

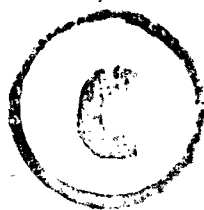
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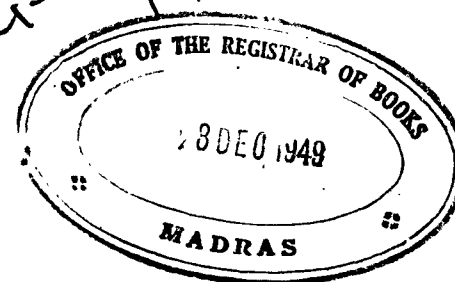
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Fourth International Congress of Otolaryngology

held at London during July 1949.

BY

C. A. AMESUR.

History of the Congress.—The first Congress was held at Copenhagen in 1928, the Second at Madrid in 1932, and the Third at Berlin in 1936. At Berlin it was decided that the Fourth be held at Amsterdam in 1940 and the Fifth at London in 1944. In 1946 Holland requested the United Kingdom, that as it was not possible to have the Congress there, if they could hold it at London. This offer was gratefully accepted by the United Kingdom.

Opening of the Congress.—The Patron of the Congress was His Majesty King George VI. The President was Mr. V. E. Negus of London. There were 690 official delegates; 213 were from the United Kingdom and the remaining 477 from 38 other countries of the World. Besides there were several hundreds of associate members (*e.g.* wives and children of the overseas delegates) and associate scientific (post-graduates) members.

The British Executive Committee and all the members of the International Committee received Her Royal Highness The Duchess of Kent in the Council Chamber of the King's College Hospital, at 10.45 a.m. on 18th July 1949. After the introduction, we proceeded to the Great Hall where Her Royal Highness

opened the Congress at 11 a.m. and wished it a great success. From thence she proceeded to the College Museum where the wives, of the British Executive Committee and of the International Committee members, were waiting to receive her. A film of general interest was shown before adjourning for lunch.

Scientific Section.—There was no Presidential address, but the Congress proceeded with its Scientific section at 2 p.m. Here the procedure was very rigid so far as time was concerned and every speaker was given allotted time after which even if the paper was not completed he had to sit down. Three speakers who were invited to open the three main discussions, one on each of the three days, were allotted thirty minutes each. And twelve international delegates who were to follow were allowed five minutes each. And if any speaker was absent he was not given any more chance. Scientists who were to read original papers were allotted only fifteen minutes, as otherwise the work could not be finished.

Combined Session.—

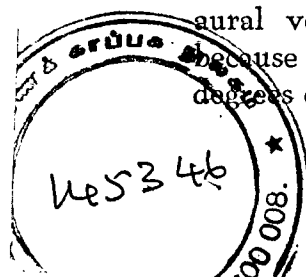
First Subject: "Anti-biotics and Chemotherapy in the treatment of nasal Sinusitis and its complications" was opened by Sir Alexander Fleming followed by Sir Lionel Whitby and Prof. C. Larrondé. Twelve people followed the discussion of five minutes each, one from each country, India being represented by myself. The anti-biotics mentioned by Sir Alexander Fleming were penicillin, streptomycin, aureomycin, chloromycetin, polymyxin, and nisin. He further said that some American manufacturers of Penicillin told him that it cost them more for a bottle than 1,00,000 units which they packed in it. Sir Lionel Whitby dealt with Sulpha groups of drugs.

Second Subject: was "Treatment of Aural vertigo" opened by Prof. Nager with a paper on "The histopathology of aural vertigo", which is in a majority non-inflammatory, because of dilatation of the endolymphatic spaces with various degrees of the nerve tissue degeneration. Prof. Nylen confined

"The treatment of aural vertigo" to the treatment of Meniere's disease and gave pros and cons of both medical and surgical treatment and finally ended up with modified Day's operation. Subsequent speakers all except myself talked of the treatment from the Meniere's angle and I from the treatment of Aural vertigo of auditory tubal origin.

Third Subject: was "Non-malignant strictures of the thoracic oesophagus and their treatment", opened by Dr. Tucker, Prof. Terracol and Dr. Gerlings. Terracol thought that strictures of bacillary or syphilitic origin are very rare. This is not so however with simple oesophagitis, which on healing gives rise to a stricture (segmental oesophagitis). According to Gerlings the possibility of a cicatricial contraction of the lower end of oesophagus, caused by peptic ulcer should not be overlooked. Rare cases being those due to typhoid, diphtheria, scarlet fever, tuberculosis, syphilis actinomycosis, blastomycosis and Plummer-Vinson syndrome. The treatment in simple cases consisted of oesophagoscopy bouginage, string-guided method and in serious cases transthoracic resection with oesophago-gastrostomy.

There were over 140 other original papers read, of fifteen minutes each, covering a vast variety of subjects in the diseases of Ear Nose and Throat e.g. several on cancer of the larynx Rethi's operation for relief of bilateral paralysis of the vocal cords, Canfield's Audiology, Tato's speech audiometry, Veckman's prescription of hearing aids, Auditory fatigue tests by Larsen. Various papers on Maxillary and Frontal Sinusitis, Neurochemical aspect of the activity of the eighth nerve by Hamberger. The influence of physostigmine on the microphonic effect of Cochlea by Gissellsson. Primary Carcinoma of the Trachea by Lell. Surgical treatment of Otosclerosis and non-oto-sclerotic deafness by various authors e.g. Sourdille, V. Popper, Cawthorne, Garnett Passe and among others Prof. Gitro Cornelli of Milan who demonstrated a new approach for the Fenestration operation, thus reducing the time and outlay greatly. The blood examination in Rhinoscleroma



by H. Czernceki. Ozaena treated with methacrylate by Prof. German. Carotid body type tumours in the middle ear by Lundgren. Various articles on bronchoscopy e.g. in Ganglionic tuberculosis in children by Dr. Vinals, Adenoids in adults by Kully. Papers on the physiology of Cochlea, Vestibular apparatus, Physiology of the epitympanic recess by Gerri, and of the tonsils by Prof. Cojazzi. Operation for facial palsy of Otitic origin, demonstrated by Mr. T. Cawthorne. Decompression of the Saccus by Dr. Portmann. The surgery of the autonomic nervous system in relation to the ear by Garnett Passee and very many other papers.

