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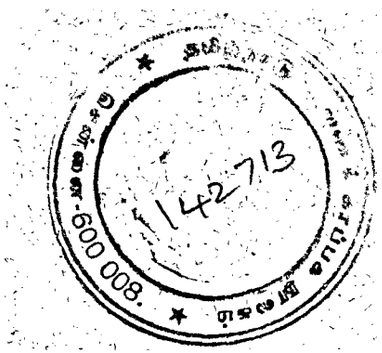

MEDICO-SURGICAL SUGGESTIONS

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MEDICO-SURGICAL SUGGESTIONS

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MEDICO-SURGICAL SUGGESTIONS

VOL. VII FEBRUARY 1938 NO. 2

ACUTE INFECTIONS OF THE PHARYNX AND LARYNX.

WALTER STEVENSON, M.D., F.A.C.S.
Quincy, ILL.

A limited discussion of infections of the pharynx and larynx can refer only casually to some of the commoner, acute infections of these regions. Therefore, my purpose is to dwell at as much length as possible on the severe infections.

The mild infections are simply mentioned to state that most of them are either the beginning of, or are associated with acute upper respiratory infections and run a definite course and subside without complications. They are usually prevalent in colder seasons, are sometimes epidemic and are best treated by rest in bed. Occasionally it is necessary to use antipyretics, sometimes the use of analgesic drugs are required, but rest and maintenance of body fluid balance is about all that is necessary. It has been said that a cold can be cured in one week by the use of drugs, sprays, etc, but that untreated it gets well in seven days. So far as local measures are concerned, I like to use a solution recommended to me by Dr. Gabriel Tucker. It is composed of 25 per cent. tincture guaiac, 25 per cent. tincture iodine and 50 per cent. tincture benzion compound. This is painted on the surface of the inflamed area several times daily. Hot gargles are probably ineffective, but are used in the form of hot, five per cent solutions of bicarbonate of soda. Oil of pine, menthol, compound tincture of benzion volatilized in steam and inhaled by the patient are distinctly pleasant and comforting. In acute laryngitis, instillations by indirect mirror guidance are helpful. I know of no better medicament for these than the solution of mono-p-chlorophenol recommended by Jackson. Astringents such as silver nitrate are contraindicated.

Epidemic Pharyngitis. Pseudomembranous infection of the pharynx, caused by the streptococcus or pneumococcus is frequently seen in epidemic form, often as a result of contaminated milk. I know of no specific treatment, other than supportive measures combined with local antiseptics and anodynes. The laboratory examination, of course, decides the diagnosis. If pneumococci, type

danger of blood stream infection may be caused by too early incision Anesthesia should not be used, yet in appropriate cases without much dyspnea, I see little objection to avertin. I place the patient in an exaggerated Rose position and prior to incision of the abscess, use a trocar to which is attached adequate suction. Following this the abscess is carefully and widely opened by blunt dissection. Little, if any, after care is required. If the x-ray discloses an associated tuberculosis of the spine, the drainage should be external. As pointed out by Salinger and others, there is grave danger of sudden death from haemorrhage in these deep abscesses of the pharynx, whether they be retropharyngeal, parapharyngeal or peritonsillar. Usually one is forewarned of this by repeated small haemorrhages. Statistics show that immediate ligation of the common carotid is the only treatment, despite the fact that a definite number of ligations are followed by serious brain complications. There is real danger of suffocation by aspiration of the abscess contents, unless scrupulous care is taken to prevent it during operation. Impending laryngeal obstruction calls for tracheotomy before incision and in any case of deep infection of the neck immediate availability of a tracheotomy set is required. Sudden death in these cases is usually unexplained, but may be due to pressure and manipulation against the pharyngeal wall, with vagus nerve inhibition—whatever they may be—therefore, manipulations should be carefully and gently made.

