Century Club on the night of Friday, 3rd February, was a very great success and was well attended by the delegates and their wives, leading medical men of the City, and Professor and Mrs. Wullstein.

The second day of the Conference started with two or three coloured films shown by Professor Wullstein. This was a very well appreciated and educative item in the programme and was attended by Sir C. V. Raman. The film show was followed by many scientific papers read by men from all over the country. The Scientific Session was held both in the morning and the afternoon. The delegates attended the variety entertainment by the students of the Bangalore Medical College in the evening. This was followed by the usual Association Dinner.

The General Body Meeting of the Association was held on 5th February, the last day of the Conference between 10 a.m. and 2 p.m. As usual the meeting was very interesting, noisy and exciting. The following Office Bearers were elected for the coming year. (1) Dr. N. Srinivasan, the past-President to continue as President till the beginning of the next Conference. (2) Dr. H. L. Anand was elected as President-elect for the coming year. (3) Dr. R. A. F. Cooper was re-elected as Honorary Secretary. (4) Dr. C. M. Leelavathy, Dr. B. P. Apte and Dr. A. K. Sinha were elected to the Governing Body; and Dr. Kothari was elected as Honorary Treasurer.

In conclusion, the 13th Annual Conference was a very grand success, not only because of the very large number of delegates who attended the Conference, but also because of Professor Wullstein's lecture and Sir C. V. Raman's lecture. The arrangements made by the Reception Committee were excellent and the delegates enjoyed the three days stay immensely. The fact that the City of Bangalore is still 'wet', added to the enjoyment of the delegates during their stay. The Editor wishes to express the grateful thanks of the Association, to the President and to the Members of the Reception Committee for the excellent arrangements made to make the Conference a success.

V. S. SUBRAMANIAN,
Editor.

INAUGURAL SPEECH E.N.T. CONFERENCE*3rd February, 1961*

READ BY

Hon'ble Minister for Health Dr. HEGDE of Karnatak State.

At the outset, I must express my feeling of great pleasure in having been called upon to inaugurate this Session. I deem it a signal honour conferred on a Pathologist. The Pathologist, you will agree, has the advantage of having, at least, some knowledge of the regions of the human body coming under the purview of several specialists in the various branches of the Medical Science. Naturally, therefore, my remarks will be of one who lays no claim to a minute study of the subject, but of one who has had the privilege of knowing its broad outlines as a Pathologist.

2. The progress of medical science in recent years, has indeed been phenomenal and the bounds of every speciality have been considerably extended. No less is this true in the case of Otolaryngology, which has now assumed such significance that chairs for the subject have been instituted in most of the Medical Colleges in our country. In our own State, I am happy to mention, the first chair for E.N.T. (Ear, Nose and Throat) was created in January 1960 and there are now Professors in that subject at each of the Medical Colleges at Bangalore, Mysore and Hubli. It is worthy of note that our Government have been making every endeavour for the advancement of this speciality and for the introduction of Post-Graduate Courses in Otolaryngology.

3. While reviewing the development of the speciality from early days, I cannot but recall the glorious names of Hippocrates, Galen, Eustachio and Valsalva. Tracheotomy is one of the oldest known operations and was first mentioned by Galen and the operative technique was described, in detail, by Antyllus in the 16th Century.

Laryngology

4. We may well say that discovery of Laryngoscope by Czermak in 1857 played an important part in the development of Laryngology. In a sense, it heralded the birth of Laryngology as a speciality. Since then, several types of Laryngoscopes have been devised but the most useful is the Jackson Laryngoscope devised by Chevalier Jackson. The early Laryngologists were Physicians and it was only later that the speciality took on a distinctively surgical feature and joined forces with Otology to form one

speciality. The discovery of Cocaine in 1880, of Endoscopy in 1900 and the perfection of intratracheal Anaesthesia about 1920 exerted a decisive influence on the swift progress of the subject of Laryngology.

Otology

5. The evolution of surgical methods for the relief of deafness in Otosclerosis turned a new leaf in the history of Otology. The German Surgeon Kessel was a pioneer in this field but all operative attempts before the era of asepsis were severely retarded by the risk of infection. This made the Surgeons of the olden days to be as radical as possible. About 40 years after Kessel's attempts, Holmgren in 1916, initiated excellent techniques employing magnifications by the use of the Binocular Dissecting Microscope. His contributions have earned for him the title of "Father of the Surgery for Otosclerosis". Sourdille, who interested himself, in Holmgren's work, developed his three-stage technique of operation for Otosclerosis. Lempert is another great name associated with the Surgery of Otosclerosis and in 1938, he devised a very practical one-stage operation. His "Fenestra Nov-ovalis" technique with modifications has been now universally adopted as the most valuable treatment for Otosclerosis.

6. Chemo-Therapy and Antibiotics have revolutionised the techniques in Otolaryngology. The Antibiotics have made it possible to effectively treat many infections like acute Otitis and Sinusitis in their early phase, thus preventing many complications of olden days. Thus, radical surgical measures, so common in the past, have been eliminated. Infections like Thrombophelitis and Cavernous Sinus Thrombosis are now well controlled by Antibiotics and Anti-Coagulants.

7. The Antibiotics Era has thus swept away some of the serious Surgical impediments, thereby quickening the pace of progress of the speciality. The Specialist has now no fear of sepsis and can treat the patient with confidence of success, provided, of course, we take due care to avoid the hazards associated with Penicillin and other Antibiotics. Having been freed from the shackles of Sepsis, Specialists can now concentrate on improving their technique and skill.

8. The discharging ear with its attendant complications and sequelae which once posed as a dangerous problem has now been greatly overcome by the introduction of Tympanoplasty by eminent surgeons like Wullstein and Zollner. We have the proud privilege of having Dr. Wullstein in our midst today as *Joshi Memorial Lecturer* and we had the privilege of hearing his learned speech.

9. Now, referring to the welfare of the deaf, I may state that rehabilitation of patients with a residual disability is now recognised as a problem, not to be brushed aside.

10. The blind people have, at all times, invoked sympathy from Society but the deaf have provoked only ridicule. Deafness, more than other disabilities, causes inconvenience to others, because of the efforts needed on the part of others to make the deaf person understand them. The deaf person has, however, a social obligation to family, friends and society and we have got to do something about this problem.

11. The rehabilitation of the deaf consists of (1) appraisal of the disability, (2) treatment of the disability to the extent possible, (3) the use of hearing aids and (4) training in speech reading. The use of Hearing Aids is an important aspect and the patient must be taught to use the aids. Recent advances incorporating the transistor have made possible the production of tiny but efficient aids. Some of them can be so conveniently tiny that they can be fitted into the jewellery of ladies. Training in speech reading must be given by qualified teachers. Speech reading is an art that enables the deaf person to understand speech by observing the lip movements and facial expressions of the speaker.

12. Indeed, it is pitiable to take stock of the condition of the unfortunate deafmutes as well as the untreatable deaf, who present an agonising problem to parents and the society. I feel impelled to cite the instance of that famous Lady, Hellen Keller, who has been able to triumph over her disabilities almost in a superhuman way. This example is an eloquent testimony of the enormous amount of work, which the specialists have to perform in this field. *Dr. Duffey*, whom we are privileged to have in our midst today, has been doing speech training work and I am sure, he will be able to substantially contribute towards the solution of this problem.

13. In the treatment of diseases of the nose and sinuses, the Specialist is now, more and more, conscious of his physiological role and being aware of the fact that Surgery is destructive the leanings are more towards Antibiotic and Anti-Allergic Drugs Therapy. He seeks now more to conserve the structures of the nose and sinuses. In the words of Simon-Hall, surgical insults to the nasal structures are perpetrated now far less often than in the past.

14. I visualise that in the days to come new vistas of progress and fresh fields for achievement are bound to open. As it is, you can be proud of the Plastic Surgery of the head and neck, repair of the injured facial nerve, restoration of hearing in cases of Otosclerosis and peroral endoscopy of the Larynx, Tracheo-Bronchial tree, Oesophagus and Stomach. If this has been

the progress so far achieved, still more astounding progress awaits this speciality. We are living in an age of swiftly moving events of spectacular achievements and of the wonderful discoveries. We can, therefore, say confidently, that this speciality along with others, in the realm of Medical Science, is destined towards a triumphant goal to make human life pleasant and worth-living.

15. Conferences, such as this, represent progress of Science in the field and I feel immensely happy in inaugurating the Scientific Session of the Conference, with a fervent wish that the deliberations may enrich the knowledge, promote a spirit of kinship and quicken the progress in the speciality to the glory of the Science and to the benefit of mankind.

I thank you.

PRESIDENTIAL ADDRESS

BY

Dr. N. SRINIVASAN

Head, E. N. T. Department, Medical College & S. S. G. Hospital, Baroda

Delivered at

The Thirteenth Annual Conference

OF

The Association of Otolaryngologists of India

Bangalore, 3rd February 1961.

At the very outset I must apologise to those delegates who, as a routine were expecting my address as President of the Association at this Conference, to be printed and distributed to everyone that has graced this occasion to-day. I have deliberately deviated from the usual practice of printing the address in a booklet form. I asked myself the question "Why must the Presidential Address be printed? Everyone present at the inauguration of the Conference will be listening to the speech and such of those who unfortunately were unable to attend would be reading the address in our Journal where it is printed verbatim."

This reminds me of a yarn I heard the other day. A famous theatrical producer had invited a very good critic-friend of his to attend the grand final rehearsal of the show in order to get his opinion. The critic-friend was given a very comfortable seat in the auditorium with a paper and pencil and a plentiful supply of cigarettes, coffee etc. and to watch the show in order to give his opinion. The producer at the end of every act peeped through the sidings to see the facial expressions of his critic-friend. But after

the first few acts he found that this critic-friend was fast asleep. He was annoyed and came running to him at the end of the final act and shaking him by his shoulders told him "You are a very good friend indeed. I had asked you to watch the show and give me your opinion and instead you damn well go to sleep". To that the critic-friend very calmly replied yawning away "My dear Chap, please note that sleeping by itself is an opinion".

Is it then that we give a printed address to keep the delegates occupied so that they won't go to sleep listening to the Presidential Speech? But I am certain that no one would dose off at least in this hour of the morning even if my address becomes boring.

Your Excellency, Mr. Chairman of the Reception Committee, Dr. Wullstein, my professional colleagues, ladies and gentlemen, I could not have wished for anything better than this enviable privilege of addressing this Thirteenth Annual Conference of our Association in this beautiful city of Bangalore which really holds a great lure for almost everyone of us. The very word Bangalore spells magic and it is no small wonder that it has attracted so many of our colleagues from all over country for this Conference. Once known as the "Pensioners' Paradise" Bangalore, to-day, is one of the most advanced and highly industrialized city in India. The comfortably cool weather of Bangalore, I am sure, will definitely act as an antedote to the tremendous heat that sometimes is generated during the deliberations of the Scientific Sessions.

Some of my predecessors in the past had mentioned about their having heard E. N. T. as a vanishing speciality. There cannot be a more heinous travesty of truth than this statement. If any branch of Surgery has advanced perceptibly within the past few years to give remarkable results to the suffering humanity it is this—Our Speciality of E. N. T. Thanks to the magnificent works of the great Otologists, like our honoured guest, Dr. Wullstein and his colleagues—contemporary, Dr. Zollner, who have taught us the delicate art of reconstructing the middle ear cavity in cases of chronic otorrhoea. The beaming smile on the faces of the deaf otosclerotics after a successful Lempert's or Rosen's or Shea's operation should once and for all coffin-nail and bury the vicious talk of E. N. T. being a vanishing speciality. Probably it is the wishful thinking on the part of some General Surgeons who still indulge in pulling out tonsils, do some nasal septums giving the poor victim a big button-hole inside his nostril, combined with the fact that the Thoracic Surgeons have taken over part of the Endoscopic Surgery that lead to the loose talk of E. N. T. being a vanishing speciality. To quote my immediate predecessor Dr. Misra, "The rapid progress of the science of audiology and the magnificent work carried on by Dr. Duffy on Audiology, the rehabilitation of the deaf and dumb, speech therapy and the study of the psychopathological problems related to them have in fact given birth to a new

sub-speciality within our major speciality of E. N. T. All these are proof positive to show the rapid advancement of our speciality. Besides to-day there is a very rapidly growing appreciation by the lay public of the availability of the specialized treatment in our branch.

But alas! with a deep feeling of disappointment I have to say that the impact of the great advancement of our speciality in other countries has not been so keenly felt in our country. But why? Because we have no too many hurdles to negotiate. To a certain perceptible extent we are ourselves knowingly or unknowingly aiding and abating to the fixation of these hurdles. The one that comes uppermost in my mind is the non-existence of a post-graduate study and course in our speciality in one of the leading cities with one of the oldest Universities of our Country. There are in that centre dozens of our worthy and learned colleagues, each with a post-graduate qualification as long as their own names not wanting to move their little finger in the direction of encouraging and implementing a post-graduate study in E. N. T.

Surely, gentlemen! this is not a situation to be proud of in the year of Grace 1961.

Next I would like to mention the absolute necessity for the establishment of a separate and independent Department of Otolaryngology in all the big General Hospitals of our Country where they do not exist at present, or where it has been tagged on to the Ophthalmic Department.

The other equally important thing which I would like to emphasize is the crying need for a separate 100-bedded—at least 50 for a kick off—hospital for the treatment of E. N. T. diseases alone. It present a meagre hospital for the treatment of E. N. T. Department in most of the General Hospitals where per force have always a huge big waiting list for admissions and operations particularly tonsillectomies going as long as 4-6 months. A separate 100-bedded E. N. T. hospital will solve the dual problems of not only giving a quick admission and operation for the suffering public, will also afford ample opportunities for many a young well-qualified up-and-coming E. N. T. specialists to gain the necessary operative experience in our speciality.

Now I will come to the three distinct divisions in the teaching of our speciality. They are—

- (1) the undergraduate.
- (2) the post-examination trainee (popularly called in our University in Baroda as P. E. T. S.)
- (3) the post-graduate.

I. *The Under-graduates.*—In my opinion the study of Otolaryngology by the undergraduates is extremely sketchy in a very indifferent manner. The attendance of students in the E. N. T. Departments in the General Hospitals varies from 2-4 weeks during which period the student is supposed to acquire a fair knowledge of the E. N. T. subjects. There seems to be an impression in the minds of the under-graduates that the study of E. N. T. is not so important to get through the Final M.B.B.S. examination, and he need not therefore unduly bother about it. Barring a few universities in our country in most places they do not have a separate paper for E. N. T. subjects. Occasionally the question on Ear, or Nose or Throat with an alternative choice in General Surgery is asked in some examinations. This is not a happy state of affairs. I feel it a fair proposal to have one separate paper with two sections—one for E. N. T. and one for Ophthalmology at the Final M.B.B.S. Examinations, which papers should be set and assessed by the specialists concerned.

II. *Post-examination trainee.*—An year's course of interneer-ship after passing the Final M.B.B.S. examination and before taking their degrees at the Convocation, has been recently instituted in most of the centres. This new course, I understand, is mainly to prepare and train the graduates to be good general practitioners and be able to tackle the day-to-day minor maladies. Out of the total period of twelve months "a tremendously long period of one week!" is allotted to E. N. T. subject. A would be good general practitioner is expected to acquire a first class working knowledge of E. N. T. in a week's time. Well gentlemen, I can think of only one word to describe this—"A First Rate Farce". You will all agree with me when I say that a month's period of training in the E. N. T. Department will certainly give the would be general practitioner to do First-aid treatment in E. N. T. diseases.

III. *Post-graduates.*—Reviewing the position of our speciality with regard to post-graduate teaching in this country, I personally feel it is not what it should be. Each University has its own syllabus and methods and the teaching as a whole is haphazard and not based on the lines of the institutions in Western countries. I shall once again emphasise the need of a special hospital for ear, nose and throat diseases in every University town. Operative procedure in quite a few hospitals, even to this day do not go beyond tonsillectomies and nasal septum corrections. I do not know of any school where a post-graduate student devotes a sufficient number of hours to surgical pathology as applied to our speciality. More emphasis is increasingly being laid on a post-graduate in ear, nose and throat having a good knowledge and fundamental training in general surgery. I personally feel it imperative that a student should undergo a good training in general surgery under capable and experienced teachers before taking up studies in ear, nose and throat.

Arrangements must be made at the University level to invite experienced teachers in this speciality from other countries and our own Universities to give lectures and demonstrate operative methods.

A few members who are associated with the powers that are wielding the destiny of the Medical Education in our country are of the opinion that there should only be a post-graduate Degree and not a Diploma in the Speciality. I am afraid I cannot contribute to this view. A Diploma in our speciality is absolutely necessary along with a post-graduate Degree. A Diploma holder can easily be absorbed in many district non-teaching hospitals to work as an E.N.T. Specialist while the Degree holders can be taken into the teaching hospitals. Finally I would like a uniform standard method of coaching for post-graduate studies to be laid down in all the teaching hospitals of our country. The Syllabus for the post-graduate degree examination varies from University to University. This also should be standardized and a uniform syllabus instituted in the Universities.