Demonstrations.—Peep-show procedure with films by Mr. Hallpike and Miss Din. Plastic moulds by Miss Whetnall. Balancing exercises by Mr. Cowthorne and Dr. Cooksey. Fenestration by Prof. G. Cornelli.

Films.—Daily for several hours, most instructive films, some in technicolour, were shown on a great variety of subjects, including the details of many intricate operations as seen through a microscope.

Social Functions.—The Congress was not only a huge success from the Scientific point of view, but from social as well as is shown below:

17th July 1949.—On the eve of the Congress we had a wonderful Cocktail Party given by Mr. and Mrs. F. C. W. Capps at their residence in the West End from 6-30 to 8-30 and thereafter an At Home (8-30 to 11-30) by Prof. F. C. Ormerod at Hampstead. These functions were the eye openers of what was to follow during the week.

18th July.—President Mr. V. E. Negus gave a reception to the delegates and their families at the Zoological Society's Gardens (7-30 to 10-30). No speeches, but a social with drinks and supper.

19th July.—There was a splendid Banquet at the Dorchester Hotel to the Member delegates, and their wives, about 1,200,

and in addition some distinguished persons in the United Kingdom. This was a gay affair in evening dress, and went on till the early hours of the morning. This was the first occasion when a toast list was added. The king, the Royal Family, the Crownhead and Presidents of the countries represented at the Congress. Then came "The Congress" proposed by Sir Henry Dale and replied to by the President Mr. Negus. "Otorhinolaryngology" proposed by the Right Honourable Lord Webb Johnson and replied to by Dr. Schall. "The Guests" by Mr. Capps and replied to by Prof. Sourdille and Dr. Blegvad. The speeches were very fine and witty. At the end of this dancing continued for some hours.

20th July.—There was a reception held by the British Medical Association from 5 to 7 p.m. From 8-30 to 10-30 p.m., Reception by His Majesty's Government in the United Kingdom. The guests were received by the Right Honourable Aneurin Bevan, M. P., Minister of Health at the Victoria and Albert Museum, South Kensington.

21st July.—at 12-30 p.m. Dr. and Mrs. C. A. Amesur gave a very nice lunch party, with drinks, at the Connaught Rooms. The guest of honour was His Excellency The High Commissioner for India, Mr. V. K. Krishna Menon. Those invited were the Members of British Executive Committee and their wives, Members of the International Committee of thirty-nine nations and their wives if present in London, and a few personal friends. At the end of the lunch after the toast of the King, and welcoming the guests I said: "There may be political differences between countries and peoples; but in cultural fields and specially in the fields of Medicine and Surgery, there are not yet, and never have been any. In the past, even enemies have exchanged information in such matters, how much more should this be the case where friends are concerned. We are all friends and fellow workers here. It is as friends and fellow workers, that I have asked you to meet at lunch today". Then after speaking highly of His Excellency and Mrs. Negus, who had looked after the ladies' comforts so well, I thanked

Mr. Capps, who organised and made a success of this Party. Mr. W. M. Mollison, the Vice President, replied on behalf of the guests.

5 p.m.—Mr. & Mrs. W. M. Mollison gave a Sherry Party at their house.

5 p.m.—Reception by the London County Council at the Council Hall.

8-30 p.m.—Dinner to International Committee at the Royal College of Surgeons of England, in memory of late Sir St. Clair Thompson.

8-30 p.m.—The ladies and some other delegates were entertained by the President of the Royal Society of Medicine and the Presidents of the sections of Otolaryngology and Laryngology at Wimpole Street.

22nd July.—There was a reception at the Royal College of Surgeons.

23rd July.—There was an excursion by river to the Royal Naval College, Greenwich, and the National Maritime Museum, where amongst others were plenty of Lord Nelson's splendid relics.

The official *Congress photograph* was taken at Sommerset House, next to King's College on 20th July 1949. In addition several group photographs were taken e.g. at the Zoo and Dorchester.

It was arranged to visit any of the London's seventeen Hospitals for various clinics and operations.

Additional Socials for the Ladies.—Women's voluntary service, under the leadership of Mrs. V. E. Negus (who was born near Nagpur, India) did a very great service in not only looking after the delegate's needs (information, Post, supplying meal tickets, advise on theatres, restaurants etc.) but also in arranging the tours for ladies, who came as associate members with the delegates.

The Ladies' social programme, besides the above mentioned one for delegates, included Cocktails at Jarret Jackson (Models and Furs), excursions to Windsor Castle, the Cadby Hall, Royal Botanical Gardens, Hampton Court Palace, Hatfield House and visits to Houses of Parliament etc.

International Committee.—This consisted of two members from each of the thirtynine participating nations. Our country was represented by Dr. C. A. Amesur and Miss Leelavati. The only other lady member was from Australia. The Meeting was held on 21st July 1949 at 6-30 p.m. at the Royal College of surgeons, with Mr. V. E. Negus in the Chair. It was resolved to hold the next, i.e. Fifth, Congress in Holland in 1953. It was also resolved to set up a permanent international E. N. T. body (sub-committee formed), to become members of the Permanent Council for the Co-ordination of International Congresses of Medical Sciences. At the end of the Meeting the members were introduced to the President and Members of the Council of the Royal College of Surgeons, who gave a sumptuous dinner at this famous College.

At the conclusion of the London Congress, the British Committee had made splendid arrangements for the post-Congress Provincial visits to Oxford, Cambridge and Edinburgh from 24th to 27th July. At each place there was a splendid scientific, social and Ladies' entertainments programme. I went to Oxford. There were several scientific papers e.g. "Intracranial complications of infections of the ear and nose" by Prof. Sir Hugh Cairns; "Cerebral angiography" by Mr. J. B. Curtis; "Neurological studies on the olfactory systems" by Prof. Le Gros Clark; "Observations on the innervation of the epiglottis" by Dr. Weddell and several others.

Visits to various hospitals were arranged not only to see E. N. T. operations but plastic ones at Churchill Hospital by Prof. Kilner.

Of the social engagements, Mr. Macbeth and Mr. Livingstone gave a very nice Lunch Party at Oriel College. In the afternoon there was a Garden Party, a reception given by the British Council in Magdalene College. In the evening there was again an "At Home" by Messrs. Macbeth and Livingstone at Oriel. These were all very nice and successful.