Laryngeal Stridor.—Hoarseness and stridor call for immediate examination of the larynx. This is easily accomplished in the adult by indirect examination and that method is sometimes also possible in the child and infant. However, there can be no valid reason for inexact information regarding the condition of the endolaryngeal structures. I have often said that direct examination of the larynx is as easy if not an easier procedure than an ophthalmoscopic examination. Anyone professing to be a laryngologist should be able quickly to expose the larynx in an infant or child and neither local nor general anesthesia is necessary. Having exposed these structures one may take direct swabs for laboratory examination and gain essential information as to the size of the glottic aperture. It is well to bear in mind the causes of stridor in children. They are:

1. Congenital laryngismus stridulus due to underdevelopment of the cartilaginous box—also known as atony of the larynx. This is the most frequent cause of stridor in infancy and can be diagnosed only by direct inspection.
2. Laryngismus stridulus or spasmophilia due to calcium deficiency.
3. Laryngitis stridulosa, false croup, acute catarrhal laryngitis.
4. Membranous laryngitis.
5. Foreign bodies.
6. Papillomata.

7. Congenital paralysis of recurrent nerves.
8. The possibility of thymic stridor. This so called syndrome is rapidly being relegated to the museum of myths.

Membranous Non-Diphtheritic Laryngitis.—I should like to call attention to a type of membranous non-diphtheritic laryngitis which in certain years seem to be epidemic. It is a descending infection which finally reaches the terminal bronchioles causing areas of atelectasis with eventual suffocation and which results in a terrific mortality rate. I know of no disease which so taxes the ingenuity of the physician, and which in its very inception seems to present a hopeless outlook. Truly these are ghastly cases. The disease can be recognized by the membrane and is differentiated from diphtheria by the peculiar gluey, brownish, tenacious crust. Increasing stridor is always present and tracheotomy should be instituted early, before irreparable damage has been done to the heart. There is a peculiar pale cyanosis which is a definite indication for tracheotomy. Intubation has been recommended, but is not advised. Early tracheotomy is not a serious procedure and the mortality attributed to it is due in great part, to injudicious procrastination. For those not accustomed to this procedure, I will suggest a simple technique. With the head and neck in midline position the trachea can be located quickly and easily with a hypodermic syringe and a twenty gauge needle plunged into the midline. Immediately after the skin has been pierced the plunger of the syringe is slightly withdrawn and if a small amount of sterile water is in the syringe bubbles of air announce entrance into the trachea. The needle can be followed by dissection easily and quickly. A recent contribution by Chamberlain emphasized the use of the Mosher life saving tube. To those familiar with its use, I commend a small bronchoscope for the same purpose. After care of these little patients requires almost constant attendance of a trained physician. Death is always by suffocation due to the crusting of the exudate. These can be removed by suction through a catheter, following instillations of adrenalin; perborate solution has been advised to loosen them; bronchoscopy through the tracheal wound is frequently required to remove the crusts. If one can keep ahead of the crusts until the virulence of the streptococcus infection has subsided, a few of these cases will recover—but the outlook is most disheartening.

Peritonsillar Abscess.—Peritonsillar abscess and its management are well worth consideration. I know of few conditions more distressing to the patient. Again, a period of judicious watchful waiting for abscess formation is worth while. Many advise early incision in the peritonsillar area, feeling that depletion caused by free bleeding is helpful and that sooner or later the abscess will drain into the tract of the incision. This has neither been my experience, nor practice. I always wait until I feel reasonably sure that the pocket

can be entered. Practically painless incisions may be made in these cases if the sphenopalatine ganglion is anesthetized thoroughly. I called attention to this many years ago and Guttman has written in detail regarding the method. Peritonsillar abscess is a serious affair and when the process has subsided the tonsil should be removed completely to avoid recurrence. Usually a peritonsillar abscess forms above the tonsil in the soft palate, but occasionally will invade the structures posterior or lateral to the tonsil and it is these which are difficult to locate. A nick in the membrane immediately posterior to the tonsil, followed by blunt forcep search, will usually drain the cavity, or by dissection into the anterior compartment of the parapharyngeal space. These are usually parapharyngeal space infections.