Let me say a few words about that most fascinating term "Research". One hears that word very often and everytime a big shot visits an Institution he very readily advocates research. Of course research is a wonderful thing and its value cannot be under-estimated. But unfortunately that very many people do not realise that this business of research cannot be forced down the throat of any and everybody. In my opinion if the authorities and the powers that are give all the help to properly organise a department in a big teaching hospital getting us all the absolutely essential equipments the research will automatically follow. After all ours is a clinical research. We come across something new or unusual during our day-to-day work in our department or operations which when pursued and studied becomes a research. Every teaching hospital, where advanced aural surgery is to be done, must be provided with one of the latest operating microscopes. This is an essential equipment for any aural work. It is by constantly observing the pathological process that goes on inside the ear through a microscope that one occasionally stumbles into the field of research.

Finally before I sit down, ladies and gentlemen, I would like to indulge a few moments in Medical Ethics amongst ourselves. We should be constantly introspective and analyse within ourselves the work—I mean the honest work—done by us and try to assess it correctly without the least exaggeration. We should be honestly bold and boldly honest to accept our failures and shortcomings. We should not feel ashamed to watch and learn from any of our colleagues—be it a senior or a junior—who may have achieved better results than us.

A word to my junior colleagues. You should not get disheartened at your failures in the initial stages of your careers. Failures, as they say, are

the stepping stones to success. Remember the old adage : if at first you don't succeed, try, try, try again. Please try to take more active part in the activities of our Association, contributing your very best towards the advancement of our science, prevention and cure of diseases, giving relief to the suffering humanity.

Craving your pardon for my commissions and omissions, I thank very sincerely one and all of you for having given me a patient hearing.

Thank you, once again.

THE ASSOCIATION OF OTOLARYNGOLOGISTS OF INDIA

BOMBAY-I

A meeting of the Governing body of the Association of Otolaryngologists was held at Sea Scape, 42, Warden Road, Bombay on 12th March 1961 at 11 a.m. when the following were present. This meeting was specially arranged at a special demand from the President as a number of emergent matters had to be handled and decided. He even sent a personal invitation to every member of the governing body.

R. A. F. Cooper.	P. Kothary	N. SRINIVASAN,
T. Manickam.	B. P. Apte.	<i>President, 12-3-1961.</i>

Resolution I.—The minutes of the meeting held on 2nd February 1961 at Bangalore were read confirmed and accepted. Proposed by Dr. B. P. Apte, seconded by Dr. Manickam—carried unanimously.

Resolution II.—Memorandum to be drawn on the following points by the Hon. Secretary and to be sent to Dr. D. Ram to include in his recommendations to the planning commission.

1. Manufacturing of hearing aids in India.
2. A central deaf council with sufficient representations of our Association.
3. Formation of deaf clubs.
4. Encouraging the States to open E. N. T. units in their respective district hospitals.
5. Establishment of a separate Ear, Nose and Throat hospital at important teaching centres in each State with hearing and speech centres

attached to each institution. Proposed by Dr. R. A. F. Cooper, seconded by Dr. Manickam—carried unanimously. (Detailed Memorandum attached).

Resolution III.—The following order of the alternate nominated delegate to the International conference was decided upon in the given serial order underneath.

(1) Dr. B. P. Apte. (2) Dr. A. B. N. Rao. (3) Dr. T. M. Manickam. (4) Dr. N. Srinivasan ; proposed by Dr. Kothary—seconded by Dr. Manickam.

Resolution IV.—It was resolved to invite Professor Ettore Bocca of Milan to deliver the 4th Joshi Memorial lecture at the 14th Annual conference to be held at Jaipur—proposed by Dr. R. A. F. Cooper—seconded by Dr. B. P. Apte—carried unanimously.

Resolution V.—The letter of resignation of the Hon. Secretary Dr. R. A. F. Cooper was read, considered and discussed. The President read out the letters received from the members of the Governing body who were absent *viz.* Dr. R. N. Misra, Dr. H. L. Anand, Dr. A. Sinha, Dr. Miss Leelavathi, Major N. Dutt and Dr. V. S. Subramaniam. All the members unanimously requested Dr. R. A. F. Cooper to withdraw his resignation. Proposed from the chair—carried unanimously.

Resolution VI.—It was resolved that the Hon. Secretary should write a letter to the Medical Council of India requesting them to give due importance to the subject of E. N. T. at the under graduate level by introducing a separate section in the surgery paper—as E. N. T. diseases account for majority of the ailments in daily practise. Proposed by Dr. Manickam, seconded by Dr. B. P. Apte.

Resolution VII.—It was resolved that the wives of the delegates at the annual conference be accepted and treated as associate delegates and they be charged Rs. 5/- as delegate registration fee. Proposed from the chair—carried unanimously.

Resolution VIII.—As there is feeling of general dissatisfaction over the time table of annual conference the governing body resolves the following be adapted for the next annual conference to be held at Jaipur.

1st day.—Registration - Photo - Inauguration - Johshi Memorial Lecture - Lunch.

1st day afternoon.—Symposium - Presidential dinner.

2nd day Morning Session.—Scientific session not more than 5 papers (including film) - Lunch.

2nd day afternoon:—General Body Meeting - Association contribution dinner.

3rd day Scientific Session:—Maximum 5 papers - Lunch followed by sight seeing - dispersal - proposed by Dr. B. P. Apte—seconded by Dr. R. A. F. Cooper.

Resolution IX.—It was resolved that the resolution passed by the General Body in 1950 that the papers to be read at the conference be submitted to the Hon. Secretary by 31st October, be re-enforced from this year. The submission of the paper be in three typed written copies. Maximum 10 papers will be admitted for the annual conference. The papers submitted will be screened by a committee consisting of (1) Hon. Secretary (2) President (3) Immediate Past President (4) President elect.

Memorandum for the Planning Commission

Recently, a *questionnaire* sent to 574 general practitioners in Iowa showed that from 1½ to 80 percent of their work pertained to diseases of Ear, Nose and Throat. If this high incidence of otolaryngological complaints is true of Iowa, it is even more so of our country, where changes of temperature are frequent and sharp. This calls for immediate and greater attention of the government to the problem of Ear, Nose and Throat patients. The cry of the deaf, deafmutes and hard of hearing have yet not reached the right ears. Otolaryngology is in travail, in which is accentuated in our country for obvious reasons, as the difficulties of the social worker, on account of public prejudice, are matched by the governmental apathy. The government is unable to appreciate the inferiority complex of a person hard of hearing. A deaf person certainly does not carry the stamp of his or her infirmity, as does a blind or limbless person; but it is none the less real and is all the more pitiable as it is not manifest. The handicaps of a person with impaired hearing does not register even a faint emotional impulse in person who are sound of limb and body.

To-day the cause of aural cripples faces a big blank, as the condition does not evoke any emotional appeal, for they do not have any visible symptom proclaiming their disability.

1. While we are thankful to the government for waiving off duty on artificial hearing aids, one finds that inspite of that the foreign artificial hearing aid turns out to be far more expensive to an average hard of hearing needy Indian. It is beyond his means. We recommend that the Government takes upon itself to manufacture these at one of its factories. If government can manufacture elaborate telephone receivers and other complicated telephone accessories there is no reason why artificial hearing aids could not be

manufactured in this country. It will not be enough to manufacture it in India but it also should be distributed free to hard persons amongst poor, lower middle and middle class of people. The use of hearing aids should be made compulsory to the hard of hearing people working in Industries (factories). Along with the government the Industrialists should be made to contribute part of the cost when these hearing aids are distributed free of charge amongst the industrial labourers.

2. Deaf councils should be established without further delay; To commence with one at the centre to be followed by one in each state at an early date. Government should take full advantage of co-operation offered by Association of Otolaryngologists of India in working of these councils. The Association's representatives should be working hand in hand on these council with the other Government members. At present one finds that this association is seldom consulted whenever there are health problems affecting ear nose and throat. These councils should formulate laws and constitutions to help the cause of deaf and hard of hearing people.

3. Early formations of deaf Clubs in the country, preferably a couple or more in each important district town and city.

4. The state government be urged and encouraged to open E.N.T. units in their respective district hospitals. Wherever possible these should be accompanied by an acoustic unit on a small scale.

These acoustic units should work on the following lines :

- (a) Assessing the number of deaf, deafmutes and hard of hearing people in the district.
- (b) Hearing tests of children at school going age.
- (c) Separating the deaf and deafmutes from hard of hearing children.
- (d) Investigate into the causes of deafness in India.
- (e) Elimination of these causes in children at school going age.
- (f) Supplying of free hearing aids.

5. Establishment of separate ear, nose and throat hospitals at important teaching centres in each state with arrangements for experimental animal surgery, research work, and training of post-graduates.

6. Until special hospitals for ear, nose and throat are established, every teaching hospital must open out a rehabilitation centre, where the deaf and dumb millions of this country, who, with expressionless faces, go about begging and pass their lives like animals, may be trained and brought to

human standard and made useful units of the society. The lot of these unfortunate ones is worse than that of the blind, for although they clearly see the hustle and bustle of life, its charm and variety, they nevertheless retire into seclusion because of their inability to hear, and the want of sympathy from those blessed with hearing.

Centres for the treatment of deaf will require the services of group hearing aid expert, and skilled audiologists and speech therapists. Scholarships should be made available to youngsters from this country to visit foreign countries to take training in speech audiology and speech therapy.

7. Rural Medical aid is a pressing problem in this country. It is much more acute where treatment by specialist is indicated. Mobile units, Ear, Nose and Throat camps will only touch the fringe of the requirement. Profession is willing to go a long way to help the government. It is however the consensus of opinion that if adequate facilities are provided and emoluments made more attractive specialists will be available in sufficient numbers.

R. A. F. COOPER,
Hony. Secretary.

THE ASSOCIATION OF OTOLARYNGOLOGISTS OF INDIA NEW DELHI

At the 6th Annual General Meeting of the Delhi Branch of the Association following office bearers were elected on 26-2-1961 :

1. *Honorary President* : Dr. Bodh Raj, Jeewan Hospital and Nursing Home, Rohtak Road, New Delhi-5.
2. *Honorary Secretary* : Dr. D. S. Sardana, Safdarjang Hospital, New Delhi.
3. *Honorary Treasurer* : Dr. Suraj Parkash, Chuna Mandi, Paharganj-New Delhi.
4. *Members of the Executive Committee* :
 - (i) Dr. Sohan Singh (as Past President).
 - (ii) Dr. S. C. Sabharwal (as Past Secretary).
 - (iii) Dr. I. S. Gupta, Irwin Hospital, New Delhi.
 - (iv) Prof. A. Sinha, All-India Inst. of Medical Sciences, New Delhi.
5. *Member of Editorial Board* : Dr. A. T. George, Irwin Hospital, New Delhi.

Dr. T. B. Bahl was requested to continue as auditor.

The Bombay Public Trust Act 1950, Schedule VIII Vide Rule 17(1) The Association of Otolaryngologists of India—Balance Sheet as at 31st December 1960

LIABILITIES	Rs.	nP.	ASSETS	Rs.	nP.	Rs.	nP.
Income and Expenditure Account :			Investments (At cost) :				
Balance Brought Forward	...		Brought Forward	...	11,205	93	
Add : Excess of Income over Expenditure during the year as per annexed Income and Expenditure Account	...		Add : additions during the year (as per schedule attached)	...	409	50	
			Furniture and Office Equipment :				11,615 43
			Brought Forward	...	669	15	
			Less : Depreciation	...	Nil		
							669 15
The Journal of the Association of Otolaryngologists of India Account :			The Journal of the Association of Otolaryngologists of India Investment Account (At cost) :				
Being the amount received from them for Investment as per contra	...		4% 1954-64 Bombay Municipal Debentures of the face value of Rs. 3,000/-	...	3,007	50	
			3½% Loan 1974 of the Government of India of the face value of Rs. 2,500/-	...	2,462	50	
							5,470 00
Dr. S. G. Joshi Memorial Fund :			Cash in Bank :				
Balance Brought Forward	...		In current account with the Lloyds Bank Ltd., standing in the name of the Hon. Secretary and the Hon. Treasurer	...			9,401 83
Add : Collections during the year	...						
			Total	...			27,156 41
Total	...						

As per my Report of even date attached.

The above Balance Sheet to the best of my knowledge and belief contains a true and fair account of the Funds and Liabilities and of the Assets of the Trust.

R. N. BHANSALI,
Chartered Accountant.

N. SRINIVASAN,
President.

N. K. APTE,
Hon. Treasurer.

21st January 1961.

The Bombay Public Trust Act 1950, Schedule IX *Vide* Rule 17(1)
The Association of Otolaryngologists of India—Income and Expenditure Account for the year ended 31-12-1960

EXPENDITURE		Rs.	nP.	Rs.	nP.	INCOME	Rs.	nP.
To Establishment Expenses :						By Members' Subscriptions :		
Salary	...	580	00			Ordinary	3,336	00
Printing and Stationery	...	424	50			Associated	216	00
Bank Charges	Rs. 49 27							3,552 00
Less: Collections from members	" 20 97			28	30	Interest :		
General Charges	...			185	28	On Securities (After deduction of Income-Tax and Bank Charges)		194 95
Audit Fee	...							
" Expenses on Objects of the Trust :								
Conference Expenses	...	250	00					
Dr. Joshi Memorial Expenses	...	150	00					
" Excess of Income Over Expenditure	...							
Total	...					Total		
								3,746 95

The above Income and Expenditure Account to the best of my knowledge and belief contains a true and fair account of the Income and Expenditure of the Trust.

As per my report of even date attached.

21st January 1961.

R. N. BHANSALI,
Chartered Accountant.

N. SRINIVASAN,
President.

R. A. F. COOPER,
Hon. Secretary.

N. K. APTE,
Hon. Treasurer.

Association Notes

47

Register No. F-417 (Bombay)

The Bombay Public Trust Act 1950, Schedule IX-C *Vide* Rule 32

**The Association of Otolaryngologists of India—Statement of Income
 Liab for Contribution for the year ended 31st December 1960**

PARTICULARS	Rs.	nP.
Gross Receipts being Income during the year as per annexed Income and Expenditure Account	3,746	95
Less :		
Cost of collection of Income on receipts from securities, stocks etc., at 1% of such Income	1	94
Net Income Liab for Contribution	3,745	01

As per my report of even date attached.

21st January 1961.

R. N. BHANSALI,
Chartered Accountant.

N. SRINIVASAN,
President.

R. A. F. COOPER,
Hon. Secretary.

N. K. APTE,
Hon. Treasurer.

**The Association of Otolaryngologists of India—Schedule of
 Investments (At cost) for the year ended 31st December, 1960**

PARTICULARS	Rs.	nP.
1. 3% 1966-68 Government of India Funding Loan of the F.V. Value of Rs. 2,008/-	1,816	25
2. 3½% Indian Loan 1974 - Pronotes of the Face Value of Rs. 4,000/-	1,477	50
3. 3½% National Plan Bonds 1965 Pronotes of the F. Value of Rs. 1,400/-	1,379	00
4. 12 years National Plan Savings Certificates due on 18-9-70	3,570	00
5. 4% Indian Loan 1973 P. Notes of the F. Value of Rs. 2,900/-	2,963	18
6. 4% B. Loan 1973 F. V. Rs. 400/-	409	50
Total	11,615	43

As per my report of even date attached.

21st January 1961.

R. N. BHANSALI,
Chartered Accountant.

N. SRINIVASAN,
President.

R. A. F. COOPER,
Hon. Secretary.

N. K. APTE,
Hon. Treasurer.

Account of the Journal of the Association of Otolaryngologists of India with the Honorary Treasurer at Madras
Receipts and Payments Account for the year ending 30-9-1960

RECEIPTS	Rs.	nP.	Rs.	nP.	PAYMENTS	Rs.	nP.	Rs.	nP.
To Opening Balances: On S.B. Account with Canara Banking Corporation Ltd., as per pass book as on 1-10-59	2,522	37			By Printing Charges			3,404	05
Securities with Lloyds Bank Ltd., Bombay	5,500	00			" Establishment Charges			360	00
Head Office contribution to the Journal	738	15			" Postage			203	15
Cheque Indian Publicity Bureau Private Limited, Calcutta	85	00			" Bank Charges			10	52
Cheque O. Wheeler, Calcutta	65	00			" Auditor's Honorarium			50	00
Cash with clerk (Contingencies Account)	25	95			Closing Balances:				
" Advertisements			8,936	47	On S. B. Account with Canara Banking Corporation Ltd., as per pass Book as on 30-9-60	1,409	26		
" Subscription to Journal			1,550	25	*Securities of M/s. Lloyds Bank Ltd., Bombay	5,500	00		
Interest: From Securities			371	62	Cheque of M/s. Raptakos, Brett & Co., Private Ltd., Bombay	65	00		
From Canara Banking Corporation Ltd.					Subscription of M/s. O. Wheeler, Calcutta	22	50		
" M/s. Raptakos, Brett & Co., Private Ltd., Bombay	146	32			Cash with clerk (Contingencies Account)	65	00		
	43	00	189	32		23	18	7,084	94
Total			11,112	66	Total			11,112	66

* These Securities have not been verified by us as the same are held by the Association Head Office at Bombay, we understand.