There were conducted tours of the Oxford University Press, the various Colleges and the University. On the Second day there was an excursion to see the Shakesperian relics at Stratford-on-Avon and after dinner to see "Othello" play at the Shakespeare Memorial Theatre.

In summing up I may say that the Congress was a huge success both from a scientific and social point of view. The credit goes to the British Executive Committee and in the Provinces to the provincial ones. Mr. V. E. Negus was an excellent President and saw that Scientific and International Committee Meetings were finished in the scheduled time. Mrs. V. E. Negus was a source of strength to the ladies and we all are very grateful to her. If one was to pick up one member, I may say he was Mr. F. C. W. Capps, who put in good two years work, to make this London Congress a success. Our grateful thanks are due to him.

*Malignant Tumours of the Paranasal Sinuses

BY

Dr. L. H. HIRANANDANI, F.R.C.S., D.L.O.

In presenting this paper we have no pretensions to originality but have drawn liberally on the works of others to try and make a tangible account of the various aspects of what constitutes malignant tumours which originate from the walls and cavity of the maxillary sinuses and also the tumours of the ethmoid. We have excluded tumours of the sphenoid and the frontal as the rarity of their very existence precluded their inclusion in this paper.

The remarkable improvement in the end results is due to the very welcome encroachment that radiation has made in the treatment of these cases, and to-day as the conditions stand, although the Surgeon still remains at the helm of affairs, his onerous duties are being ably shared by the Radiologists and Pathologists.

From Butlin's description of the clinical features and surgical treatment in 1900, great advance has been made by Harmar, Norman Paterson and Cade in England, in Sweden by Ohngren and Holmgren and in the United States by New, Clarke and Quick, all of whom have shown the use of combination of surgery and irradiation to be the best combination.

Anatomical Consideration.—Cade has ably described the anatomy of the region. He states "the outer nasal wall is composed of the ethmoid mass above and the maxillary antrum below. The cavity of antrum is pyramidal, the apex of which is at the zygomatic end and the base is the outer nasal wall. A coronal section will show that the middle turbinate is part of the ethmoid and demonstrates its relationship to the ostium of the antrum. It will be seen that the principle of the operative part of the treatment is the transantral approach to the ethmoid, the relationship of the antrum to the turbinates

* Read at the first Annual Conference of the Otolaryngologists of India, held at Madras.

and ethmoid is therefore of great practical importance. The outer wall of the ethmoid is very thin separating it from the orbit. The floor of the orbit separates the latter from the maxillary antrum. Posteriorly the ethmoid is in relationship with the sphenoid sinus. The posterior relation of the maxillary antrum are the naso pharynx and the pharyngo palatine and zygomatic fossae".

Aetiological Factors.—*n* malignant tumours here as in other regions causation still remains a problem which calls for the work of men who are prepared to seek and perhaps not find.

There is no evidence in literature to suggest any predisposing factors, no deduction as to cause an effect by way of chronic irritation. It has been suggested that chronic sinus infection may be a factor, but considering the large number of sinus infections one sees in the Hospital out-patients, the relative incidence of malignancy is small. In looking through the records of some of the Bombay Hospitals from which we have collected the series, there have been so few cases of the "chronic nose" with subsequent development of malignancy as to be almost non-existent. As far as other irritant factors go, the anatomical situation of the paranasal sinuses protect them from any direct onslaught of smoke, exhaust gases and tobacco which are to be reckoned with as irritants in the case of the respiratory tracts and have some bearing on the aetiology of malignancy in these regions.

Histology.—Malignant tumours in paranasal sinuses have been classified by Widmann as follows:

- | | |
|----------------------|--------------------------|
| (1) Adamantinoma. | Carcinoma. |
| (2) Melanoma. | |
| (3) Osteo Sarcoma. | (a) Squamous celled. |
| (4) Myxo Sarcoma. | (b) Basal celled. |
| (5) Angio Sarcoma. | (c) Transitional celled. |
| (6) Chondro Sarcoma. | (d) Adeno-Carcinoma. |
| (7) Fibro Sarcoma. | |
| (8) Lympho Sarcoma. | (e) Round celled. |
| (9) Myeloma. | |

In the series of cases which have been collected from Tata Memorial Hospital of 150 cases, Path. evidence is available in 73 as follows.

		Grade I	Grade II	Grade III
Squamous Carcinoma	40	7	22	11
Epidermoid Carcinoma	30	7	20	3

One case of Reticulum cell sarcoma of the maxilla.

Two cases of Lympho Sarcoma of the maxilla.

Out of 40 cases collected from K. E. M. Hospital there were 28 cases of Squamous celled Carcinoma.

9 Cases of Sarcoma.

2 Cases of malignant Papilloma.

1 Case of Lympho epithelioma.

We have had no example of cases in the records of the Hospitals of the other tumours as classified above. From this we see that the commonest tumour seen is of the Squamous celled carcinoma. The majority of them being of Grade II (Broder's).

Incidence.—At the Tata Memorial Hospital in 5 years from 1941 to 1945, 12,000 treated for neoplasms of which 150 cases have been of the paranasal sinuses giving us a percentage ratio of 1.2% which is certainly smaller than the figures of the Hospitals abroad who place the figure at 2.5 to 3%.

At the K. E. M. Hospital there have been in all 72 cases which have come to our notice but considering that it is a General Hospital, it would be difficult to assess any percentage incidence.

Sex.—Out of 150 cases at the Tata Memorial Hospital, 140 cases are of the maxillary antrum of which 103 were males and 47 were females, there were 10 cases of carcinoma of ethmoid

of which 9 were males and one female. The percentage of male to female in paranasal sinuses growth is therefore 74.7% males and 25.3 females, at the K. E. M. Hospital the ratio of male to female is 87.3% males to 12.7% females. The figures are not quite in keeping with those of Windeyer and Wilson at the Middlesex Hospital, London, where the preponderance of male to female does not show such a marked disparity between the sexes. In their series of 153 cases there were 81 cases males and 72 females a percentage ratio of 53 males to 47 females.

The cause of this variation in incidence in our opinion be attributed to the attitude of our fair sex still to suffer and die in silence as there seem to be no other cause for this variant in male to female ratio of incidence.

The only other explanation for this, one may venture to offer is the fact that the United Kingdom has a greater proportion of women to men than we have.