Post Operative Infections.—Infections of the pharynx following removal of adenoids and tonsils is a very rare complication. The wide open wound affords such good drainage and the excellent blood supply accounts for this fortunate rarity. I have seen several peritonsillar infections with abscess formation, following local anesthesia injection. An infection of the tissues about the base of the tongue following tonsillectomy may be alarming at times, but usually subsides without abscess.

Diphtheria—Vincent's Angina.—Vincent's angina and diphtheria are mentioned to stress the importance of throat cultures. The presence of diphtheritic organisms calls for immediate use of adequate doses of diptheria antitoxin. It should be remembered that the earlier it is used the more efficient is its action ; investigations have shown that after the third day of the infection the serum has little if any effect. In Vincent's disease I have not been particularly impressed with the efficacy of antiluetic medication, either locally or intravenously, but I do rely almost entirely on oxygen producing drugs, such as perborate of soda and peroxide of hydrogen. A recent article by McNichols has called attention to the fact that peroxide of hydrogen gives the best result in the treatment of this disease. Meticulous cleansing of the teeth by a dentist is most important. Vincent's ulceration about the mouth and pharynx can, at times, be extremely grave.

Infectious Mononucleois.—Better known as acute glandular fever, this disease occasionally has its inception in the throat and mouth as ulcerative lesions. Indeed, often a type of pyorrhea is present. The disease is diagnosed by generalized enlargement of the lymph glands, particularly cervical, axilliary and inguinal. The disease is accompanied by a slight fever. The diagnosis is easily made by blood smear, a preponderance of mononuclear cells being present.

Treatment is unnecessary and the disease subsides in ten days to two weeks.

Agranulocytosis. One must always be on the lookout for throat manifestations of malignant neutropenia or agranulocytosis. In these cases I do not know, but I doubt, if the lesions described in the literature as typical of this disease and as initial are the cause. I am inclined to feel that they are merely secondary infections due to lowered resistance. It has been said that the typical lesion is a small ulcer on the anterior palate. Some of the cases I have seen presented ulceration about the teeth and oral mucous membrane. Others have shown a general dusky redness of the fauces with a tendency to pendulous edema, even extending into the larynx and finally calling for tracheotomy. A blood count quickly decides the diagnosis, but what next to do taxes the resources of internist and laryngologist. I have known of one case to recover after the use of pentnucleotide and another with the use of yellow bone marrow. If the blood count discloses the presence of many immature granular cells it is said that pentnucleotide assists in further release of these cells ; however, if there is an aplasia of these cells and no immature cells are present, it seems that yellow bone marrow gives better results, since it is supposed to stimulate the production of these cells. If drugs containing the benzine ring cause the disease, perhaps our new friend allergy comes into the picture ; certainly many individuals can ingest large quantities of these drugs and not develop agranulocytosis.

Abscess of Larynx. Abscess of the larynx is seen following debilitating diseases and at the time when typhoid fever was prevalent it was not uncommon. It has followed the use of radium and excessive x-ray theraphy. It may be diagnosed by indirect examination, palpation through the mouth and sometimes fluctuation may be felt over the cartilage. Exploration with a needle has been suggested. If the abscess point is in the pyriform sinus or in the ventricular band, it may be drained by indirect procedure or through direct laryngoscopy. If however, it has travelled downward and the cartilages are involved it must be drained externally.

Finally. I would emphasize the importance of general medical care, supportive measures and nursing. Relief of pain is of utmost importance and local measures failing, morphine should be freely used. Patients with pharyngeal and laryngeal infections are more comfortable in moist atmospheres Haslinger has stressed the use of steam saturated with bicarbonate of soda. A prescription containing anesthesine is often quite worth while. This is placed on the tongue in dry form and allowed to dissolve. We must not fail to think of some of the newer antiseptics, such as solfanilamide. These are now being used extensively in the treatment of streptococcic infections and we may expect early evaluation of them. The use of convalescence streptococcul serum has certainly given very promising results. Mention should be made of the use of x-ray