N. SRINIVASAN,
President.

Madras, }
28-1-1961.

N. DUTT,
Honorary Chairman.

Examined and found correct.

C. M. LEELAVATHI,
Honorary Treasurer.

K. JOHN & CO.,
Chartered Accountants (Honorary Auditors).

SEPTILIN

SINUS & NASAL INFECTIONS, ALLERGIC RHINITIS,
SEPTIC OTORHINOLARYNGOLOGICAL CONDITIONS.

Dosage: 2 tablets t. d.

- SEPTILIN has a sterilising effect on the organism with Acute Rhino-sinusitis.
- Clinical improvement precedes stage of bacteriological sterility.
- No toxic reactions were seen during the course of treatment.
- No drug resistance was noted.

Indian Journal of Otolaryngology, 1958, 4, 141.

R. A. F. Cooper, M.S.,
N.R. Merchant, M.S., D.O.R.L.

Descriptive literature & samples on request

THE HIMALAYA DRUG CO., 251, D. Naoroji Road, BOMBAY I (India)
Makers of the World's Pioneer *Rauwolfia* Hypotensive **SERPINA**

REMOVE
DISTRESSING
NOSE BLOCK



CATAZOL

BENGAL
CHEMICAL
PRODUCT

Perfectly non-irritating, non-oily, viscous
Isotonic Solution with a soothing action

(1) ALLAYS CATARRH
(2) RELIEVES 'HEAVY HEAD'
(3) CLEARS STUFFED NOSE
(4) MAKES BREATHING EASY

packed in special phials with dropper for easy application

Nasal Drops

ACHROMYCIN*
Tetracycline Hydrochloride Crystalline
INTRAMUSCULAR

*Rapid
antibiotic
action!*

... may prove a life-saving procedure for the acutely ill patient, when high blood levels are urgently required, or for those unable to take oral medication.

Fast absorption and virtual absence of side reactions make the oral administration of ACHROMYCIN the preferred form. Intramuscular therapy, therefore, should be discontinued as soon as the patient is able to take medication through the mouth

Package: 100 mg. vial

* Trademark

LEDERLE LABORATORIES (INDIA) PRIVATE LIMITED, P.O.B. 1994, BOMBAY 1

Aureomycin SV capsules

dry filled

- ... Each capsule is dry filled with powdered ingredients.
- ... Dry filled capsules are rapidly and completely absorbed.
- ... Contain no oily or pasty filling.
- ... Each capsule completely sealed.

A LEDERLE EXCLUSIVE

AUREOMYCIN* SV provides, in a single dose, potent anti-infective action plus nutritional supplementation to hasten recovery and convalescence.

AUREOMYCIN SV capsules available in bottles of 8's and 50's

*Reg. Trade Mark.

LEDERLE LABORATORIES (INDIA) PRIVATE LIMITED, P. O. BOX 1994, BOMBAY 1

Each capsule contains:

Chlortetracycline Hydrochloride 250 mg.
Ascorbic Acid (C), U.S.P. 75 mg.
Thiamine Mononitrate (B₁), U.S.P. 2.5 mg.
Riboflavin (B₂), U.S.P. 2.5 mg.
Niacinamide, U.S.P. 25 mg.
Folic Acid, U.S.P. 0.375 mg.
Pyridoxine HCl (B₆) 0.5 mg.
Calcium Pantothenate 5.0 mg.
Vitamin K (Menadione), U.S.P. 0.5 mg.
Vitamin B₁₂ 1 mcgm.
(as present in concentrated extractives from streptomyces fermentation)

Statement about ownership and other particulars about newspaper, INDIAN JOURNAL OF OTOLARYNGOLOGY to be published in the first issue every year after the last day of February.

Form IV—(See Rule 8)

- Place of Publication ... MADRAS.
- Periodicity of its publications ... Quarterly : March, June, September and December.
- Printer's Name ... Mr. Ravaimanickam.
Nationality ... Indian (Madras State).
Address ... 148, Big Street, Triplicane, Madras.
- Publisher's Name ... Dr. V. S. Subramanian.
Nationality ... Indian (Madras State).
Address ... "Lempert Hospital", 1-A, Marshall's Road, Egmore, Madras-8.
- Editor's Name ... Dr. V. S. Subramanian.
Nationality ... Indian (Madras State).
Address ... "Lempert Hospital", 1-A, Marshall's Road, Egmore, Madras-8.
- Name and address of individuals who own the newspaper and partners or shareholders holding more than one per cent the total capital. Association of Otolaryngologists of India, Bombay.
Chairman : Major N. Dutt,
D.L.O., F.R.C.S.E.
41-B, Sadananda Road,
Calcutta-26.

President: Dr. N. Srinivasan,
E. N. T. Surgeon,
Medical College Hospital, Baroda.

I, V. S. Subramanian, hereby declare that the particulars given above are true to the best of my knowledge and belief.

V. S. SUBRAMANIAN,

Signature of Publisher.

31-3-1961.

ADVERTISEMENT TARIFF

		<i>Full Page</i>	<i>Half Page</i>
		Rs.	Rs.
BACK COVER PAGE	...	200/-	Not available
INSIDE COVER PAGE	...	125/-	75/-
FULL ORDINARY PAGE	...	100/-	65/-

★

10% Discount if paid in
Advance for 4 insertions

★

Address all correspondence to :

THE EDITORIAL SECRETARY

Indian Journal of Otolaryngology

1-A, Marshall's Road, Egmore, Madras-8.

UNI U. C. B. (India) Prvt. Ltd.

22, BHULABHAI DESAI ROAD

BOMBAY-26

★

ATARAX

(Hydroxyzine Hcl.)

A mild tranquillizer without
side reactions

Now available Tabs. of
10 mg. and 25 mg. also
available in Syrup and Drops

LONGIFENE

(Buclizine Hydrochloride 25 mg.)

A long acting potent
Antihistaminic
(for Rhinitis and Pruritus)

Now available
Tablets

For further particulars, please contact :

M/s. GANAPATHY & Co.

103/104, Linghi Chetty Street

MADRAS-1

JUNE 1961

360

INDIAN JOURNAL
OF
OTOLARYNGOLOGY



PUBLISHED BY
The Association of Otolaryngologists of India

Printed by Mr. R. Ravaimanickam, at Ravai & Sons (Ravai Press), 148, Big Street,
Triplicane, Madras-5 and Published by Dr. V. S. Subramanian,
1-A, Marshall's Road, Egmore, Madras-8.

ADVERTISEMENT TARIFF

		<i>Full Page</i>	<i>Half Page</i>
		<i>Rs.</i>	<i>Rs.</i>
BACK COVER PAGE	...	200/-	Not available
INSIDE COVER PAGE	...	125/-	75/-
FULL ORDINARY PAGE	...	100/-	65/-

★
10% Discount if paid in
Advance for 4 insertions
★

Address all correspondence to:

THE EDITORIAL SECRETARY

Indian Journal of Otolaryngology

1-A, Marshall's Road, Egmore, Madras-8.

INDIAN JOURNAL OF OTOLARYNGOLOGY

Vol. XIII, No. 2

JUNE 1961

Official Scientific Journal of the Association of
Otolaryngologists of India

Editorial Board

<i>Chairman</i>	...	Major N. DUTT
<i>Editor</i>	...	Dr. V. S. SUBRAMANIAN
<i>Treasurer</i>	...	Dr. C. M. LEELAVATHY
<i>Editorial Secretary</i>	...	Dr. U. ANANDA RAO

INDIAN JOURNAL OF OTOLARYNGOLOGY

1-A, MARSHALL'S ROAD :: EGMORE, MADRAS-8

CONTENTS

Fractures of Face P. R. Kulkarni.	...	Page 49
Normal Bacterial Flora of the Human Ear Canal Dr. G. Lakshminpathi and Dr. K. Srinivasa Rao.	...	64
Paralysis of Facial Nerve Dr. P. N. Sinha.	...	69
The Facial Nerve Dr. V. S. Subramaniam.	...	75
Conservative Management of Peripheral Facial Paralysis Dr. P. P. Karnik.	...	79
Symptomatology and Diagnosis of Facial Palsy Dr. M. M. Nath.	...	88
The Treatment of Hump Nose Defect Dr. R. J. Maneksha	...	93
Association Notes	...	98

**CORRECTION OF
IMPAIRED METABOLISM**
PALATABLE AND WELL TOLERATED

NEOGADINE

(ELIXIR)

ENDORSED

By over 25 years' clinical experience

CONTAINS

Vitamins A, B₁, C and D
Organic iodine
Vanadium arsenate
Calcium, Phosphorus
and Magnesium.

Bottle of 360 c.c. (12 oz.)

SUITABLE

For a variety of conditions,
arising from impaired
metabolism, including
bronchial affections,
asthenic states, etc.

Particulars from:

RAPTAKOS, BRETT & CO., PRIVATE LTD., WORLI, BOMBAY

In bacterial infections
'MADRIBON'
TRADE MARK
is realistic therapy...

*Promptly puts the patient
back on his feet...*

is kind to his pocket!

Safe: Found primarily as the highly soluble glucuronide in the urine, thus minimising the possibility of renal complications. Side-effects rare.

Effective: Wide antibacterial spectrum. Over 15,000 reported cases have registered up to 90% clinical success.

Economical: Cost well below that of many other antibacterials.

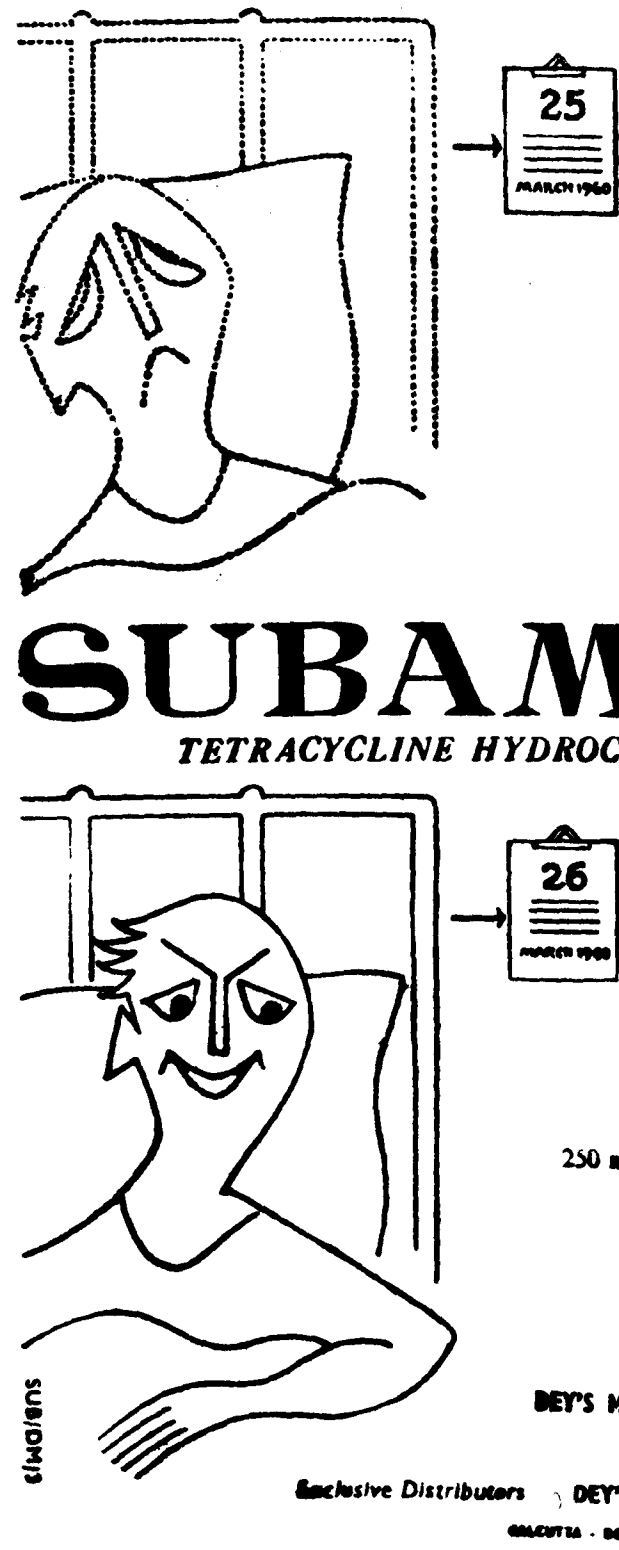
**Modern, long-acting,
low-dosage Sulfonamide**

Packings: Tablets 0.5 g., 10 and 250
Drops: 20% : 10 ml.

ROCHE PRODUCTS LIMITED
Medical Service Department • P.O. Box 748, Bombay

Sole Distributors: **VOLTAS LIMITED**





**To
minimise
the febrile
period**

SUBAMYCIN

TETRACYCLINE HYDROCHLORIDE U. S. P.

CAPSULE

**STILL THE SAFEST
BROAD SPECTRUM
ANTIBIOTIC**

Supply
250 mg. Capsules in bottle of 8 and 100

Manufactured By

DEY'S MEDICAL STORES (Pvt.) PRIVATE LTD.
CALCUTTA-49

Exclusive Distributors **DEY'S MEDICAL STORES PRIVATE LTD.**
CALCUTTA - BOMBAY - DELHI - MADRAS - PUNE - RAIPUR - COIMBATORE

Indian Journal

Vol. XIII, No. 2

OF

JUNE 1961

OTOLARYNGOLOGY

OFFICIAL SCIENTIFIC JOURNAL OF THE ASSOCIATION OF OTOLARYNGOLOGISTS OF INDIA

Fractures of Face

BY

P. R. KULKARNI, M.S., D.O.R.L.,

E. N. T. Surgeon, Bhilai Steel Project, Bhilai (M.P.)

President Sir, and my colleagues, fractures of the face are more common than thought of. With increasing industrial and automobile accidents the incidence of these fractures has gone high.

23 cases of fractures of the facial bones are considered in this paper. Fractures of the Mandible are not considered here. The causes for the fractures were:—

1. Road accidents	...	8
2. Fall from heights	...	6
3. Injury from machines	...	2
4. Assaults	...	5
5. Blow by the head of another person	...	2
	Total	23

FACTORS PRODUCING FRACTURE

Mass and Shape of the object and the amount of Force determine the nature of fractures and the direction of force determines the line of displacement. The fracture may be simple, compound or comminuted and of one or multiple bones. The fragments may become displaced and impacted. There may be laceration of soft tissues. When a fracture involves a sinus it is always compound.

The nose is the most prominent feature of the face and the malar and supra-orbital prominences form important contours of the face. Marked deformities create a definite Psychic and economic hazard. Neglected deformities may cause derangements in the functions viz. Nasal or external Auditory Canal block, dental mal-occlusion, inability to open the mouth etc.

Fractures of the face may be divided into :—

- I. Upper third—Frontal bones.
Frontal Sinuses.
- II. Middle Third—From Supra-orbital Margin above to the teeth below.
 - (i) Central (Naso-Maxillary complex).
 - (ii) Lateral (Malar-Maxillary Complex).
 - (iii) Remote Lateral of Tympanic Bone.
- III. Lower Third—Not considered in this paper.

In general the *Symptomatology* is as under :—

1. Epistaxis.
2. Pain and Tenderness.
3. Crepitus.
4. Abnormal Contour of the locality.
5. Swelling of soft tissue.
6. Conjunctival Haemorrhage.
7. Ecchymosis around the eyes.
8. Cerebro-Spinal Rhinorrhoea.
9. Hyperaesthesia or Anaesthesia over the cheek, when infra-orbital nerve is implicated.
10. Sinus opacity.
11. Diplopia.
12. Surgical Emphysema.

OBJECTIVES OF TREATMENT ARE

1. To restore accurate anatomical position in order to prevent cosmetic deformities.
2. To restore normal function of the part or locality.

Manipulation is undertaken immediately if the general condition of the patient allows and before the swelling appears and masks the deformities and also makes correct manipulation difficult. If delayed it should be done within one or two weeks. In comminuted fracture of the facial bones the surgeon cannot too carefully bear in mind that all splinters which are even slightly adherent should scrupulously be preserved as they become united with wonderful facility (Malgaigne).

Immobilization for one to three weeks is adequate and healing occurs in 12 weeks. The union is fibrous and radiological evidence of healing will be lacking.

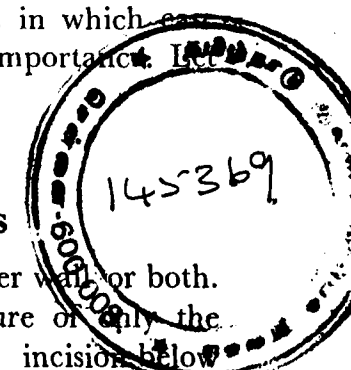
In cases with Cerebro-spinal Rhinorrhoea antibiotics must be instituted promptly and careful manipulations can be made without waiting for it to stop.

Severe injuries are often accompanied by Concussion and intracranial damage, fracture of base skull etc. in which fracture of face bones assume only secondary importance. Let us now consider the different fractures.