Age Incidence.—The tumours of the paranasal sinuses occur most commonly in our country between the ages of 40-45. In the K. E. M. Hospital the youngest patient was 15 years of age a boy with sarcoma of maxillary antrum. The oldest patient was found at the age of 70 in the Tata Hospital series. In the Middlesex Hospital, they have found that the maximum incidence of the disease arises between the ages of 60 to 70 which is a fact which is probably explained by the greater longevity of the population there.

Clinical Features.—Ohngren classifies the growths into two main groups an antero-inferior and postero-superior by a line drawn from the inner canthus to the angle of the jaw with a further sub-division into medial and lateral groups by a line drawn vertical downwards through the pupil. In his series and in the series of those who follow this classification the antero-inferior has a better prognosis than the postero-superior and the lateral groups more favourable than the medial. In the cases investigated by us no such sub-division was employed.

Symptoms.—The early symptoms have been described in books—a slight pain and discharge where a diagnosis of sinusitis is usually made and it is only on doing a Cald-Wel-Luc operation is the nature of the disease manifest. These early symptoms have only in two cases caused a diagnosis of maxillary tumour to be made at the K. E. M. Hospital where after a purulent discharge on puncture a C. W. L. operation was attempted (no X-ray taken previously) and a growth was discovered.

Most of the patients however present themselves with a combination of symptoms and not a few come with such a distortion of their physiognomies that a tumour stares one on the face.

The symptoms most commonly seen are:—

- (1) Swelling of the face.
- (2) Swelling of the eye ball.
- (3) Nasal Obstruction.
- (4) Nasal discharge—most commonly sanguinous.
- (5) Pain.

1. **Swelling of the face.**—Cases mostly have shown an expansion of the tumour forwards—sometimes the swelling spreads laterally to the zygomatic and even to the temporal region. There is quite a deformity of the nose with a flattening out of the bridge of the nose with a tumour mass protruding from the nostril has been noticed. Widening of the bridge of the nose is seen more commonly in tumours of the ethmoid. In one case at the K. E. M. Hospital, patient was admitted with an additional frank cellulitis of the face in addition to the swelling caused by the tumour, it is mentioned that quite often these tumours give only the impression of a cellulitis but in this particular instance the patient had severe constitutional disturbances which responded to Sulphonamides, which left no doubt about the existence of a cellulitis.

2. **Swelling of the eye ball.**—Displacement of the eye is generally upwards and laterally and there is a fair degree of proptosis which in one case at the K. E. M. Hospital caused total blindness in the eye involved which was only of 15 days duration before admission to the Hospital.

3. **Nasal Obstruction.**—This one factor has been present in smaller or larger extent in all the cases investigated. In a few cases this with the tumour mass had caused a peculiar nasal twang in the voice.

4. **Nasal Discharge.**—Where ever this feature has been present except in two cases already mentioned where the discharge was purulent forcing a clinical diagnosis of sinusitis, the discharge has always been sanguinous and in our opinion a sanguinous discharge from the nose in an elderly patient should always lead one to exclude the possibility of a growth in the paranasal sinuses. The discharge is often very foul smelling as well.

5. **Pains.**—Considering that we see our cases quite late, the incidence of pain is almost always present. Severe frontal headaches and pain referred to the teeth are very common.

Metastasis.—Involvement of the lymph glands has been stated by Cade to be 30 to 35%, Ohngren gives his figure as 27%, Windeyer gives a total of 32.7%, at the Tata Hospital the incidence of metastasis in the lymph glands is 25%.

There have been no cases in the groups investigated of metastasis in other organs as against the fact that Windeyer mentions that 9% of his cases have had secondaries in the lungs liver, kidney and bones.

Diagnosis.—It is indeed unfortunate that most of the cases that we are called upon to diagnose and treat are very late. This seems to be not only with the cases here but it is a complaint abroad where even Cade says that in 35 cases of his series there was not one case he could call early. Harmer states

that "malignancy should be suspected in any elderly patient who complains that he has noticed a persistent and annoying unilateral catarrh for the first time in his life particularly if the antrum is dull to transillumination." In the course of this aspect of diagnosis the Hospital records do give us a few pointers which may lead our colleagues to refer their cases earlier to the specialist. A case has been treated as hypertension in an elderly man with nasal bleeding, till quite late when the diagnosis was unmistakable and case referred, to K.E.M. dentist quite often sacrificed teeth when the lesion was a maxillary growth which should have been investigated. The sudden appearance of polyps later in life without previous history of sinusitis should always make one exclude the presence of a neoplasm. It is here more than in other regions that a diagnosis of malignancy can only be made early by having it constantly in mind. In the later case of course the symptoms are unmistakable and have already been referred to.

Ancillary Methods for Diagnosis.

(1) **Transillumination.**—It is useful only in that it may throw light on the side involved beyond this it is not of much value.

(2) **X-Ray of Sinuses.**—It is indeed one of the most important aids to diagnosis in that it may confirm our clinical diagnosis of malignancy. This may show—opacity with erosion or destruction of bone or even tumour in the region.

Exploration-Biopsy.—In early case the best method of confirming one's suspicion and in later cases also should be a method employed from the point of view of assessing radio-sensitivity of the tumour.

Biopsy could be done either from the nose or by a canine fossa incision. The latter method of approach we believe is by far the more useful as it gives one a better opportunity not only to see the growth but also to take a deeper bit of tumour to obviate the possibility of any mistake in the histology of

the material removed. As quite often happens that a mistaken diagnosis is made when superficial bits of the tumour are removed.

(4) **Aspiration Biopsy**, has been done on 3 cases at the Tata Hospital but the results of this method of biopsy seems to be too uncertain to depend upon.

Windeyer has suggested a method for biopsy which one feels should be adopted by us. The biopsy is done by them at the Middlesex Hospital with the diathermy electrode and the area thoroughly coagulated. This minimises the possibility of trauma associated with biopsy and at the same time coagulated tissue makes adequate tissue for histological diagnosis.

Treatment and Results.—The uniformly bad results of pure surgery in the treatment of malignant neoplasms of the paranasal sinuses led to the dual attack with surgery and radiation and a factor which was responsible for the increased cure rate was the use of more extensively of electro coagulation.

In 1893 Jansen first described the pure surgical approach to the paranasal sinuses—an incision which curves along the eye-brow around the inner angle of the eye from supra orbital notch.

Moure then introduced his famous operation with which we are all familiar of lateral rhinotomy.