in infections of this type. I have recently had some very good results following therapeutic doses of x-ray, lymphocytes, of all body cells, are the most sensitive to x-ray. They regularly accompany the infiltration of acute infections and are the first destroyed by x-ray ; even as soon as twenty minutes. Early disintegration of lymphocytes takes place with relief of pressure and thereby of pain Nuclear chromatin is dispersed and continues for several days, causing increased phagocytosis. The polymorphonuclears and eosinophiles undergo a similar but belated disintegration. In addition to the destruction of the lymphocytes and promotion of phagocytosis, roentgen rays are believed to liberate enzymes, antibodies and unknown principles which promote autolysis and liquefaction. Something should be said about short wave diathermy. A recent article by Laszlo indicated that relief of pain, prompt resolution of local infections or definite speeding up of abscess formation takes place in a considerable number of cases. He further stated that by this method many pharyngeal abscesses may be aborted. Adequate laboratory examination regarding the cytologic, the hemoglobin, calcium and chloride contents of the blood is most important. Blood transfusion, glucose intravenously and saline used intravenously or subcutaneously are life sustaining and saving measures and when indicated must not be omitted.

Each one of these conditions is an individual problem. One must learn not to be dogmatic nor to swing too far with the pendulum of conservatism or radicalism. There are many things to do besides surgery. How to pick one case as surgical from another that is not, is a problem which requires careful consideration of all the clinical, objective and subjective symptoms. A final decision results from that intangible something which comes only with long years of experience and observation.

(*Illinois Medical, Journal August, 1937.*)

THE TREATMENT OF SEBORRHEIC BLEPHAROCONJUNCTIVITIS.

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New Orleans, Louisiana.

Seborrhea is an old subject, and many dermatologists number it among their most perplexing problems. Seborrhea of the lid margins is certainly not one of the least that presents itself to the eye physician. It probably causes more chronically inflamed eyelids and conjunctivae than any other one agent, and, though never serious, it

is continually annoying and disfiguring. The term seborrhea literally means hyperactivity of the sebaceous glands and has been too seldom used in relationship to disease of the eye and the adnexa. This is, no doubt, owing to the fact that it is so common place, and being at the borderline between dermatology and ophthalmology, few have taken the time to describe it or to discuss its treatment. Clinical observations lead me to believe that it begins in the sebaceous or Zeiss glands of the cilia and in the meibomian glands, which are the enormously enlarged sebaceous glands, imbedded in the tarsal plates. The excessive secretion accumulates in these glands, causing their dilatation, and they act as a pool of excellent culture media in which the everpresent pus-forming bacteria may grow. Fortunately, these bacteria are of low virulence, with a few exceptions, and their toxins produce a low-grade inflammation that causes a desquamation of the skin of the lid margin, the death of the cilia, and a pouring out of the excessive and mildly irritating secretion from the meibomian glands into the conjunctival sac.

This is a disease of adolescent and adult life and should not be confused with blepharitis marginalis, frequently seen in children who live under a poor hygienic routine. It is true that the late ulcerative stage does present a very similar picture to blepharitis marginalis, and it is here that most of the mistakes in diagnosis are made; for it is not until the patient has been treated by the usual methods for a long time without improvement that one realizes that he is dealing with this more stubborn disease.

SYMPTOMS.

The first complaint is almost always that of an itching or burning sensation in the eyes, aggravated by use, smoke, dust, and other mild forms of irritation, and frequently accompanied by the sensation of a foreign body in the eye. The red lid margin with the exfoliating skin or dandruff among the cilia is not an early symptom, but this is frequently the symptom that drives the patient to the eye physician after he has spent considerable time and money seeking relief at the hands of the refracting optician. Occasionally styes and infected chalazia are symptoms that come after the process is well established. If the condition is further neglected, the lid margins become thick, ulcerated, and incrusted. The conjunctiva becomes chronically inflamed, and mucous shreds collect in the conjunctival sac and continually irritate the eyes. The cilia fall out, sometimes until the lid is as bald as the patient's scalp. It is well to note that this condition is almost always associated with seborrheic dermatitis of some other part of the body, usually of the scalp, which is characterized by dandruff or alopecia or both, also behind the ears or in the eyebrows. Some dermatologists believe that the eyelids become infected from the scalp and eyebrows, and this may be

correct, for frequently permanent improvement is not to be had until the associated seborrhea is well under control.