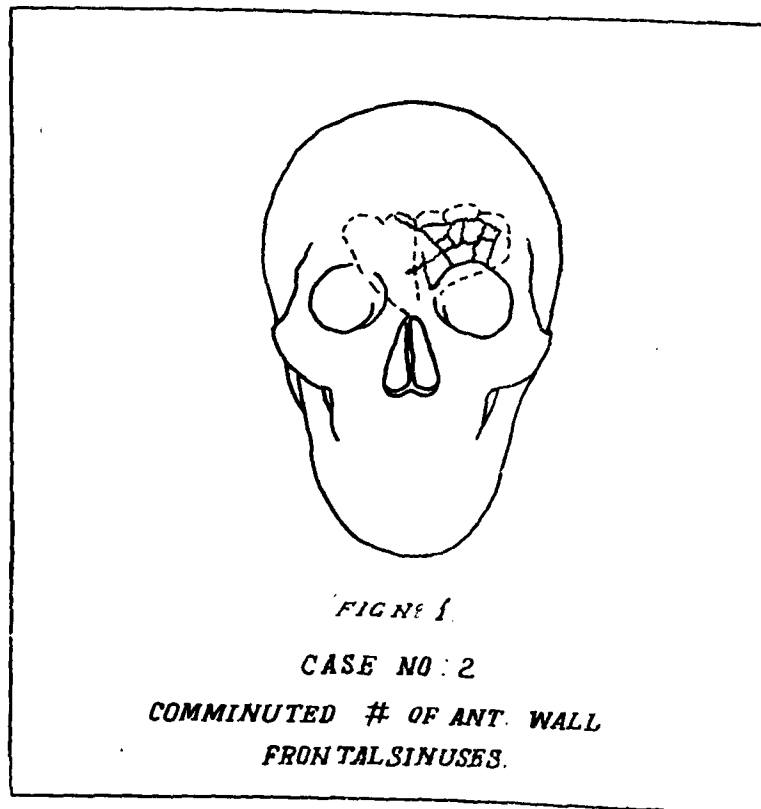
I. Fractures of upper 3rd of Face.

FRACTURES OF FRONTAL SINUS

Fractures may involve the outer wall, inner wall or both. In Case No. 2 there was a comminuted fracture of only the outer wall with depression (Fig. 1). Through an incision below the eyebrow the anterior wall was exposed and the depressed fragments were elevated with needles without opening the sinus mucosa, as this was not torn. In Case No. 1 (Fig. 2) there was a compound fracture with a gap in the anterior wall and depressed fracture of the posterior wall of the right frontal sinus was



JL
L183 : 4 m N4905
N61.13.1



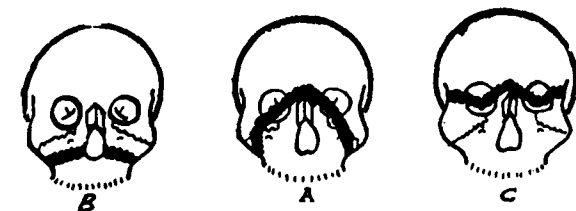
ANT. & POST. WALL. FRONTAL SINUS.

detected. The wound was excised and loose bone pieces with no attachments were removed. The depressed fragments were elevated from the dura mater. A small tear in the dura caused by spicule of bone was detected. This was sealed with muscle graft. The wound was excised and completely sutured. The recovery was uneventful.

II-A. Fractures of the middle third.

BILATERAL

Injury with heavy objects is likely to cause fractures along one or more of Le Forte's lines of weakness (Fig. 3). The block of bone formed by joining one maxillary tubercle through the two infra-orbital foramina to the opposite maxillary tubercle (Fig. 3-a) may be indriven and impacted. The tooth bearing segment may become detached by a transverse fracture (Fig. 3-b) when it is known as floating or Guerine's fractures. The fragile bone attached to the base of the skull may be crushed leaving the whole middle third of face hanging by soft tissue (Fig. 3-c).



There may be other fractures associated with these like comminution of individual bones.

We had four cases (No. 3, 4, 6 & 8) of bilateral fractures which followed Le Forte's Lines.

Case No. 3 had a fall from height of 25 feet on the face (Fig. 4-a & b). He sustained fractures resembling a combination of both 'A' and 'B' Le Forte's lines of weakness. The patient was concussed and was in a poor condition. The fracture line

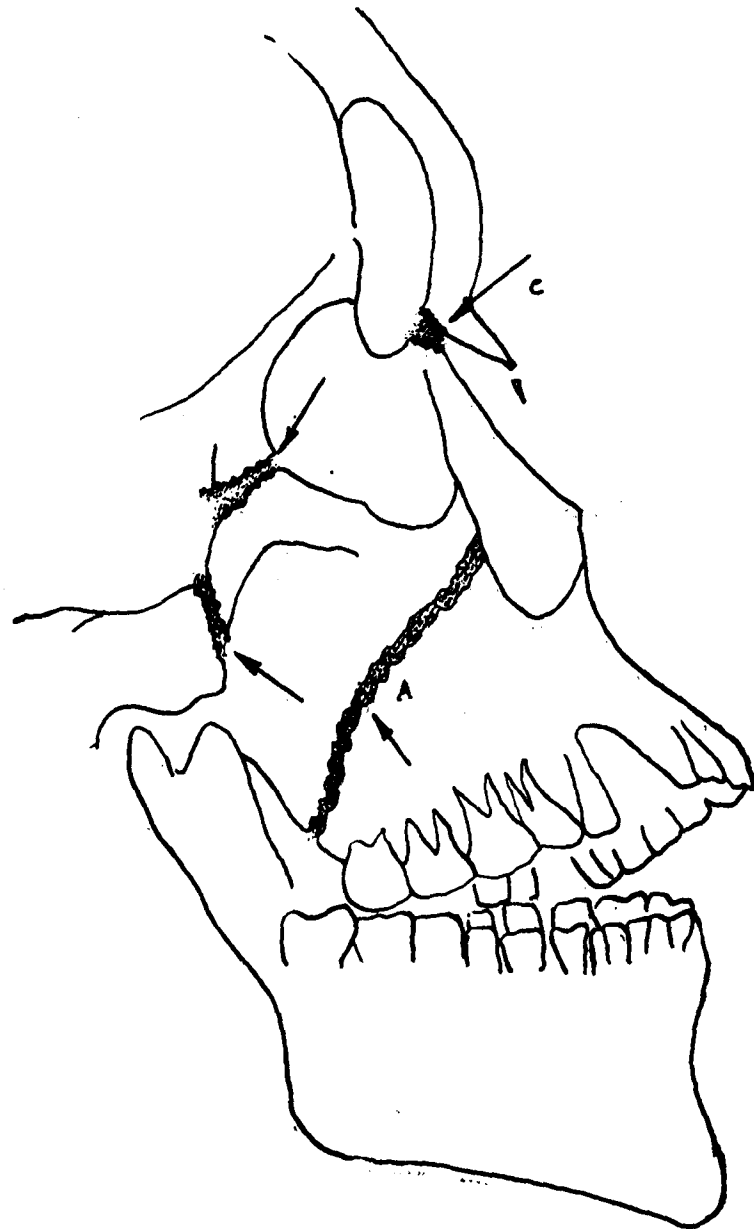


FIGURE 4A.
CASE NO. 3
LAT. VIEW SHOWING
DISPLACEMENT OF MAXILLA
AND OPEN BITE

'C' had detached the whole middle third of the face from the base of skull and was indriven and impacted so that the lower end of the fragment was turned forward and upwards resulting into an open bite. In addition there was Le Forte's 'A' with rotation of the lower fragment to the left. Thus in addition to the open bite the upper alveolus had a shift to the left. The reduction of the fracture was effected by traction on the alveolus with a Lion's forceps and a push forwards with a finger in the nasopharynx. The efforts to reduce the lateral rotation failed. Inter-maxillary wiring was done, and as the wires were tightened the reduction occurred. Nasal Fractures were also reduced. Wires were removed after three weeks and the patient had a normal bite.

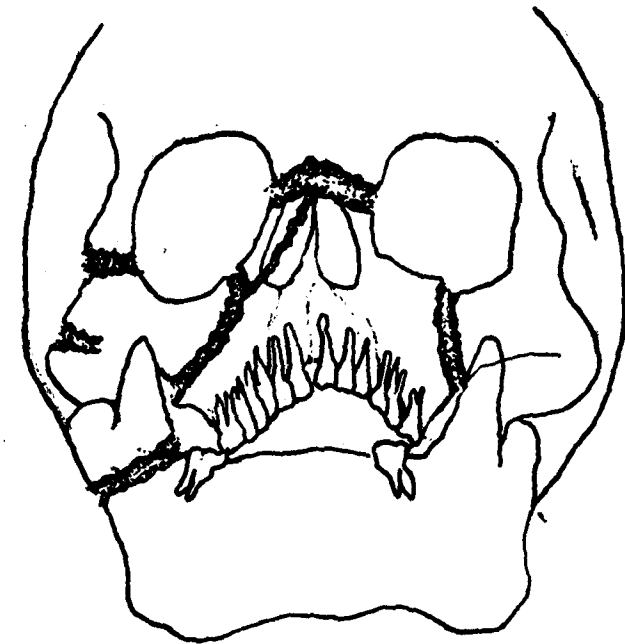


FIGURE 4B
CASE NO. 3
FOLLOWING
LE FORTE'S LINES

Case No. 6 was assaulted by lathis and sustained combination of Le Forte's 'A' & 'B' fractures (Fig. 5). The upper alveolus was extremely loose and the terminology "Floating Fracture" is very apt. There was no difficulty in bringing the teeth in normal apposition. A tight barrel bandage with plaster bandages was applied and the mandible was used as splint for the upper jaw. The patient removed the plaster bandage on the sixth day. The union had started and so only crape Barrel bandage was tied. The union was quite firm by a fortnight.

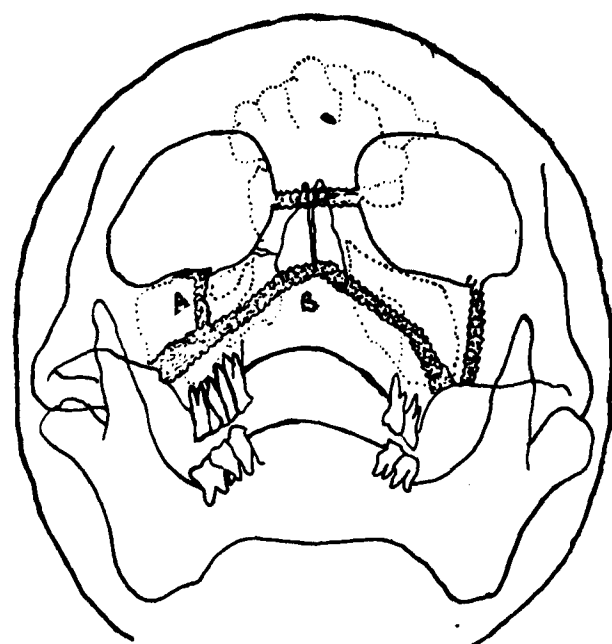


FIG NO 5.
CASE NO. 6.

FOLLOWING LE FORTE'S LINES.
TOOTH BEARING SEGMENT HAS ANOTHER. #

Case No. 8 (Fig. 11) was attacked by a wild bear and had similar fractures as case No. 3 and in addition had loss of almost all teeth, severe laceration of the palate and the alveolus was divided into three pieces. There was no impaction. The lacerated palate was sutured. Interdental and inter-maxillary

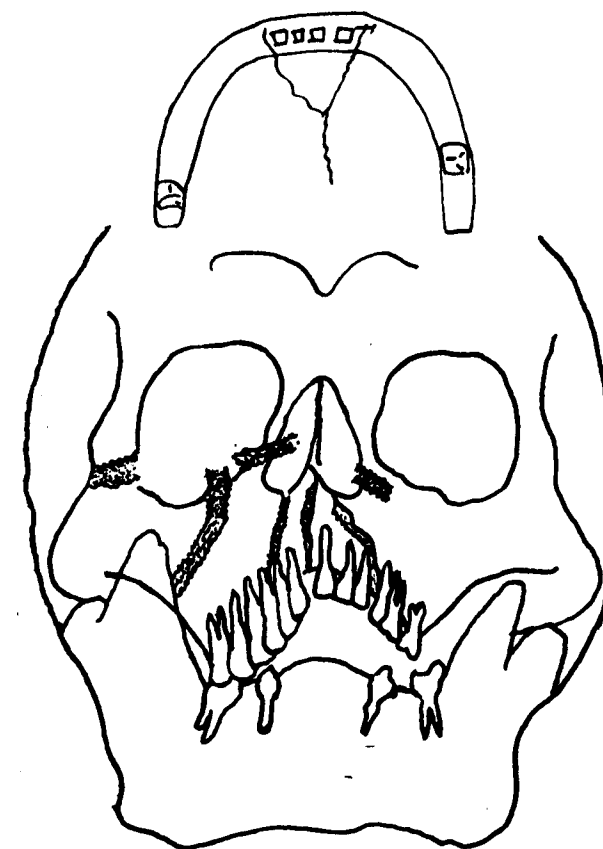


FIG NO 6
CASE NO. 4.

RT. MALAR-MAXILLARY
COMPLEX + LT. MAXILLA

wiring was not possible as most teeth had fallen and the remaining were loose. An impression of the upper alveolus with the few teeth was made, an acrylic mould made from this impression and fixed to the upper jaw with a plate projecting from the mouth. This was attached to a head splint and the traction maintained, upwards.

Case No. 4 (Fig. 6) had unilateral fracture with displacement of the maxilla and Zygomatic bone downwards and forwards following a blow with a brick. The step deformity of

the infraorbital margin was distinctly felt, and when the fracture was reduced this 'step' disappeared. There was 'Y' shaped fracture of the hard palate and a crack extending into the other maxilla. The displaced segment was pushed up and interdental and inter-maxillary wiring done. Occlusion became normal. The mandible was stabilised by means of crape Barrel bandage.

II-B. Fractures of the Lateral Middle Third of the Face—Malar-Maxillary Complex.

The Zygomatic Bone forms the infero-lateral part of the orbit and gives support and protection to the eye. It has three processes—the frontal the Zygomatic and the maxillary. Any one or more of these may be fractured. Very often the maxilla is also implicated. The lines of fractures and the direction of

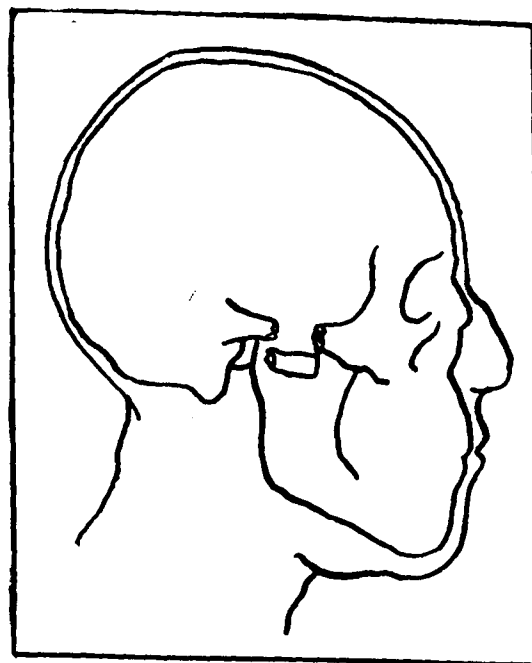


FIG NO. 7
CASE NO. 9

ZYGOMATIC ARCH

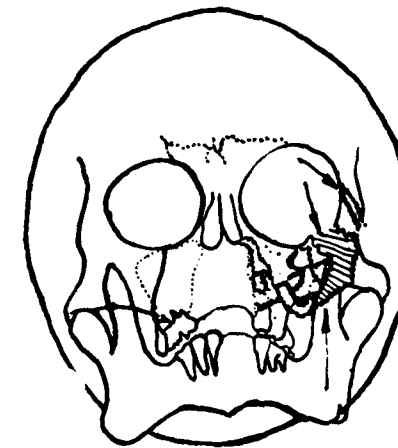


FIG NO. 8

CASE NO. 5.

COMMINUTED OF MALAR AND
MAXILLARY BONES.

displacement vary greatly according to the force. It may be driven into the maxilla, or orbit or may be displaced medially, inferiorly, superiorly or outward. The malar bone may be comminuted.

Case No. 9 (Fig. 7) was a pure and simple case of fracture of the zygomatic arch. (Fig. 7). This was elevated through a temporal incision.