Barnes in 1920 to 1927 described the combined use of surgery and irradiation. He made a circular hole on the exterior of the maxillary antrum which was to be left open for three years for inspection. The obvious disadvantage of this method led to the use of an opening in the palate which is a far better method of approach as it not only gives a better access to the ethmoid as well, it gives better drainage and it can be quite easily closed with an obturator, still leaving opening for subsequent inspection in the event of a recurrence.

The use of interstitial radiation after palatal antrostomy was tried at the Tata Hospital with very discouraging results which seen to be in keeping with what Windeyer states.

At the K.E.M. Hospital in the series of a total 72 cases only 15 cases were eventually treated—as the remaining were either discharged against medical advice or did not eventually come for admission from the out-patient. Of these cases two of them were so advanced that one died of a severe secondary haemorrhage two days after admission. The other was admitted moribund and died soon after. Of the remaining 13 cases-3 cases were referred for Deep X-Ray therapy only where no results are available. Of the remaining 7 cases-only Lateral Rhinotomy was done-with scooping out of the growth without the use of Diathermy and subsequently referred to the X-Ray Department for Deep X-Ray. Of these cases the results have been unfortunately poor, one woman on whom block dissection also had to be done was alive after four years and one more case alive after three years. The unfortunate bad results may be attributed to the (a) lack of proper facilities for specialised work in a General Hospital (b) the approach which was really old fashioned as it involved a lot of hammering and chiseling with subsequent dissemination of the growth and infection and X-Ray necrosis, and (c) the non use of the electro-coagulation:

At the specialised hospital like the Tata Hospital where most cases of carcinoma are now referred, the results although recent seem to be more encouraging. Out of 150 cases 58 cases were either not treated or patients refused treatment. Leaving 92 cases in these the procedures adopted were:

Maxillectomy—3 Cases.

1 Case is well and alive beyond five years. 2 cases were traced only 18 months, when they were well and alive.

The maxillectomy was done in these cases as the growth was relatively early and in the one case which lived for five years an exploratory C.W.L. was done—to begin with and followed by maxillectomy on discovery of the growth.

9 cases—a palatal antrostomy was done with Interstitial radiation. The results here were as mentioned very discouraging. Of the remaining 80 cases palatal antrostomy with electro-coagulation and Deep X-Ray (outside and intraoral port) were given. Fractional dose with a total of 5 to 6 thousand R given. The ethmoid group were mostly Grade III and of those not one was alive for three years.

Of the total 5 cases are well and beyond five years. The rest are recent cases and have not yet passed the three year period.

At this juncture we should like to point out the line of treatment with the excellent results obtained by Mr. Wilson and Windeyer of the Middlesex Hospital, London. In the period from 1925 to 1936 at the Middlesex Hospital, various methods of treatment were employed. Excision alone with diathermy was used in a few cases. Implantation of radium needles and external radiation with X-Ray generated at 200 to 250 Kv. and teleradium with one gramme and 4 gramme units has been used.

Since Wilson and Windeyer started a standard method from 1936 the results have shown a marked improvement. They use external radiation to the whole region either by means of teleradium or X-Rays as a preliminary followed 3 to 4 weeks after by the operation of removal of palate and alveolus making use of the diathermy knife. When the growth is destroyed by the external radiation and no suspicious areas are found no further treatment is given. The gap is closed by an obturator which subsequently carries a denture. If definite growth is observed a radium applicator is made from an impression of the antral cavity. The dosage employed aimed at on the surface of the mould is 70-100 R per hour giving 6000 R in 60-90 hours.

Mr. Wilson in a personal communication to me has sent me the following figures which speak for themselves the value of the treatment employed. The only one alteration they have

made in the treatment which Mr. Wilson states is "before operation we make a simple mould of the palate without any teeth on it and put this in position immediately after operation. This is worn continuously for three months and is only removed after each meal for irrigation of the cavity. At the end of three months, a permanent plate with a small protuberance at the upper surface is made which just fits into the cavity but no attempt is made to have the plate fitting the cavity closely. There is no need for any packing of the cavity after operation and we have never needed to tie the carotid".

His figures:

Comparison of early and recent series.

Years.		Total.	Treated.	Symptoms Free.	
				3 Years.	5 Years.
Carcinoma.					
1925—1935		81	69	18=26%	13=18·8%
1936—1943		80	74	27=36·4%	14=26% (1936-41)
Sarcoma.					
1925—1935		10	9	1	1
1936—1943		6	6	1	1
Mucous Gland Tumour.					
1925—1935		7	7	4=57%	4=57%
1936—1943		6	6	5=83%	—

It is true that we have no teleradium but since Deep X-Rays are available we feel that in the series to be investigated in the future, the methods suggested by these workers may be profitably employed.

In conclusion gentlemen, we crave your indulgence for our shortcomings of this paper. We may only hope that by turning a critical eye towards ourselves will bear fruit in making early diagnosis, keeping better records and employing

less half-hearted approaches to this grave problem and we have no doubts that as time goes by we shall yet have triumphed over the problem of malignancy of the paranasal sinuses, and as Lord Moynihan states "Inspired by these motives make our patient safe for surgery".

Our thanks are due to Dr. J. C. Paymaster of Tata Memorial Hospital, who has kindly put the material of that institution at our disposal and for his kind suggestions; to the Dean of the K.E.M. Hospital and Dr. S. G. Joshi, our chief for very kindly allowing us to use the Hospital records; to Dr. Rege, Registrar, Aural Department, K.E.M. Hospital for helping us to investigate the records and last but not the least to Mr. C. P. Wilson and Mr. B. W. Windeyer of the Middlesex Hospital, London, who have kindly sent me the records of the Middlesex Hospital, with valuable suggestions.

Barany Tests for Vestibular Functions

BY

V. S. SUBRAMANIAN, M.B., M.Sc., F.A.C.S.

Barany was the first to correlate the experimental works on the vestibular functions and to point out some practical applications of these tests. So the tests done on the functions of the semicircular canals, like the rotation, caloric and galvanic tests bear the name of Barany.

The usefulness of these tests are many and varied. We can find out whether the *labyrinth* is (a) *hyperactive* as in some forms of toxic irritation or (b) *hypoactive* as in syphilis, degenerative changes, Meniere's syndrome etc., or (c) *non-active* as in suppurative labyrinthitis or in acoustic neurinomas; (d) to differentially diagnose the causes of vertigo; (e) to produce movements of the ocular muscles when the question of paralysis is not definite; (f) they are also very useful for the neurosurgeon to localise the space taking lesions of the brain, like the infra or supratentorial, right, left, or mid-line tumours etc.