TREATMENT.

The treatment of this condition is both local and general. *Local treatment* consists of: 1. Epilating the infected cilia. These may be easily identified by observing the lid margins under good illumination with an ordinary Beebe or Berger loupe. The base of an infected cilium looks dark and appears to be about twice the normal diameter. When epilated, the roots are encased in a cylindrical mass of necrotic material or pus. If these infected cilia are not removed, they act as a source of continued irritation until the hair follicle becomes so necrotic that the cilium falls out, or a small pustule forms around its base.

2. The expression of the contents of the meibomian glands. This has proved to be one of the most important factors in the treatment of the condition. It is easily accomplished by first anesthetizing the conjunctiva with a drop of 0.5-per cent pontocaine. Then using a spatula made for the purpose the contents of the glands are expressed; but I have found the use of the spatula more painful than the pressing of the two lid margins one against the other. This is accomplished by having the patient close his eyes gently, and as the patient looks up with the eyes closed, gentle pressure with the forefinger of the left hand is exerted inward about 3 mm. below the lower lid margin, just enough to evert the lid slightly. The patient is asked to look down, and pressure with the thumb of the right hand against the margin of the upper lid, after the same manner, brings the two lid margins, one firmly against the other. Then, exerting pressure gently and at the same time pulling the lids out from the eyeball, in order not to put undue pressure upon the globe, the contents of the meibomian glands are easily expressed. To those who have never tried this, it is surprising to find not only how much secretion these little glands can hold, but that many of them that look normal on inspection are filled with creamy pus. This procedure is repeated until all the glands of both lids have been evacuated. Occasionally, it is necessary to use a small, sharp dissection knife to open the closed ducts of some of the glands; and sometimes it requires repeated attempts before some of the glands can be emptied. Following this procedure, it is well to irrigate the conjunctival sac with some mild solution, for it is filled with the material expressed from the glands.

3. Rubbing of the lid margins. A pledget of cotton is saturated with a mild antiseptic solution; such as, hexylresorcinol, merthiolate or metaphen solution—peroxide in half strength is efficacious, but has a definite tendency to change black eyelashes to blonde, which is objectionable to many patients. The gently closed lids are rubbed briskly with the saturated pledgets along the base of the lashes for one to two minutes. This softens and removes dandruff or crusts. Immediately following this, a 1 per cent resorcin or Eurosol ointment, which is put up in a petrolatum base, is applied by placing a small amount on the same pledget of cotton and rubbing it into the base of the lashes in the same manner that the antiseptic solution was applied. The patient is carefully instructed how to carry out this procedure at home, for it has to be repeated daily.

If the process has progressed to the ulcerative stage before the lids can be rubbed, the remaining infected cilia and the crusts that form over the ulcers should be removed, and some mild antiseptic applied. Healing is usually prompt, and after a few days the rubbing can begin. Occasionally, the puncta become closed by the scarring from the ulcerations and have to be opened and probed in order to re-establish proper drainage of the tears.

4. Adrenalin-chloride solution. A prescription that contains 25 minums of 1 to 1000 adrenalin chloride to an ounce of 2 per cent boric-acid solution is given for use once or twice daily. This serves to reduce the congestion in the conjunctival sac, and if there is an allergic background it may help to relieve that.

5. X-ray therapy. Greenbaum before the meeting of the American College of Physicians, in 1933, recommended the weekly exposure of the lids to small doses of the roentgen ray. I have not yet had a case that required X-ray treatment; therefore, I should reserve it for the intractable conditions. However, I strongly urge you not to have your patient's lids treated by the X-ray unless the eyeball is properly screened from the rays; at least, not until it is more definitely determined what effect radiation has upon the lens and other structures within the eye.

The general treatment consists of: 1. A careful refraction, and the prescribing of the proper glasses when indicated. Particular attention should be given to errors of astigmatism and to cases of heterophoria. Refraction should always be done under homatropine cycloplegia up to and sometimes above the age of 50, unless it is contraindicated.