Case No. 5 (Fig. 8) had comminuted fracture of the malar and maxillary bone. The malar prominence was absent and there was trismus. Frontal process was involved and the infra-orbital margin was fractured and the lateral part depressed. The lateral part of the maxilla along with the malar bone had collapsed and slumped downwards. This obstructed the movements of the coronoid process of the mandible during opening of the mouth thereby restricting the movement. Through buccal sulcus incision it was seen that the anterior wall of the Antrum had comminuted fracture. Few loose pieces were removed

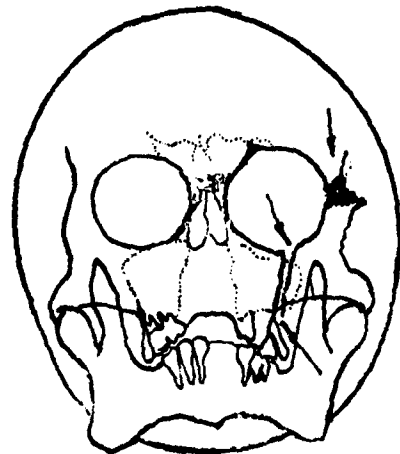
and the malar bone along with the lateral orbital floor was elevated. This was maintained by an Antral pack. The pack was removed after 1 week.

It may be possible to reduce depressed fracture of the arch without incision. This is done by grasping the fragment through the skin by a towel clip and putting a traction on it till it is reduced.

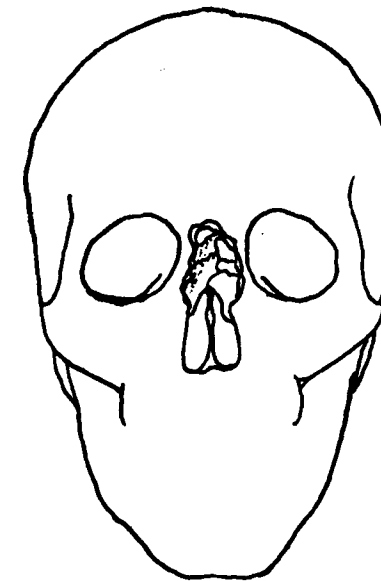
Case No. 10 (Fig. 9) had fracture of Malar-Maxillary complex, with displacement upwards and outwards. Fig. 9 patient refused to get operated.

II-C. Central middle Third Fractures.

These include fractures of Nasal Bones, nasal process of Maxilla and Nasomaxillary fractures. Nasal fractures are the commonest of the face fractures. Reduction if done early is not difficult and excellent results can be expected. But where the fracture is comminuted or there is loss of bone pieces best results are obtained by careful manipulation and long immobilization. Even small deformity of the nose makes the patient conscious of it and may lead to psychic disorders.



FIGN: 9. CASE N: 10
LT. MALAR-MAXILLARY
COMPLEX.



FIGN: 10.
NASAL BONES AND NASAL
PROCESS OF MAXILLA.

The Nasal fractures may be divided into the following groups.

1. Where the blow is from lateral side, there is a depression on the same side and there may be convexity on the other side. For reducing this the fractured fragment is grasped with Walsham's forceps with one blade inside the nostril and the other outside and elevation with slight rotatory twist outwards on the concave side and inward rotatory twist on the convex side is applied.

2. Where the force is anterior depression or flattening of the nose results. This could be elevated with a blunt elevator or with Walsham's forceps.

3. With fracture involving the nasal process of the maxilla the deformity is a broadened flat nose.

4. Septal fracture may be associated. The septum may have multiple fractures or may be just separated from the vomer.

Correction of the deviation should not be neglected as it may lead to obstruction to breathing. The septum is grasped between two rubber padded blades of Walsham's forceps and traction downwards and forwards is applied to lift the septal cartilage on to the Vomer.

Immobilization may not be necessary in majority of simple fractures. It can usually be decided on the table whether the reduction will maintain itself or not. If the fragments do not slip back no packing or plastering is necessary. This saves the patient lot of trouble and inconvenience. Where the fragments tend to slip inwards a nasal pack in that nostril from few days to a week is adequate. Where the fragment slip outwards a soft metal sheet cut and moulded to the shape or plaster of paris bandage cut to the shape of the nose is applied and fixed with adhesive tap or on a forehead P. O. P. cast.

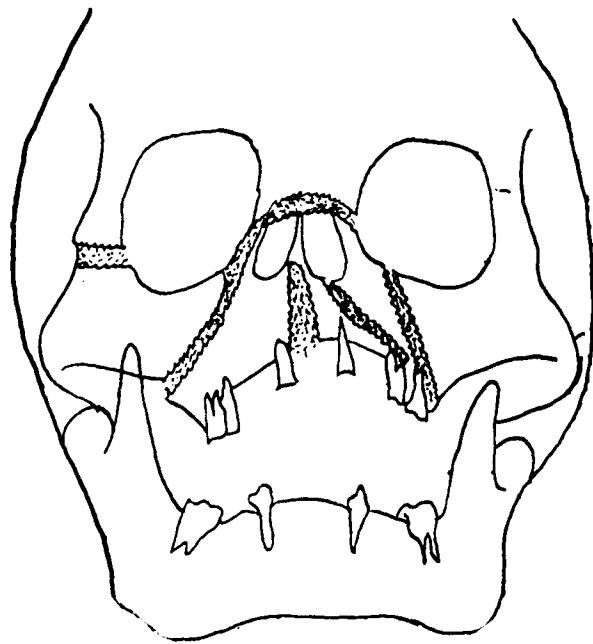


FIGURE 11.
CASE N°
FOLLOWING
LE FORTE'S LINE A.

II-D. Fractures of Tympanic Bones.

The Tympanic bone which forms the postero-superior wall of the Temporo-mandibular joint and anterior wall of bony external auditory canal is exposed to indirect injury. Blows or fall on the chin transmit the force through the mandible to the Tympanic bone which may fracture. We had four cases one bilateral and three unilateral of fractures of the Tympanic bones. In two the external Auditory canal was completely blocked causing deafness of conductive type. In the other three cases the occlusion of the canal was partial. Elevation with a small but strong elevator was done in four cases.

Fracture of the mandible was present in two cases.

To sum up then, fractures of the face are common and must be looked for in all injuries of the face. Systematic examination of the face provides the maximum information. Deformity and asymmetry of the face, conjunctival haemorrhage and ecchymosis, open bite, fracture lines etc. are inspected. Palpation of the nose, orbital margins, malar prominence, zygomatic arch palpation through the buccal sulcus, palpation for abnormal movements, crepitus and surgical emphysema etc. yield the most valuable information. Unlike the skiagram of the other bones those of the face bones do not provide great help as the fractures in this complex structure may not be evident.

The principle of treatment are to restore normal bite, to bring back the orbital floor to normal level, to keep the nasal passages patent and to achieve the best cosmetic results. Zygomatic bone which is displaced downwards may obstruct the coronoid process of the mandible and restrict opening of the mouth. Proper reduction prevents this disability.

My thanks are due to the Chief Medical Officer, Bhilai for permitting me to use the Hospital records, and to the Conference Committee for giving me opportunity to read the paper. Thank you.

Please read ‡‡ as "Fracture" in the blocks.

Normal Bacterial Flora of the Human Ear Canal

BY

Dr. G. LAKSHMIPATHI, M.S., D.L.O.,

Lecturer in E. N. T. Diseases, Kurnool Medical College, Kurnool

AND

Dr. K. SRINIVASA RAO, B.Sc., M.D.,

Lecturer in Bacteriology, Kurnool Medical College, Kurnool.

The External Ear Canal is a highly distinctive anatomical site both geometrically and histologically. It is a small restricted area and yet it presents a variety of clinical and bacteriological problems. It can be seen that in the few millimetres length of this canal one passes from an appendageless and extremely thin skin close to the drum and lining the drum to one which is richly supplied with both sebaceous and apocrine glands. Where it lines the drum the skin is represented only by a few layers of stratified epithelium. The sensitivity of the canal is so high and the defensive mechanisms of the tract so perfect that the sanctum sanctorum of the canal, the tympanic membrane, is well protected normally.

Because of the constant exposure and contact with atmospheric air the skin of the body harbours a variety of micro-organisms. The resident flora usually are the aerobic and anaerobic diphtheroids, non-haemolytic white staphylococci, gram positive, aerobic spore forming bacilli, non-haemolytic streptococci, enterococci, and the gram negative coliform bacilli¹; and there is a host of similar non-pathogenic or potentially pathogenic transient organisms as well. Naturally there is a wide variation in the variety of the flora in different individuals and in different areas of skin of the same individual due to variations in the natural secretions, the wearing of clothes and personal hygiene.

The external auditory meatus being lined by skin is naturally expected to harbour the same organisms as skin elsewhere. But many text books record, "the external meatus in a healthy individual is generally sterile and otherwise the bacteria usually found in it are the innocuous and unimportant staphylococcus albus and sometimes a few diphtheroids"².

In another text we find that "in the skin lining the external auditory meatus, as well as the usual staphylococci, diphtheroid bacilli are not uncommon, and saprophytic acid fast bacilli, derived from the cerumen, are met with⁴.

This work was undertaken with a view to study the normal bacterial flora of the ear canal in healthy human ears.

MATERIAL & METHODS

The material is collected from the ears of the patients attending the E.N.T. outpatient department of the Kurnool General Hospital. Patients attending the outpatient for diseases other than that of the ear were taken up and swabs were collected from those healthy ears having cerumen absent or in minimal amounts. Swabs moistened with infusion broth solution were inserted into these ears and the skin of the external auditory canal is swabbed for the organisms. Care is taken not to touch the pinna or any other portion of the body with this swab either during insertion into the ear canal or during its removal. The swabs were studied in the Bacteriology department of the Kurnool Medical College by smear and culture for the various organisms, pathogenic and non-pathogenic, bacteria and fungi. A few specially prepared, extra fine swabs were used for taking material from the inner most areas of the canal and from the tympanic membrane directly. Control swabs from the broth solution which was used for moistening the swabs before insertion into the ear canal were also studied by smear and culture for organisms in the same manner as other swabs.

RESULTS

Ear swabs studied	...	139
Special swabs from tympanic membrane	...	12
Control swabs	...	6
Total swabs studied	...	157

Of the 139 ear swabs: R. E. 73; L. E. 66.

Total patients 83; Males 47; Females 20; Children 16.

AGE.		Under 10 yrs.	11-20 yrs.	21-30 yrs.	31-40 yrs.	41-50 yrs.	51-60 yrs.	Above 60 yrs.	Total
No. of Patients	...	15	16	30	9	9	2	2	83
Ear swabs	...	18	29	48	17	15	8	4	139

ORGANISMS GROWN

Bacteria:	Staphylococcus albus	...	65
	Staphylococcus aureus	...	15
	Staphylococcus citreus	...	5
	Total	...	85
Fungus:	Streptococcus	...	15
	Diphtheroids	...	7
	Pneumococcus	...	6
	Enterococci	...	6
	Micrococcus Tetragenous	...	4
	Aerobic Spore bearers	...	4
	(B. Subtlis) Pseudomonas	...	2
	Candida Albicans	...	4
	Asperigillus	...	3
	Sterile	...	14

All the 12 tympanic membrane swabs were sterile.

All the 6 control swabs were sterile.

The skin lining the external auditory canal harbours the usual and multifarious organisms that may at one time or other be found on the surface of the skin, the number and varieties of which depend largely on the personal hygiene and environmental conditions. The mode of entrance of these bacteria in the vast majority of cases, is by introduction from outside or by contiguity along the lining skin, aided by the mechanical procedures of insertion of fingers, kutchies, match sticks or douches with water, etc. Infection of the scalp is the commonest source of infection into the ear and it is a common observation to find the seborrhoeic dermatitis of scalp spreading into the external ear. The possibility of spread of infection through blood or lymph channels is remote. The resident flora of organisms which are cultivated without much difficulty contain large number of gram positive cocci. Of those cultured by us we found the commonest is the white pigmented variety, staphylococcus epidermoidis albus which formed 47% of the total swabs. The yellow pigmented staphylococci are found in 5 cases and the micrococcus tetragenous in 4 cases. Most of the cocci are similar to those found on skin elsewhere and are comparatively non-pathogenic to man. But the potentially pathogenic strains of Staphylococcus aureus is not infrequently found (15 cases). Staphylococcus aureus is not uncommon on the skin of the face and hands but is less common on other parts of the human body.¹ Among the other organisms found, Streptococcus haemolyticus and non-haemolyticus were found in 15 cases as a transient member of the auditory canal. The diphtheroids (7 cases) are usually found in the mouths of the sebaceous glands. Mycologic investigations were done on all the swabs but only 7 were positive (5%); 4 for Candida and 3 for Asperigillus. In a previous communication one of the authors has recorded that growths from healthy ears containing normal cerumen did not grow any fungi.² In this study also the growth of fungus was negligible. It proves that fungus is not a normal inhabitant of the ear canal

and is grafted only from the outside either from the fingers or from the air. All the 12 swabs taken from the inner depths of the ear canal and from the tympanic membrane were sterile. It shows that the organisms are only found in the cartilaginous meatus, an area accessible to the fingers or kutchies and an area where the sebaceous glands, hairs and the ceruminous glands are present. The bony canal and the area over the drum is comparatively sterile. The 6 control swabs from the broth were taken on six different dates during the period of this investigation and are meant only as a cross check on our methods and the materials used - the broth, the swabs as well as the bottles in which these are sent to the laboratory. All these swabs were sterile.

We thank Dr. D. Raghvenderarao, M.S., Superintendent, General Hospital, Kurnool and Dr. K. R. Pai, M.S., F.R.C.S., Principal, Kurnool Medical College for permitting us to use the hospital and college records and facilities. We record our appreciation of the help rendered by the staff of the departments of Otolaryngology and the Bacteriology of the Kurnool General Hospital and the Kurnool Medical College in the collection of the material and its analysis.

REFERENCES

1. Ernest Jawetz, Joseph L. Melnick & Edward A. Adelberg: "Review of Medical Micro Biology", 3rd Ed., pp. 224-225, Lange Medical Publications, 1958.
2. Lakshminpathi, G. & Ramanarayanamurthi, B.: "Otomycosis". J. I. M. A. Vol. 34, No. 11, June 1, p. 433-441, 1960.
3. Scott Stevenson, R.: "Modern Trends in Diseases of Ear, Nose and Throat", Ed. by Maxwell Ellis & others, ch. 9, p. 140, 1954.
4. Topley & Wilson: "Principles of Bacteriology & Immunity" Ed. by Wilson G. S. & Miles A. A., IV ed., Vol. II, pp. 2263-2264, Edward Arnold Publishers, London, 1957.

Paralysis of Facial Nerve*

BY

Dr. P. N. SINHA.

Facial nerve is one of the most important nerve in the body. It is most fascinating and interesting nerve with which we the Laryngologists come in contact every day. It controls the largest group of muscles upon which people are wholly dependent for their social contact. It produces marked depressing effect on a person who sustains it. It has got intra-cranial and extra-cranial courses. In the intra-cranial in the last portion it is contained in very rigid bony cover the Fallopian canal.

Paralysis of Facial nerve should be treated under the following heads:—

1. Bell's Paralysis.
2. Tumour of facial nerve.
3. Traumatic either by accident, injury or by Surgeon.
4. Infective and other causes.

I. BELL'S PARALYSIS

Bell's paralysis was first described by Sir Charles Bell in 1874. One of the common ailment of Facial nerve is Bell's Paralysis. Generally such patients are treated by general physician and they are referred later on to us. Mention about Bell's paralysis is found in literature of ancient Hindu and Greek period. Formerly they were treated only medically by Vasodilators, infra-red heat, massage of the paralysed nerve, Electrical stimulation, Vitamin B. Complex, Vitamin B-12, Nicotinamide, Cyanocobalamin, Corticosteroid, Chymotripsin but now surgery has come in vogue and if repaired in time functional ability is restored.

*Symposium read at the Annual Conference of the Association of Otolaryngologists of India, February 1961, held at Bangalore.

Neurovascular theory.—Present conception about Bell's paralysis as expounded by Andibert and Mattei is as follows :

There is disfunction of autonomic nervous system which produces spasm, Thrombosis or Embolism in the vessel supplying facial nerve. These vessels are scarce in bony canal. Moreover supply of facial nerve is from middle meningeal and from stylo-mastoid artery. The spasm was likely to occur near the junction of arteries and it was brought about by Chilling effect of face (Muller). Kettel (1947) accepted this hypothesis and proved it by operative measure. It was supported by Cowthorne (1953). Sullivan (1950) and Smith. Conclusion of Kettel has been that there is disintegration of blood supply near stylomastoid foramin leading to ischaemic paralysis and ischaemic bony necrosis. It is a cold allergy like Miniers disease. Tammari says seventh nerve is a mixed nerve. Motor Fibres arise in pyramidal cells in cerebral cortex and run to the nucleus of 7th nerve in pons by two tract, one to same side and another to opposite side which is smaller. From there the motor nuclei after circling the nucleus of abducent nerve descend down between 6th nerve nuclei and spinal tract of Trigeminal nerve. T. S. Chiassmy says that motor fibre of orbicularis oris muscle arise in hypoglossal nucleus and pass on to facial nerve. Hence in supranuclear and nuclear paralysis action of this muscle is preserved along with the action of frontalis, Orbicularis oculi and corrugator because of their bilateral cortical representation of these muscles.

Motions of entire face is also preserved in lesion of upper motor neuron and cortex because there are tract outside pyramidal tract which connects the nuclei of 7th nerve with hypothetic emotional center in thalamus, Corpus striatum and substantia Nigra. In upper motor neurons ipsilateral hemiplegia is also present and sometimes 3rd nerve paralysis also.