Proper understanding of these Barany's tests and interpretation of the various results obtained by these tests depend mainly on a thorough knowledge of *Neuro-Otology*. By *Neuro-Otology* is meant the relationship of the ear to the Central Nervous System. To study this relationship of the ear to the Central Nervous System, one must be familiar with the anatomy and physiology of the ear, the 8th Nerve and the various pathways for hearing for vertigo, for nystagmus etc. Naturally, *Neuro-Otology* remains a bugbear for many of the E. N. T. Surgeons.

The *Inner Ear* has two functions viz. hearing and equilibrium, and we all know that, hearing is done by the Cochlea. But equilibrium is maintained not only by the (a) semicircular canals of the inner ear, but also by (b) sense of

touch, (c) sense of sight, and (d) muscle and joint senses. Of these four, at least two must be functioning properly for maintaining satisfactorily balance or equilibrium of the body. For example in *tabes dorsalis*, the sense of touch, joint and muscle senses are lost, but the equilibrium is maintained by sight and inner ear. But if we close the eyes then the patient with *Tabes Dorsalis* falls down, hence the positive, Romberg's sign.

The parts of the inner ear which are concerned in the maintenance of the equilibrium are (i) the semicircular canals, and (ii) the utricle and saccule. The former or semicircular canals help to sense all movements of the body during rotation or movement of the head in relation to the body. The latter or the utricle and saccule sense the movements of the body in a straight line.

The inner ear is a complicated series of membranous channels containing a fluid medium called the endolymph and surrounded by a fluid called the perilymph. The whole of it is encased in a hard ivory like bony capsule called the bony labyrinth. This bony labyrinth bears the same shape and appearance as the membranous inner ear except that there is only one bony cavity-the bony vestibule-to contain the utricle and saccule.

The eighth nerve, consisting of the cochlear and vestibular parts are distributed to the membranous portions of the inner ear, the cochlear part to the organs of Corti in the cochlea, and the vestibular part to the semicircular canals, the utricle and the saccule.

The nerve endings in the semicircular canals are on the convex side of the ampullated ends known as the *crista ampullaris*. Here the hair cells project into a gelatinous substance known as the cupula. This gelatinous substance or cupula moves on the hair cells at *crista ampullaris* for the recognition of movements.

Similarly the nerve endings in the middle part of the inner ear (or bony vestibule) are distributed into the two membranous sections, the oval utricle posteriorly and the circular saccule anteriorly. The nerve endings in the utricle and saccule are called the *macula utriculi* and *macula sacculi*. Instead of the gelatinous structure of the semicircular organs, there are structures called otolithic membranes over the nerve endings, consisting of calcareous particles, whose movements over the nerve endings at the macula causes the recognition of the movements. In the utricle the otoliths move in a horizontal plane inside forward, while in the saccule it is behind forward. The utricle and saccule communicate with each other by the union of their own ducts, forming the *ductus endolymphaticus* ending in the *sacculus endolymphaticus*.

The recognition of motion is perceived by the currents of the endolymph acting on the nerve endings through the cupula of the semicircular canals or the otolith membranes. From these the sensation is carried to the brain through the 8th nerve and the brain stem. This fact is taken advantage of in the Barany's tests, where the endolymph is made to flow vigorously at will by rotation, or by chilling of the ear through the external auditory canal, or by electric current applied to the region of the ear. This vigorous stimulation of the endolymph gives certain physiological reactions such as *nystagmus*, *vertigo* etc.

Experiments on the labyrinth dates back to early 19th century when Floorens did experiments on the semicircular canals of pigeons. He found that on destruction of lateral horizontal canal, the head moved laterally with rotation of the body in the horizontal plane. Similarly, destruction of the anterior canal made the pigeon fall forwards, while with the destruction of the posterior canal the head moved back and the pigeon fell back.

By the end of the 19th century, Ewald carried out the famous experiment of drilling holes in the posterior part of the three semicircular canals and filling it with lead to block the

flow of current in that direction. Another hole in front of the first hole was connected to a rubber tube and bulb by which suction and pressure could be applied. His experiments established the following 3 well-known laws:—

1. A current towards the ampulla in the horizontal canals caused greater stimulation than when away from it. (hence the nystagmus in rotation tests).

2. The reverse is true with the vertical canals, viz. a current towards the ampulla caused milder stimulation than when away from it.

3. The eyes and the head moved in the plane of the canal when stimulated.

4. Hoyge enunciated another law-the 4th law-which is as follows:—

When the vestibular organ of one side is stimulated, it causes contraction of the abductor oculi muscle in the opposite side, and the adductor oculi muscle of the same side, giving rise to conjugate deviation, and the slow component of the eyes is away from the side being stimulated.

To understand the various normal reactions to the Barany tests, one must remember these above mentioned 4 laws and also possess a clear visual picture of the anatomical positions and planes of the three semi-circular canals on each side. To recapitulate the anatomic positions & c.—

There are three semi-circular canals on each side-placed within the petrous bone. Each canal is placed at right angle to the other two, the three of each side together forming the three planes of space. The horizontal is parallel to the surface or floor, the anterior vertical and the posterior vertical are inclined 45° to the sagittal or antero-posterior planes, and at right angle to each other. The posterior vertical is parallel to the petrous bone, while the anterior vertical is at right

angle to the petrous bone, extending outward and forward. The posterior vertical of one side is parallel to the anterior vertical of the opposite side.

Before studying the normal reactions of Barany's tests, let us consider the physiological pathways from inner ear to the brain:—

The 8th Nerve carries the cochlear fibres from the organs of Corti for the hearing and the vestibular fibres for equilibrium. The vestibular fibres come out as two sets, one set from the horizontal canal and the other set from the vertical canals. Each of these sets carries nystagmus fibres and vertigo fibres. (past pointing and falling go with vertigo).

The horizontal canal fibres enter the medulla, go to the Deiter's nucleus where it divides into fibres for nystagmus going to the eye nuclei through the posterior longitudinal bundle, while the vertigo fibres go to the cerebellar nuclei through the inferior cerebellar peduncle.

The vertical canal set of fibres also go to the medulla, but above the Deiter's nucleus and then breaks up. The nystagmus fibres go through the posterior longitudinal bundle, and the vertigo fibres go to the cerebellum through the middle cerebellar peduncle.

All the nystagmus fibres are supposed to finally reach the cerebrum through the crura cerebri. The vertigo fibres after entering the cerebellar nuclei, cross to the opposite side of the cerebrum, coming out through the superior cerebellar peduncle.

Normal reactions in Barany Tests.—

I. Rotation Test.

- | | | |
|---|------|--|
| (i)—Spontaneous | | Reaction—nil |
| (ii)—Turn to right 10 times in 20", with head 30° forward | | Horizontal nystagmus to left, 24 seconds duration. |

- (iii)—Turn to left. do. do. Horizontal nystagmus to right x—24 seconds in duration.
- (iv)—Turn to right 10 times Past pointing 12 inches to right by both hands. in 10" Vertigo to left when chair is stopped.
- (v)—Turn to left 10 times Past pointing 12 inches to left. Vertigo to right in 10" when chair is stopped.

During the rotation tests above, the eyes must be kept closed, except when we open the eyelid to see the nystagmus. By this test, with head 30° forwards only the horizontal canals are tested, and both sides are tested at the same time.

II. Mass Caloric Test.—This is done by douching the ear with about a pint or more of water at 68°F., and with the head 30° forward.

- (i) Rt. ear - Reaction (a) takes 40 minutes of douching to produce nystagmus.

(b) Rotatory nystagmus to left."

(c) Past pointing 8 inches to right.

(ii) After above re- same as above except that the actions have been noted, tilt nystagmus is horizontal. the head 60° back, and note reaction.

(iii) Left ear douche - Rotatory nystagmus to Reaction. right, and past pointing to left 8 inches.

III. Caloric (Kobrak) method of minimal stimulation.—The standard Kobrak's method of minimal stimulation, especially useful in carrying out with bedridden patients, consists in

syringing the ear with 5 cc. of water at 55°F. (instead of at 68°F. as in Mass Caloric) and noting the nystagmus, which is same as in Mass Caloric; but there will be no past pointing nor vertigo noted in this method. In this method there is usually a latent period of 15 to 25 seconds for the nystagmus to appear, and its duration is 60" to 100".

The caloric method tests (a) the individual ear douched, and (b) also the vertical and horizontal canals separately, the vertical when the head is 30° forwards, and the horizontal when the head is 60° backwards.

IV. Galvanic method.—This method is not often used and is more of academic interest. The flow of current is from the positive to negative pole, and so, if + pole is applied to right ear, there is a rotatory nystagmus to the left side, vertigo to left, while past pointing is to right. Changing position of head does not make any difference in this test.

So far, I have given the normal responses, which must be remembered, before we start examining a patient. We must then see if the normal responses when present are hyper-or hypo-active. Then we must distinguish between peripheral and central lesions. If it is a central lesion, we can distinguish between supratentorial and infratentorial lesion by the fact that shock reactions such as sweating, pallor, nausea etc. are marked in supratentorial lesions, while absent in infratentorial lesions.

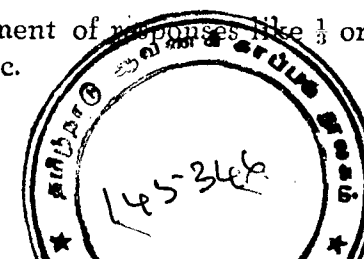
Interpretation of Abnormal Responses:—

A—Peripheral lesions are characterised by

- (i) Impaired hearing and impaired vestibular response one or two sides.
- (ii) History or presence of tinnitus.
- (iii) Proportionate impairment of responses like $\frac{1}{2}$ or $\frac{1}{4}$ of nystagmus, vertigo etc.

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B—*Central lesions* are characterised by

- (i) normal hearing functions, but impaired vestibular responses;
- (ii) normal response from horizontal but impaired ones from vertical or vice versa;
- (iii) spontaneous nystagmus;
- (iv) perverted or inverted nystagmus, usually suggestive of brain stem involvement.
- (v) conjugate deviation on stimulation of ear is pathognomonic of central lesion.

Ten Minutes Pause On U. S. A.

BY

Dr. C. M. LEELAVATHI, M.S.

All is well that ends well—and so it was—on a Friday afternoon—after my last interview with the '*India High Command*' I flew out on Saturday morning—all His Grace and got unhurt on Sunday morning over the colourful New York.

It was my one desire to visit the States, after my being tossed about from Maternity and Child Welfare, Gynaecology and Obstetrics, General Surgery and Anaesthesia, at last to E. N. T. seven years ago. Thanks to the second world war—which gave us "few sarees", a chance to flutter about in the Madras General Hospital which was till then the unapproachable domain of the great. There I stuck—quite unusual—for five years—working under the expert guidance of my chief, whose precept and example have proved so valuable. His polished ways and delightful manners, his excellent judgment of a case, his quick and neat surgery have all been so remarkable, and above all—his maintenance of discipline—just superb.

All that over—I got to the British shores after a Vasco de Gama's voyage and there for eighteen months I prepared—trying to cross the Atlantic—swimming or flying. I flew at last—the thrill of it all was good in the beginning—but how to pat the Labyrinth quiet? It just couldn't be done—all normal physiology going strong. One remembered all the forgotten prayers at the Shannon airport in Ireland when the plane circled around for an hour—to forget them again a few hours later over the magnificent view of New York—colourful—both country and people.

For the first time after months, one ate two eggs for breakfast and had cream for coffee. Even the squirrel looked well fed, happy and beautiful. Here is a land of luxury and

plenty. And yet people so gracious, friendly, hospitable and most levelheaded.

What strikes a foreigner is the number of beautiful, large automobiles flying with the wireless playing the soft agreeable music. Put a penny and press a gadget, you get what you want. Life is made easy and most comfortable, not for a comfort loving and lazy nation—but for a real hard working set of people. Soon they will have gadgets which will 'Think'. We are still hundred years behind. The inland plane service is just perfect and every thing is done with such ease and grace.

Then came Washington, the Capital City, its beauty is awe—inspiring. Its broad tree-lined avenues, its magnolia and cherry blossoms, its monument and the grand view of the city's architecture from its top and not the least of all, the Lincoln's Memorial with its inspiring engravings are second to none in the world.