After this, the facial nerve emerges at the upper end of medulla oblongata in depression between olive and restiform body. The details of nerve tract will be dealt by other speakers.

The treatment should be started at once so that degenerative changes do not occur. Nicotinic Acid in large doses *i.e.* 100 to 250 mg. per dose by injection should be given along with histamine. Cervical sympathetic can be paralysed by Stellate block to produce vasodilation. Injection of procaine in the ganglia and in vicinity. If Horner's syndrome appears at once with injected tympanic membrane in the same side then injection has been successful. Corticosteroid and corticotropin can be used.

II. TUMOUR OF FACIAL NERVE

A. *Intracranial.*—Acoustic neurinoma may press on 7th nerve and cause paralysis.

B. *Extracranial.*—(i) (within temporal bone) Neurinoma in Fallopian canal. (ii) (In vertical portion) deafness and labyrinthine symptom occur later and paralysis comes in first. (In horizontal portion) Bulging in middle ear. Here deafness comes in first and paralysis later on. (ii) Outside temporal bone. In facial nerve or from surrounding structure - not common.

C. *Tumour originating in peripheral nerves.*—Ectodermal origin (i) Neurinoma or Schwannoma Axis Cylinder, Myelin Sheath. Schwann Sheath. (ii) Recklinghausen multiple neurofibromata admixture of collagen tissue.

Gabriel Fallopian described anatomy of facial nerve in Fallopian canal (1823-1862). Repair of facial nerve paralysis with spinal accessory was done by T. Drobrick 1879 in Petrous suppuration. 1st case was reported of repair by Sir Charles Ballance 1895.

By this means voluntary movements of facial muscles are restored, but (1) Involuntary movements could not be restored, *i.e.* drooping of shoulder due to atrophy of sternocleidomastoid and (2) emotional movements could not be restored.

Kotre (1901) employed Hypoglossal nerve as anastomosis to overcome shoulder deformity. Later on Ballance also

favoured hypoglossal because tongue atrophy was less objectional than shoulder drooping. Later on Ballance preferred glosso-pharyngeal.

Stacke (1905) repaired facial nerve intratemporally. Burnal (1927) reported the 1st intratemporal surgery. In 1930 Shambaugh performed the 1st successful intratemporal surgery.

Later on Ballance Duel anastomosis became popular because of the restoration of movements, tonus and emotional control. Dolt has introduced insertion of nerve graft between internal acoustic meatus and stylomastoid foramine by-passing the temporal bone.

III. FACIAL PARALYSIS DUE TO INFECTION AND OTHER CAUSES

Central origin.—(a) Cerebro vascular accident (Stroke) or abscess, encephalitis, Multiple sclerosis, Poliomyelitis or brain stem disease.

Intracranial.—Between Pons and internal auditory meatus (a) Basillar meningitis injury while removal of 8th nerve tumour or in Minier's disease while sectioning 8th nerve, Toximia, neuritis i.e. Diphtheria, Lead poisoning, Tooth abscess etc.

Extra cranial.—Abscess, wound in neck and parotid gland. Here medical treatment is undertaken depending on suitability of the case. In rare case surgery is called for.

IV. TRAUMATIC

Nowadays decompression is the method of choice for traumatized facial nerve. Kettel is the pioneer worker along with Cawthorne, Sullivan and others. Medical treatment don't have the desired effect because there is disorganization of vascular supply after trauma and because nerve is lodged in bony canal. There is oedema and hence medicine don't reach tissues for repair. Much controversy exists whether to take the surgery at once or to wait.

Hayes Martin and Helsper recently published a paper in which they say that large amount of recovery do occur in facial nerve trauma without surgical interference. Their contention is this that following complete and permanent interruption of the motor path-way through the facial nerve, Voluntary mover impulses by re-education may find their way from the cortex through the 5th cranial nerve to the respective muscles.

This hypothesis has been hotly challenged by Kettel in another paper. In facial nerve trauma emotional and voluntary movements are both destroyed and hence there is loss of language of facial expressions. He says that when absolutely symmetrical impulses reach the facial nerve muscles on both sides at the same time then and then emotional movements take place. Such impulses can only originate in facial nerve nuclei. Symmetry and synchronism of face are dependent on close co-operation of cortical facial center of both sides. Voluntary movement on the other hand can take place if nerve impulses reach the muscles from any suitable centre from brain.

Here I am going to tell you some of my reminiscences and experience, about facial nerve paralysis:

(1) 15 years ago a Doctor friend of mine suffered from Ramsay-Hunt syndrome with facial paralysis. He had to give up medical practice for a long time. Ultimately he has recovered but still at the time of laughter there is asymmetry of face.

(2) Another doctor colleague of mine suffered from Bell's paralysis about 5 years ago. Even now in emotional performance there is asymmetry of face.

(3) Three months back my driver had Bell's paralysis of mild degree but he has recovered completely in 15 days time by general treatment.

(4) Six years ago I traumatized the facial nerve of a lady patient (26 years) while doing mastoid surgery. The lady could not recover completely. I saw her for about one year afterwards.

(5) Four years ago while doing Fenestration operation on an educated man, I traumatized the facial nerve. There has been partial recovery, but emotional performance is still defective.

(6) Three years ago while trying to do Stapes Mobilization on a young patient the facial nerve was traumatized, but the patient recovered completely although mobilization was not successful.

(7) One month back I did radical mastoid operation on a patient of 28 years and there has been complete facial paralysis. In this case still I am doubtful as to how the facial nerve has been traumatized, although I was far away from the facial nerve anatomy. Thank God I saw him 4 days ago and he is recovering.

In such cases one has to be philosophical. I simply admire at the success of my friends and deplore my failures I may mention here that I have tried to repair facial nerve in 4 or 5 cases, but I was successful in one case of Chronic suppuration.

With these preliminary remarks I throw open the debate on the various aspects of Facial nerve paralysis.

BIBLIOGRAPHY

1. Archives of Otolaryngology: Bell's Palsy by Henry L. Williams, Vol. 70, October 1959.
 2. Archives of Otolaryngology: The Treatment of Recent Bell's Palsy on a Rational Etiological Basis by F. Boyes Korkis, Vol. 70, November 1959.
 3. Archives of Otolaryngology: Surgical Repair Versus Expectant Treatment in Traumatic Facial Palsy by Karsten Kettel, Vol. 71, April 1959.
 4. Archives of Otolaryngology: The Value of Early Decompression of the Paralyzed Facial Nerve by David Wassermann, Vol. 72, September 1960.
 5. Text Book of Surgery on Ear by Shambough.
-

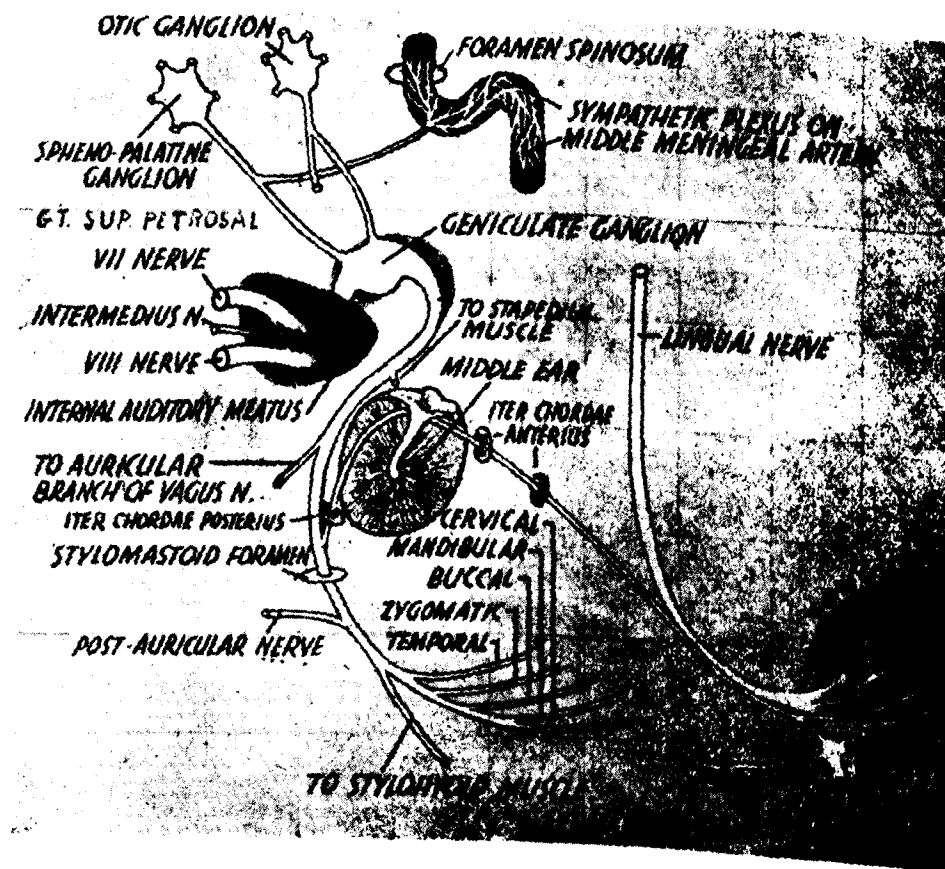


Diagram showing connections and distribution of the VIIth nerve from the internal auditory meatus to the divisions on the face. Note that three of the four ganglia connected with the Vth nerve are also connected with the VIIth. Observe that the chorda tympani which carries special fibres of taste is associated with both the facial and the trifacial—the Vth and VIIIth nerves.

The Facial Nerve*

BY

Dr. V. S. SUBRAMANIAM.

The VII Nerve is a mixed nerve carrying motor fibres to the muscles of face and sensory fibres for taste. Though it has very little to do with the Ear and its function, still it is the only nerve that causes maximum headache to the otologists, by virtue of its anatomic position in the mastoid portion of the temporal bone. It runs in close proximity to numerous important structures that require surgical attention, that it is in constant danger during Ear operations of any kind. Therefore the otologist must know much more about the VII nerve than even the VIII nerve; and even in spite of all the care by the otologists, there are times in which the facial is so completely and so closely surrounded by suppurating mastoid cells and granulating tissue that there is danger to the nerve even when the best informed, most careful and most experienced surgeon performs the operation. I do not believe that there is even one surgeon here who can say that he has never given a facial to even one patient during his years of practice as an otologic surgeon.

DEEP ORIGIN

The nucleus of origin lies deeply in the inferior portion of the Pons, called the Nucleus of VII. Another nucleus connected with it is the Salvatory nucleus. Both the Salvatory nucleus and nucleus ambiguus are near and below the VII Nucleus.

The nerve passes from the brain in the groove between Pons and upper medulla. The VI Nerve passes a few millimeter central to VII and the VIII lies immediately lateral to it.

Deep origin of the sensory root arises from special cells in the geniculate ganglion. The fibres which arise from these

*Symposium read at the Annual Conference of the Association of Otolaryngologists of India, February 1961, held at Bangalore.

geniculate cells follow two courses, one through the greater superior petrosal nerve to the Spheno Palatine gang, the other remaining with the facial until the latter reaches the Stylomastoid foramen, when it takes off separately as the Chorda Tympanic Nerve. This chorda Tympanic Nerve takes off from facial near the stylomastoid foramen, passes upwards through the middle ear, then forward to join the lingual nerve with which it goes forward to the tongue to supply sense of taste to the anterior two-third of the tongue.

Nowadays, when otologists are performing Stapes Surgery, whether it be Stapes mobilization or Fenestration of oval window, the chorda Tympanic is the greatest source of annoyance. I consider this chorda Tympani nerve as the one that teaches patience to the otologist. Every time you introduce a small suction tube into the middle ear space, this damned nerve comes in the way, thus producing the maximum nuisance value. A patient otologist puts up with the nerve and tries to save it, while an impatient otologist cuts it off.

SUPERFICIAL ORIGIN AND COURSE OF THE FACIAL NERVE

Immediately after leaving the brain, the nerve passes into the internal auditory meatus; in close company with the VIII or auditory nerve. Here the facial lies somewhat above and a little deeper to the VIII Nerve. The VIII Nerve is the larger of the two.



THE INTERNAL AUDITORY MEATUS

This meatus is divided into upper and lower half—the lower half is further divided into right and left compartments. In the upper half you have the Superior perforated area which is for the passage of filaments of vestibular portion of VIII. Near this area and slightly medial is a large foramen for the VII Nerve. In the lower half posteriorly is the Foramen Singulare for the passage of VIII Nerve fibres to the ampulla of the Pes and semi circular duct and saccula. Anteriorly in the lower half is a larger perforated area to admit the cochlear branches of the VIII to cochlea. The facial, soon after it passes the internal auditory meatus, enlarges to form the geniculate ganglion from where it passes on in a osseous channel called the facial canal or Fallopian canal.

The sensory root of the VII nerve which is the nerve of taste, arises from the geniculate ganglion, and although it passes through the facial canal in the same sheath with the facial nerve, its fibres remain intact to finally leave the facial canal as the chorda Tympani nerve. The glossopharyngeal nerve supplies the posterior one-third of the tongue with taste, and so the glossopharyngeal and chorda Tympanic together supply the entire tongue. Therefore tumours of the VIII nerve causing pressure in the internal auditory meatus sometimes cause impairment of taste, along with other diagnostic signs such as impaired hearing, tinnitus, vertigo, impaired vision, along with palsies of III, IV and VI Nerves.

The Facial Nerve makes a short outward curve from the geniculate ganglion, passes through the inner wall of the middle Ear between the External semicircular canal and the oval window. Immediately behind the oval window it turns squarely downwards, continuing an even course to its exit at the stylomastoid foramen. In its course in the facial canal, a small

twig is given off for the stapedius muscle. Just at the exit from the stylomastoid foramen, the stylohyoid, the digastric and the Post auricular branches are given off. After that the nerve runs outwards and seeks a shallower plane in the parotid gland. In fact it lies at a depth of about 10 millimeter from the surface.

While passing through the parotid gland, the facial gives off zygomatic, buccal, mandibular, cervical and temporal branches, which supply the muscles of face, and the platysma.

Paralysis of the Facial Nerve may be due to (1) Brain tumours. (2) Infiltration of the facial canal with serum as in Bell's palsy. (3) To involvement of the nerve in suppurative conditions of the middle Ear, as CSOM, cholesteatoma, mastoiditis etc.; and (4) last but not least due to Surgeons' hand in Ear Surgery.

Conservative Management of Peripheral Facial Paralysis*

BY

Dr. P. P. KARNIK, M.S.,

*Hon. Asstt. Aural Surgeon, K. E. M. Hospital and Honorary Aural Surgeon,
Dr. Balabhai Nanavati Hospital, Bombay.*

(From E. N. T. Department, K. E. M. Hospital, Parel, Bombay-12).

CHAIRMAN & FRIENDS :

First I would like to thank the organisers of this symposium for having given me the opportunity to speak to you on the subject of conservative management of peripheral facial paralysis.

Treatment of facial paralysis assumes a great importance because "the language of expression" (Ballance and Duel) is an important feature in one's personality. And thus an otologist must do his best to restore the normal function of a paralysed nerve. Normally we find about 10% of cases where the facial paralysis is due to a traumatic cause. In this series the conservative management assumes a secondary importance as the treatment is essentially a surgical interference in most of the cases. But there is a group of cases, say about 90% of total number attending the E. N. T. out-patient which constitutes "atraumatic type" where conservative treatment will always yield the maximum result if the cases are attended in due time. In this group about 80% of cases are diagnosed as Idiopathic facial paralysis, or what is known as Bell's palsy. Sullivan and Watkins reported about 500 cases of Bell's palsy where 25% showed incomplete recovery. This fact sufficiently warrants us from the purely "wait and watch and do nothing" policy in these cases. Recently the etiological cause of Idiopathic facial paralysis has been sufficiently proved and has been accepted by well known authorities like Sullivan, Ballance and Duel, Boyis Korkis and Cawthorn, Collier and Kettel. It has been suggested

*Symposium read at the Annual Conference of the Association of Otolaryngologists of India, February 1961, held at Bangalore.

that the ischemia with subsequent oedema due to vasospasm of vessels supplying the facial nerve in fallopian canal bring about pressure neurotmesis. Fowler has suggested that secondary thrombosis of vasonervosum also constitutes an additional factor preventing the regeneration of nerve. The medical treatment based on the above fact has been propounded by number of authors in the last two decades. They have approached the problem on physiological basis by connecting the vasospasm and aiding the reabsorption of oedema by use of various drugs.

Kime in July 1958 published a paper in Archives of Otolaryngology, giving the report of 74 cases treated with purely nicotinic acid. He suggested a dose of 100 to 250 mgm. to be given intramuscularly along with 50 mgm. tablets four times a day. He has stressed the importance of "pallor syndrome" which is a guide for prognosis. The pallor diminishes after about four injections and lesser the area of pallor better the prognosis. In calculating the dose he takes the advantage of physiological flushing in individual cases. There were no toxic symptoms noted. He had practically cent per cent results and stated that if the treatment is started early, it gives the rapid results, *e.g.*

If started within 2 days of onset—recovery in 7 days.