Meeting the top men in my field of work was a pleasure—most kind—courteous—extremely modest—men with such impersonal integrity—and their work perfect. One is impressed with the friendly relations they hold towards their junior staff—the freedom of speech and action they are given—no snobbish aloofness of a senior and world famous teacher or surgeon.

Democracy is preached elsewhere but practiced in the States.

The hospitals and their equipment - there is nothing more to desire for. Anaesthesia which once was a dread is so marvellous that the surgeon can pull out all the viscera and the patient be still alive.

Then came Philadelphia—an old city but quite renowned for its medical work. Apart from other recent advances made in the Temple University, in different branches of Surgery and Medicine, their work in Broncho-oesophagology is commendable.

On visiting the several medical centres like St. Louis—famous for its five Nobel Prize Winners—and the Central Institute for the Deaf, where all the problems of the deaf are being solved—the famous Mayo clinic, with its motto 'All work and no play makes Jack contribute some thing very useful to the world, its grand organization and its wonderful research departments—and then the great Chicago—the third city in the States, with its great tradition of Learning and Industry—one realizes how very far behind we are.

And last, and not the least, New York, the little island, the first city in the world—well earned title—with its sky scrapers—its world famous, single-span, George Washington bridge over the river Hudson, and its Radio City Theatre at the Rockefeller Plaza, its Times Square with 180 billion candle power illumination, provide all the distractions in the world.

And yet, its magnificent hospitals keep one engaged for months, just visiting.

Mastoid surgery from which all of us kept away if we could help it, has been so very well perfected here by a world famous surgeon that learning it and now doing is a pleasure. And his work in 'fenestration surgery' crowns every thing.

I saw it all—learned some and back again. Goodbye for ever the Statue of Liberty.

Outline of Programme of Second Annual Conference of the Association of Otolaryngologists of India

to be held at K. E. M. Hospital, Bombay from 19th December 1949.

PROGRAMME

Sunday—18th December 1949.

7-00 p. m. Meeting of the Governing Body at the residence of Dr. R. A. F. Cooper, 42, Warden Road, Followed by dinner to Governing Body Members.

Monday—19th December 1949.

8-00 a. m. Registration of Members.
Members Photo.

9-30 a. m. Opening address by His Excellency The Governor of Bombay Raja Sir Maharaj Singh.

Inaugural address by Hon'ble Dr. M. D. D. Gilder, the Minister of Public Health, Government of Bombay.

Presidential address by Dr. C. A. Amesur.

12 Noon Luncheon.

2-00 p. m. Scientific Sessions.

Mastoid Complications.

Openers: Dr. L. H. Hiranandani, Bombay.

Dr. R. Venkat Rao, Hyderabad
Dn.

followed by discussion.

Short paper by Dr. Cherian.

4-30 p. m. Tea.

6-00 p. m. Reception at Government House, Malbar Hill.

by H. E. the Governor of Bombay Raja Sir Maharaj Singh.

8-00 p. m. Dinner.

PROGRAMME

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Tuesday—20th December 1949.

9-30 a. m. Scientific Sessions.

Asthma of Nasal Origin.

Openers: Dr. C. A. Amesur, Bombay.

Capt. Tulsidas, Amritsar.

followed by discussion.

11-30 a. m. Short paper.

Retro-Pharyngeal Abscess.

Dr. Tirumal Rao, Vizagapatam.

12 Noon Luncheon.

2-00 p. m. Short papers.

Dr. Satyanarayana, Madras.

Dr. Subramanian, Madras.

Dr. Vaidya, Bhavnagar.

Dr. Anant, Delhi.

Dr. Mishra, Lucknow.

5-00 p. m. Tea.

6-00 p. m. Presidential Reception at the Governor's Pavilion at the Barbourn Stadium (C. C. I.)

8-00 p. m. Dinner.

Wednesday—21st December 1949.

8-30 a. m. Opening of Dr. Homi Gandhi Memorial Library at the Association's Office by Hon'ble Dr. Jivaraj N. Mehta the Minister for Public Works, Govt. of Bombay.

9-30 a. m. Business Meeting of the Association.

Annual Report by Hon. Secretary.

Journal Report.

Resolutions.

Elections of office-bearers for 1950.

12 Noon Luncheon.

Trip to Elephanta Caves.

8-00 p. m. Dinner.

The Proceedings of the Conference will be held at the main lecture theatre, Seth G. S. Medical College, Parel.

Unusual case of Pedunculated Fibroma of the Soft Palate

BY

Dr. C. A. AMESUR, M.S. (Lond), D.L.O. (Eng).

A woman aged 60, fairly built and nourished reported at the J. J. Hospital, Bombay O.P.D. for "a Lump in the throat", slowly growing over a period of ten years. Of late this has been giving her difficulty in swallowing and discomfort in throat.

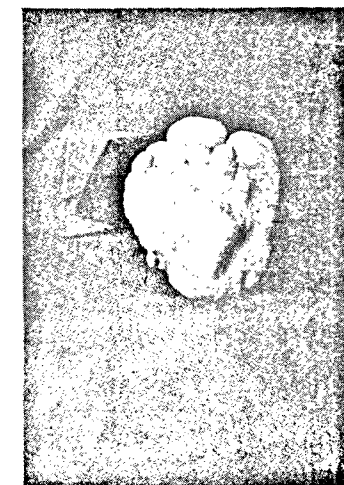
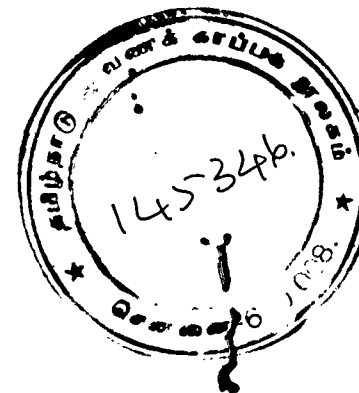
On examination one noticed a large swelling, coming down from soft palate, on left side, half an inch away from the upper left third molar by a small pedicle. This was about 3" long 2" wide and $\frac{1}{2}$ " in thickness. Consistency was hard and the tumour lobulated.

The patient was admitted in hospital and tumour removed on 27th Oct. 49 under local anaesthesia (1% anethaine). The patient made uneventful recovery and discharged after three days.

The growth was examined microscopically and found to be a Fibroma. The photograph of the growth is shown herewith.



Swelling on the left side
of the Palate.



Growth after Removed.

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