If started in 3 to 13 days—recovery in 10 days.

If started in 2 months—recovery in 3 to 4 weeks, that too partial.

Taste improves first if affected, thereafter lip movements and lastly blinking of eyelids.

Skinner in year 1955, reported the use of histamine. He advocated 2.75 mg. of histamine diphosphate added to 150 c.c. of normal saline in the form of intravenous drip to be given daily for about 5 days. Fall of blood pressure is to be checked during the drip. He reported about five cases with complete recovery. The normal function was restored in about 10 days

time. No untoward effects were noted. Incidentally he also advocated the use of active muscle contraction and thermotherapy with infrared.

Fowler and Perri in the year 1956, advocated the use of intravenous procaine hydrochloride 1/10 of 1% with 250 c.c. of glucose intravenous drip to be given twice a day for about 12 days. He also advocated the use of anticoagulants like Decumol and Heparine so as to minimise the tendency of thrombosis of vasonervosum. He achieved best results with the combination of nicotinic acid tablets 50 to 100 mg. three times a day along with intravenous procaine hydrochloride.

Rothendlar in 1953, and Moss in 1954, used cortisone in about 7 cases of recent Bell's palsy. The dosage used were 25 mg. as initial dose and 12.5 mg. every six hourly for about four days. Thereafter the dosages were tapered down depending upon the individual case. They reported cent per cent success and attributed the success to reabsorption of non-inflammatory oedema of the nerve and its sheaths.

In a recent article by Boyis Korkis in Archives has reported the use of stellate block with or without cortisone. The rationale of the treatment was essentially the same as vasodilator drugs. The paralysis of sympathetic trunk counteract the vasoconstricting effect. He used the anterior route as described by Swan using 1% Novocaine or lignocaine for about 5 to 10 c.c. Adequate care was taken to aspirate for C. S. F. or blood before injecting the drug so as to avoid the leak in spinal canal or even a major blood vessel. It is advisable that one should have adequate facilities for artificial respiration in case such a catastrophe occurs. The patient is observed for about 15 minutes after the injection for the successful strike by noting the Horner's syndrome, which is characterised by constriction of pupil, drooping of eyelid, congestion of conjunctiva and tympanic membrane and dryness of face. Such blocks are repeated every day or every alternate day upto a total number of five blocks, depending upon the progress of individual case.

CHART I
Peripheral Facial Paralysis—Medical Treatment

AUTHOR	Kime (1958)	Skinner (1955)	Fowler (1958) Perri (1958)	Rothlendar (1953) Moss (1954)	Korkis (1960)
No. of Cases	74	5	—	5 + 2	6+
Treatment given	Nicotinic Acid 100-250 mg. I. M. Daily 50 mg. Tab. Qds.	Hist. Diphos. 2.57 mg. in 150 c.c. of N. Saline I.V. 5 days.	Proc. Hydr. 1/10 of 1% in 250 c.c. Glu. Saline I. V. Twice a day—12 days.	Cortisone 23 mg. Tab. Initial 12.5 mg. Qds. for 8 days.	Stellate Gang. Block (Novocaine) 1% 5 c.c. 5 days.
Toxicity	Nil Avoid Migraine cases	Nil Avoid fall of B. P.	Nil	Nil	Nil Avoid Spinal Leak.
Adjuvant Therapy	Nil	Active Mus. Contrac- tion Thermotherapy S. W. D.	Anticoagulants N.A.T.	Nil	With or without Pred- nisolone.
Results	Only one Failure	No Failures	No Failures	No Failures	Recovery in 80% with Stellate 90% with St. Block.
Remarks	1. Importance of pallor syndrome-prognosis 2. Earlier the Treat. Better the results 3. No Hospitalisation	Hospitalisation	Hospitalisation	No Hospitalisation	Better Results with Cortisone.

He also reported about 20 cases where block combined with Prednisolone was given. Eighty per cent cases had complete recovery in 3 weeks time against which only 20% had complete recovery in controlled series. He did not observe any serious complication with this type of treatment which he could carry out in his out-patient.

Apart from the drug therapy the physiotherapy is also of greatest value in conservative management of facial paralysis. The physiological benefits derived are by the decongestive effect, by maintaining the muscle tone and its retardation of atrophy and also by minimising the deleterious chemical changes in the affected muscles. On referring a case to a physiotherapist, he works out a programme of treatment which has the following aims:—

1. To increase the circulation in the region of the stylo-mastoid foramen by use of thermotherapy.
2. To do electrical muscle check in order to ascertain reaction of degeneration. The results of this test are helpful in determining the prognosis and recovery of the nerve at different stages of treatment.
3. To prevent the development of contractures of muscles on the normal side and sagging of the muscles of the affected side.
4. To prevent atrophy of muscle and to maintain excitability and contractility.
5. To prevent the irritation of the conjunctiva of the eye on the affected side.
6. On the return of active movements to re-educate the muscles to work along with the opposite side in co-ordination.
7. To regain bilateral symmetry of the face and thus to help patient cosmetically.
8. And lastly to give psychological relief and to assure the patient about the chances of recovery inspite of prolonged treatment.

CHART II

Peripheral Facial Paralysis—Treatment Aims with Physiotherapy

1. Thermotherapy with S. W. D. or Infrared—To Increase the Local Circulation.
2. To Ascertain Reaction of Degeneration for Prognosis, Treatment and Progress.

If no Rd	—	Maximum Chance of Recovery in 5 days.
If partial	—	5 weeks to 5 months.
If full Rd	—	Doubtful.
3. To Prevent Contractures and Drooping by use of Splints and Sticking Plasters.
4. To Prevent Atrophy of Muscles and to maintain Excitability and Contractility.
5. To Prevent Conjunctivitis.
6. To Re-educate the Muscles on return of Active Movements with Exercises in Front of Mirror.
7. To give Psychological Relief—that something is done—during the prolonged treatment.

Immediately thermo-therapy is started by giving short wave diathermy or infra red for about 20 minutes in a day. It is given in the region of stylomastoid foramen. At the same time patient is advised to wear sun glasses in order to protect the eyes. A plastic splint is specially prepared for each patient to support the paralysed muscle and to avoid dropping of angle of mouth. This splint also counteracts any tendency to contracture of the muscles of the normal side. The plastic splint is used in preference to the conventional silver wire splint, as it is cheaper and easier to make and adjust. These splints are made by our Occupational Therapy Department. Occasionally when it is not possible to procure a splint, strips of sticking plaster are used to do the same function.

After a period or two weeks after the day of onset, testing for reaction of degeneration is done. Once the reaction of degeneration is established, whether it is partial or complete the patients are given stimulation of the affected muscle by the interrupted galvanic current. Each muscle is made to contract at least 30 times, with sufficient intensity of the current so as to produce not a flicker but fairly strong contraction. This electrical

stimulation is continued once every day for a long period depending upon the individual cases. As soon as the active movements return, muscle re-education is started in front of the mirror and emphasis is laid on producing the expression in such a way that bilateral symmetry is maintained. A few of the exercises that the patient does are, raising the eyebrows, frowning, puffing of cheeks, sucking, whistling, smiling and drawing out of the lower lip along the wrinkle of the chin. Occasionally it is noticed that the angle of mouth drops slightly and twisting of the tip of the nose on the normal side. This is corrected by use of sticking plaster strips every day.

Skolnik in 1955, reported about fifteen cases treated purely with physiotherapy where he could get—

Recovery in 3 weeks in 3 cases.

Recovery in 4 weeks in 4 cases.

Recovery in 8 weeks in 4 cases.

Recovery in 4 months in 3 cases, but partial to a tune of 40%.

He had only one failure. He laid stress on the importance of electromyographic studies in arriving at a diagnosis and subsequent prognosis in every individual case. He also suggested that much reliance could not be given for the test of reaction of degeneration as this test has got the drawbacks of developing only after about 2 weeks and later on it lags behind the clinical progress of a particular case. But electromyography requires a trained personnel with a much costlier apparatus. Spiller has warned against the overstimulation as he feels it brings about contractures. But Collier does not believe in this and we on our part have also not come across any case during the last eight years.

Coming to our own series of cases, Charts III and IV give sufficient data regarding the number of cases, their etiological factors and the treatment carried out in all the cases of peripheral facial paralysis which we met in year 1960.

CHART III
Peripheral Facial Paralysis (38)

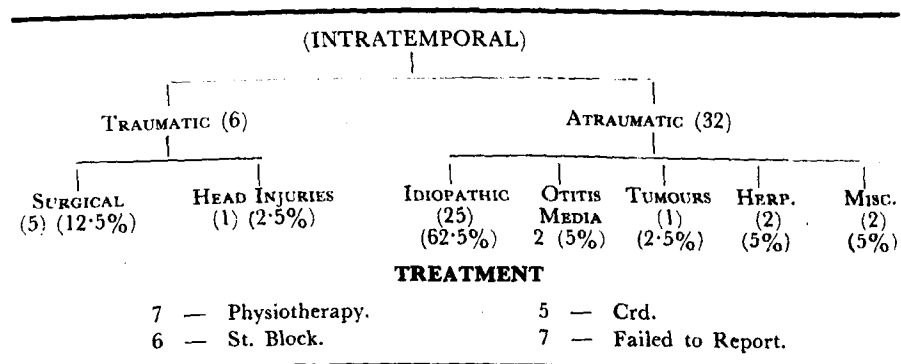


CHART IV
Treatment Chart of Peripheral Facial Paralysis

Case No.	Extent	Duration	Treatment	Time	Recovery
BELL'S PALSY					
			(PHYSIOTHERAPY)		
1	Complete	7 Days	8 Sitzings	17 Days	Complete
2	Complete	3 Months	15 Sitzings	30 Days	Complete
3	Complete	4 Days	16 Sitzings	23 Days	Complete
4	Complete	3 Days	15 Sitzings	25 Days	Complete
5	Complete	10 Days	12 Sitzings	15 Days	Complete
6	Complete	12 Days	8 Sitzings (+ Prednisol)	9 Days	Complete
			(STELLATE BLOCKS)		
7	Incomplete	8 Days	3 Blocks	14 Days	Complete
8	Complete	1 Day	3 Blocks + Elec. Stim.	30 Days	Complete
9	Complete	9 Days	3 Blocks	5 Days	Complete
10	Complete	25 Days	3 Blocks + Elec. Stim.	15 Days	Complete
11	Complete	8 Days	3 Blocks	No Improvement	
12	Incomplete	5 Days	4 Blocks	18 Days	Complete
HERPES ZOSTER					
13	Complete	20 Days	} No Improvement with Physiotherapy.		
14	Complete	12 Days			

In analysing, it is rather difficult for us to come to any definite criteria of accepting a standardised type of therapy as the series which we had is small. The control series was also not properly maintained. But taking the works of others we still feel that stellate block with or without cortisone with physiotherapy will yield the best results in maximum number of cases. We do not ignore or underestimate the value of surgical interference in some of the cases but the otologist is always at the dilemma to decide one way or the other as one cannot predict the subsequent course of regeneration. And this I feel that fair trial with these conservative measures must be given. I pose the same question, as was put forward by great Dr. Lempert in 1952, to my next colleague and *i.e.* "Whether more could be gained than lost by routine operation in every case. Technical lapses do happen with best of the people on operation table with subsequent greater percentage of morbidity; Thus endangering a normally recovering nerve". And so finally we should accept that a good surgeon is a good physician who operates.

THANK YOU.

Symptomatology and Diagnosis of Facial Palsy*

BY

Dr. M. M. NATH, F.R.C.S. (Eng.) D.L.O.,

Tata Main Hospital, Jamshedpur.

Mr. President, ladies and gentlemen—mine is a part, I know, which most of my listeners would think that it was a sort of packing material that has to be, in the symposium, on facial palsy. There was also perhaps nothing very much to say which the undergraduate does not already know but to us oldsters it would be to refresh what else can happen besides paralysis of the side of the face when the VII cranial nerve gives up.

For the purposes of this narration the symptomatology is made up of two parts, firstly the patient's story as he knows it and what can be elicited by asking patient questions and secondly the Doctors findings, partly to confirm what the patient said and partly to enable him to put his finger at the site of the lesion in the course of the facial nerve from its start to its end. The patients' story has its usual verbiage also, talking about irrelevant things; his own ill-formed conclusions about the etiology, based on coincidences that were there at the time his malady came about. He would tell you about the food he had which does not agree with him and other indulgence about which he has a guilty feeling. If the patient is the talkative kind and gets carried away by his imagination too much, he can perhaps be interrupted by mentioning the point he has made and put on the track again by asking the relevant question. At no time of course the doctor must give the impression of being impatient and therefore unsympathetic from the patients point of view.

*Symposium read at the Annual Conference of the Association of Otolaryngologists of India, February 1961, held at Bangalore.

I know most of us have no time at our busy out patients but I am talking of what should be, which we are inclined to forget in our justification, and not what is.

Please forgive the above verbiage on my part and let me start with the two main types of facial palsy—the one that comes on suddenly has better prognosis and the one that comes on insidiously can be a real problem for the one who takes on the responsibility of treating it. In the sudden onset group Bells palsy is the most common. There is always a history of exposure to chill. There was once a case when a surgeon ordered ice bag to be applied to mastoid constantly. He brought about Bells palsy after a week of his new fangled treatment. Luckily it got better when the ice pack was discontinued.

Stiffness of the side of the face is the first complaint, which may or may not be accompanied by a slight swelling of Parotid region. The pain and muscular tenderness below and behind the ear is also common. It is sometimes neuralgic in character but lasts only a few days after the onset. The patient cannot close his eye leading to injection of cornea and epiphora. The palpebral fissure is abnormally large (lag ophthalmos). He is unable to wink. When asked to shut his eyes, the eye ball on the affected side rolls up and out (Bell's phenomenon, others call it Negro's sign). The patient associates shutting of the eyes with prohibition to see. So when he cannot use the muscles supplied by VIIth, he gets the 3rd nerve through the muscles under its command, to take the pupil of the eye away so that he does not see. The eye however closes completely on sleeping due to relaxation of lev palpebrae muscle.

Due to loss of function of oral muscles the first thing the patient notices is that he cannot stop liquids from escaping out, on the affected side as he attempts the 1st stage of deglutition. There is indistinct articulation, inability to whistle or blow out a candle. There is difficulty in chewing as food accumulate between the cheek and the jaw on the effected side. Quite often he bites his buccal mucosa and even has difficulty in breathing

due to nostrils being sucked in. There is indeed absence of all voluntary and emotional movements that go with smiling or crying. Patients soon however learn to dodge their disabilities.

In severe cases there is loss of taste on the anterior 2/3 of the tongue.

Muscles of the face become toneless and after a time there is sagging of face in repose.

Recovery of Bell's facial palsy comes about in a period which ranges between a few days to 2 years. An unrecovered palsy gives place to secondary contractures after some months. There is unsightly distortion, narrow ocular fissure, exaggerated nasolabial fold, drawing up of angle of mouth and the healthy side appears weaker.

A word about herpes of the Geniculate Ganglion or Ramsay Hunt Syndrome before I go over to the subject of Differential Diagnosis. Here the appearance of vericles which are preceded by pain is the characteristic symptom. These appear in the external auditory meatus, the pinna the soft palate and the anterior pillar of the fauces. These vesicles burst and simulate Otorrhoea. There is swelling of the pinna and a rise of temperature to 100—102. The palsy is complete within 1—12 hours. There is accompanying Tinnitis—vertigo and deafness. Herpes always comes first and the palsy afterwards.

Now as we talk about the differential diagnosis since a facial palsy can hardly be confused with anything else, we have only to think of the site of the lesion and how to assess it by sorting out the symptoms and findings. I know we are talking about the facial palsy of otitic origin but it will do us no harm to remember the various sites of lesion and these are :

- (1) The supra nuclear where the causes of hemiplegia will apply.
- (2) The pontine or nuclear—where the pontine tumours—haemorrhages and syphilitic menengitis in cerebello pontine angle are the culprits.

- (3) The pregeniculate ganglion region which is commonly involved by neurofibroma.
- (4) The Geniculate ganglion itself.
- (5) The middle ear which has its own troubles and cannot stop these troubles from sometimes involving the facial nerve as it passes through. When the surgeon comes in with all good intentions to relieve these troubles sometimes inadvertently hits at the VIIth nerve.
- (6) The fallopian canal region where Bell's palsy takes its toll at the lower end in the region of stylo mastoid foramen.
- (7) The Infra auricular and parotid region where the enlarged glands and a tumour might do their worst.

Here is briefly the set of symptoms and signs which enable us to put our finger at the point of lesion.

Weakness only of the lower part of the face with associated weakness of the lower part of the body and no loss of emotional movements. No alteration of secretory or taste functions. No atrophy or electrical changes in paralysed muscles, would tell us that it was supra nuclear.

The pontine lesion shows up by involvement of the 6th nerve whose nucleus is close by. There is diplopia and external rectus palsy. There is also extensor planter response due to pyramidal tract involvement. The reaction of Degeneration in facial muscles is now present and the taste and hearing is not affected.

The lesions between Pons and Geniculate ganglion are characterised by involvement of 8th nerve which is a neighbour in the cerebellopontine angle and shares the same bed in the internal auditory meatus with the 7th. There is therefore tinnitus and deafness. The latter can be conceived partially due to palsy of the stapedius nerve to give the conductive element of deafness.

The salivary and lachrymal glands are involved due to the efferent fibres from Geniculate ganglion being affected. There is reaction of degeneration but no disturbance of taste or hyperacusia. There is absence of deep pressure pain.

When the geniculate ganglion gets the brunt of disease, as mentioned before, theoretically we should have decreased lachrimation, loss of taste, hyperacusis and of course the peripheral facial palsy.

Suppurative otitis media has the circumstantial evidence against itself when there is a posterior perforation perhaps showing cholesteatomatous material and has brought about an incidious facial palsy.

The damage in the Fullepian Canal gives paralysis of the entire side of the face with disturbance of taste and the difficulty in managing the saliva and tears. The course of the nerve here is the fertile area to give us incidious onset palsies. There is however no disturbance of taste if the involvement of facial nerve is above chorda tympani nerve but there will be hyperacusia deep pressure pain and reaction of degeneration as usual.

After the exit from the stylo-mastoid foramen an interrupted facial nerve will give all the classic signs and symptoms of complete paralysis. There are no disturbances of taste or hearing. Reaction of degeneration is always present and there is a loss of tone of the paralysed muscle.

It is extremely unlikely that Bilateral facial palsy would occur due to otitic causes but when it does, one must not forget the acute infective polyneuritis.

In the end this is for the benefit of the undergraduate. Theoretically the lesion can be accurately localised because the books say so, but in practice, it will be an arrogant man lacking the humility of a scientist who would claim to be right every time with an accurate diagnosis of the lesion just from symptoms and findings.

The Treatment of Hump Nose Defect

BY

Dr. R. J. MANEKSHA, F.R.C.S. (Eng.),
Hon. Plastic Surgeon, Bombay Hospital, Hon. Asstt. Surgeon, G. T. Hospital,
Hon. Surgeon, B. D. Petit Parsee Hospital.

"Beware my friend, of crystal brook,
Or fountain, lest that hideous hook,
Thy nose, thou chance to see ;
Narissus' fate would then be Thine,
And self-detested thou would'st pine
As, self-enamored, he."

—COWPER.

INTRODUCTION

Deformities of the nose are liable to produce mental embarrassment to its owner more than to its observer. Hump nose deformity is a fairly common entity and may sometimes reach such an enormous size as to be compared to the famous Cyrano nose ! A typical hump nose is big in all three dimensions and hence requires a three dimensional reduction *i.e.*, in height, length and breadth. Psychiatric help is often necessary in selecting the proper case for plastic surgery.

PRE-OPERATION DETAILS

Detailed examination of the patient including the local examination is first undertaken. Line drawings of the nose are essential to explain to the patient the improvement to be obtained after operation. It is better to explain to the patient that the final result of the operation would be obtained after 4 to 6 months when all the post operative swelling has disappeared. Development of "black eye" and subconjunctival haemorrhage is common after nasal infracture which is an essential part of this operation—Preoperative photographs are kept for record purposes. Front side and nasal views are usually taken. There should not be any nasal catarrh preceding this operation.

OPERATION

The essential steps of the operation include —

- (1) Removal of the hump.
- (2) Nasal infracture.
- (3) Elevation of the tip of the nose.
- (4) Trimming of the lower alar cartilage to suit the rest of the nose.

ANAESTHESIA

This could be either local or general (intratracheal) anaesthesia. Even with the later the author prefers to inject saline-adrenaline-Hyalase solution into the nose since Hypotensive anaesthesia is not so widely used in our country. When using purely local anaesthesia it is advisable to wait for about 10 minutes before starting the operation. One way of doing this is to scrub and drape after the injection has been given into the nose.

INCISION

The author prefers to use the columella lifting incision extending superiorly as the intercartilaginous incision on either side. The added small external incision at the columella lip junction is hardly visible when properly stitched but it allows a much wider exposure of the whole dorsum of the nose and makes the whole operation much more easier. After the first couple of hundred hump removals the external incision may be redundant. After making this incision the nasal skin is separated from the upper alars and the nasal bony bridge. This is done by curved scissors and nasal raspatory. The outer side of the nasal bridge is approached by 2 separate stab incisions in the lateral part of the nasal mucosa.

The upper alar cartilage is next detached from the septum in the middle. The hump is next visualised and its removal is done by using a special chissel (MacIndoes) from below upwards. The bony part of the hump needs to be hammered for removal. The author does not use the saw which removes the hump from above. The chissel helps to excise the hump equally on both sides. The next step is to produce infracture of the nasal pyramid.

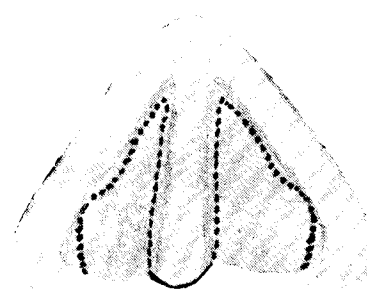


Fig. 1
A Incisions a part of the Incision seen externally.

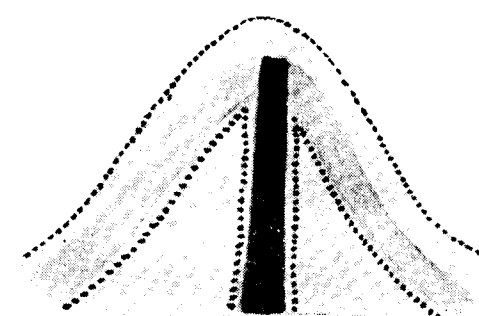


Fig. 2
Bony nasal pyramid.

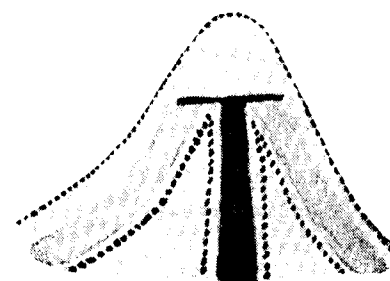


Fig. 3
After hump removal.

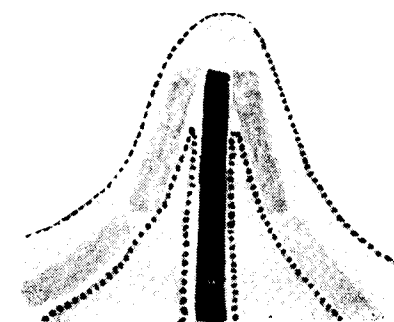


Fig. 4
After nasal infracture.



Fig. 5
Hump Nose.



Fig. 6
Hump corrected Nose Shortened.

I prefer to use the chissel for both the medial and lateral fracturing of the nasal pyramid. The lateral fracture is produced flush to the base to avoid any step deformity. Fracture is completed by thumb pressure which fractures the superior attachment of the nasal bones. Perforation of the cribriform plate is to be avoided.

The tip of the nose is elevated by excision of a triangular piece of the lower part of the septum with the apex towards the maxillary spine. This increases the columello lip angle and also shortens the length of the nose.

Trimming of the lower alar cartilage—This is done to fit the rest of the nose. The cartilage could be approached either by the eversion technique or by using safians flap method. Upper part of the lateral and medial segments of the lower alar cartilage completes the last part of the operation.

The nose is again reviewed and then the incision closed. Vaseline gauze is inserted in each side. The nasal pyramid is kept in the new position by a plaster of paris splint moulded on the nose.

POST-OPERATIVE CARE

Patient is returned to the ward and sedative given. Gauze pack is removed on the third or fourth day. The internal stitches on the columella are removed on the fifth day. The plaster splint is removed on the tenth day. Hirudoid is applied under the eyelids from the first day. The nose and face is foemented from the tenth day. Massage to the nose is started from the fifteenth day—the exact movements are taught to the patient. Swelling gradually reduces and the nose assumes its ultimate shape after 4 to 6 months.

WARNING

Patients with the thick sebacious skin are poor candidates for nasal operation. Some improvement is of course obtained by reduction in the bony and cartilaginous framework of the nose. It is not possible to reduce the thickness of the skin. This point should be first explained to the patient who is expecting a remarkable transformation.

COMPLICATIONS

(1) Early bleeding within the first 24 to 48 hours—this may occur when the patient is operated under local anaesthesia with adrenaline, as the bleeding point may be missed at the time of operation. If the nose is packed properly early bleeding is rare. If it still occurs the nasal cavity should be repacked. When using the columellar lift incision there are two ascending branches of the superior labial arteries which usually require ligation. The post operative bleeding from any of these vessels would require reopening of the lower incision and ligation of that vessel. (2) Swelling around the eyes (black eyes) this is the usual occurrence after the triple reduction of the nose and may not be called a complication. It is better to apply firm eye pads for the first 24 hours and then local application of Hirudoid ointment to the outside of the eye. Cold compresses and witch hazel will also help. Subconjunctival haemorrhage also occurs but settles down within a few days. (3) Delayed bleeding. This may occur after a few days if any raw areas are left inside the nose or when the vaseline gauze is removed. It requires repacking for another 48 hours. (4) Abscess formation. The author had one case of delayed abscess formation near the medial canthus of the eye. It settled down with three aspirations and systemic antibiotic therapy. The cause is unknown but could be from an infected lacrimal sac or infection through the intercartilagenous incision. It is advisable to either aspirate or drain the abscess from the inside and not allow it to burst on the outside skin. (5) Too much removal of the hump. Over enthusiastic removal of the hump especially at the top part would produce the deformity of saddle nose. It is difficult to insert a bone graft at the same time because of the opening of the mucosa and the area for the bone graft may not have been prepared at the time of the operation. A delayed bone graft would be required after 3 to 6 months. (6) Healing with a step. When the infracture of the lateral margin of the nasal pyramid is done medially than what is essential, the bones heal up in a step fashion difficult to set right later on. (7) Cerebrospinal rhinorrhoea—this could occur when during the nasal infracture the cribriform plate is punctured and dura is

damaged. This would require closure of the dural defect from the anterior cranial fossa if the condition persists. (8) Fibrous reaction—bleeding in all cases is not the same. Some cases develop a lot of reaction and heal with a lot of fibrous reaction—Focmentation and massage should be advised for a longer time. (9) Dropped tip of the nose—this is also an unpredictable complication. It is usual to stitch the columella incision with a slight upward advancement of the nasal tip. Late development of this complication would require a secondary readjustment of the tip. In severe cases a bone graft may be necessary. (10) Pinched appearance of the nostril. This is due to excessive removal of the mucosa leaving raw areas inside the nose which heal up with scar tissue. (11) Tearing of the skin of the nose during operation. This is a rare complication and is due to bad handling of the Aufricht nasal retractor either held by the surgeon or more often by the assistant. It happened in two cases and both in patients undergoing a secondary operation. The first case was of the author. The second case was operated elsewhere again for a secondary correction and the skin had perforated on both sides. In both cases if the columella lift incision had been added this tear would have been avoided due to the easy leverage of the skin over the nose.

SUMMARY AND CONCLUSIONS

In all 25 cases of hump noses were treated by operation in 5 years. In 4 cases secondary operations had to be done again including 1 bonegrafting for too much removal of the hump. The author strongly advocates the columellar lift incision for all junior surgeons till sufficient experience is gained in this type of surgery. The temptation to operate on the thick skin noses should be resisted. The good results after hump removal are very satisfying to the patients and surgeons alike.

REFERENCES

1. Brown, J. B.: Plastic Surgery of the Nose.
2. Sir A. MacIndoe: Personal contact.
3. Holden, H. M.: Noses.
4. Safian: Plastic Surgery of the Nose.
5. Kazanjian and Converse: Fascial Surgery.

Association Notes

U. P. STATE BRANCH OF OTOLARYNGOLOGISTS OF INDIA

Proceedings of the first meeting of the above Branch which was held at the residence of Dr. P. C. Kekkar, Civil Lines, Kanpur on 22-11-1959 at 5 p.m.

The Memorandum of Association expressive of the desire to form a U. P. State branch of Association of Otolaryngologists of India, was read out and confirmed :—

The following office Bearers were elected

President : Dr. P. C. KEKKAR.
Vice-Presidents : Dr. M. L. BHATIA & Dr. S. SHARMA.
Hony. Secretary : Dr. S. N. SINHA.
Hony. Treasurer : Dr. L. C. KEKKAR.
Jt. Secretary : Dr. S. K. GUPTA.

Executive Committee

Dr. R. S. SETH. Dr. R. RAHATGI. Dr. S. NATH.
Prof. K. C. SAXENA. Dr. R. K. SINGH.

It was decided that Quarterly meetings of the association will be held.

It was further decided that account of the association should be opened in Allahabad Bank Ltd., Kanpur (The Mall) and to be operated jointly by the Treasurer and Secretary.

Lastly a vote of thanks to chair was given by Dr. S. Sharma, Kanpur.

S. N. SINHA,
Hony. Secretary.

INDIAN CANCER SOCIETY

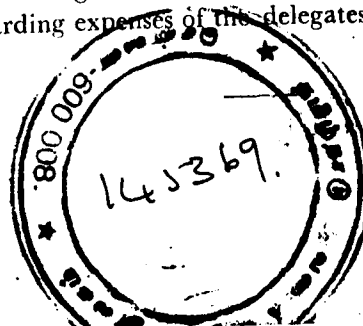
Hospital Avenue, Parel, Bombay-12.

CIRCULAR

Under the sponsorship of the Indian Cancer Society, it is proposed to hold the **First All-India Cancer Conference** on 8th, 9th and 10th December, 1961, at Bombay. Scientific papers on tumours and related problem are invited. The last date for sending the abstracts is 30th September 1961.

We are approaching the Railway Board to sanction Railway concession for delegates attending the Congress. Failing this, we shall bear all the lodging and boarding expenses of the delegates whose papers are accepted.

Hon. Secretary.



JL
483m 2, N 490
N61. B.1

SEPTILIN

**SINUS & NASAL INFECTIONS, ALLERGIC RHINITIS,
SEPTIC OTORHINOLARYNGOLOGICAL CONDITIONS.**

Dosage: 2 tablets t. d.

- SEPTILIN has a sterilising effect on the organism with Acute Rhino-sinusitis.
- Clinical improvement precedes stage of bacteriological sterility.
- No toxic reactions were seen during the course of treatment.
- No drug resistance was noted.

Indian Journal of Otolaryngology. 1958, 4, 141. R. A. F. Cooper, M.S.,
N.R. Merchant, M.S., D.O.R.L.

Descriptive literature & samples on request

THE HIMALAYA DRUG CO., 251, D. Naoroji Road, BOMBAY 1 (India)

Makers of the World's Pioneer *Rauwolfia* Hypotensive **SERPINA**

**REMOVE
DISTRESSING
NOSE BLOCK**



CATAZOL

Nasal Drops

**BENGAL
CHEMICAL
PRODUCT**



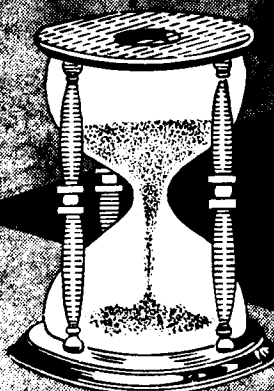
packed in special glass

Perfectly non-irritating, non-oily, viscous
Isotonic Solution with a soothing action

- (1) ALLEYS CATARRH
- (2) RELIEVES 'HEAVY HEADS'
- (3) CLEARS STUFFED NOSE
- (4) MAKES BREATHING EASY

with dropper for easy application

NEW TIME RELEASE



antihistaminic preparation...

Anaryl

TABLETS

Rapid long lasting effect
Yet convenient & economical

ANARYL is also available in
painless INJECTABLE form...

LABORATORIES ORGASYN
260, Dr. Annie Besant Road, Bombay 18.

NOTICE TO CONTRIBUTORS

1. Original Articles are accepted on the condition that they have not been published elsewhere.
2. Manuscripts should be typewritten, on one side only of the paper and well spaced.
3. Orders for reprints should be sent along with the articles.
4. Editorial communications may be addressed to Editor, Indian Journal of Otolaryngology, "Lempert Hospital", 1-A, Marshall's Road, Egmore, Madras-8.

UNI U. C. B. (India) Prvt. Ltd.

22, BHULABHAI DESAI ROAD

BOMBAY-26

★

ATARAX

(Hydroxyzine Hcl.)

A mild tranquillizer without
side reactions

Now available Tabs. of
10 mg. and 25 mg. also
available in Syrup and Drops

LONGIFENE

(Buclizine Hydrochloride 25 mg.)

A long acting potent
Antihistaminic
(for Rhinitis and Pruritus)

Now available
Tablets

For further particulars, please contact:

M/s. GANAPATHY & CO.

103/104, Linghi Chetty Street

MADRAS-1

Printed by Mr. R. Ravaimanickam, at Ravai & Sons (Ravai Press), 148, Big Street,
Triplicane, Madras-5 and Published by Dr. V. S. Subramanian,
1-A, Marshall's Road, Egmore, Madras-8.