2. A careful medical history should be taken, and if indicated a physical examination should be made, with special reference to foci of infection, anemia, and low basal-metabolism rates. Corrective procedures should be started as soon as possible.

3. Vitamin concentrates are of definite value, especially those rich in vitamins A, B, and D. I prefer to use cod-liver oil and brewers' yeast. They are the lest expensive to the patient, and my experience is that the response is better than when the more expensive synthetic vitamin-concentrate compounds are used.

4. Treatment for the associated seborrhea of the scalp and eyebrows should be instituted at the same time. If a dermatologist is

not available, a scalp tonic that contains salicylic acid and resorcin in alcohol can be applied daily, followed up by biweekly shampoos and massage.

Both local and general treatment must be carried out over a long period of time, as in the treatment of any chronic disease. The patient should be seen once or twice weekly in the beginning, the interval between visits lengthening as the patient improves. Recurrences are common, for most patients stop treatment as soon as their symptoms subside; but for those who persist, permanent relief from symptoms can be effected. I report the following case:

L. P. white, aged 63 years, by occupation a railroad agent, came under my care in May, 1931. His lids were twice the normal thickness, the margins ulcerated, and there were not more than a dozen cilia remaining on either of the lids. The conjunctiva was thickened and chronically inflamed. He was unable to carry on his work due to the irritation and accumulation of mucus in the conjunctival sacs. The treatment as outlined was instituted, and by January, 1932, his symptoms had entirely subsided. Cilia had grown in again, and the lids and conjunctivae were free from inflammation and appeared entirely normal. The patient reports to me at intervals of two to three months for office treatment, and has remained subjectively and objectively normal.

I report this case, not as proof of the effectiveness of the method of treatment advocated, but because it was the most severe case that has come under my observation. This patient had been treated for years with yellow-oxide-of-mercury ointment, had silver nitrate applied until he has a mild argyria, and had his glasses changed many times, all to no avail.

CONCLUSIONS.

1. Seborrheic blepheroconjunctivitis is a more prevalent problem than the ophthalmological literature indicates.

2. It is amenable to treatment that can be administered by any eye physician without the use of expensive additional equipment.

3. The treatment must be carried out over a long period of time. Recurrences are to be expected, but persistence and patience in treating this condition will be rewarded.

(*American Journal of Ophthalmology August, 1937.*)

THE ULTIMATE PROGNOSIS IN HIGH BLOOD-PRESSURE.

Henri Godlewiski, of the Faculty of Medicine of Paris, says in "*General Practice*" (London), for April—June, 1936, that, taken separately, a minimum or medium blood-pressure may be assumed to indicate approaching yielding of the heart. The maximum pressure, even when markedly raised, may be tolerated for a longtime; in fact, its gravity is dependent on the degree of cardioarterial change.

Regarded comparatively, the prognosis is favourable as long as the pressures remain divergent; that is to say, provided the interval separating the minimum from the maximum pressures remains considerable. We are justified in giving a guarded prognosis when that interval becomes *convergent*, especially when the interval is encroached upon by a rise of the minimum figure.

An oscillogram *en plateau* points to thickening of the arteries, while an oscillogram in booklets points to elasticity of the vessels.

Permanent hypertension is less menacing than a variable condition, because the latter is often associated with paroxysmal vascular surprises. In many families there would seem to be an actual inherited predisposition to arterial hypertension.

Hypertension is not commonly met with in young men, and it is rarely noted in those who are undergoing their military service. Nevertheless, a certain proportion of cavalry men are liable to rapid fugitive attacks of raised arterial pressure.

Until 40 years of age, permanent high pressure usually runs a progressive course, and the prognosis is the more gloomy when it has a sudden onset.

As we near 50 years of age, a high blood-pressure becomes the rule: in fact, quite a commonplace event, especially in women approaching the manopause. In most of these cases, however, it remains amenable to treatment for years.

A high pressure is usually present in elderly persons in whom it must be regarded as compensatory; treatment having for object to reduce that pressure is, as a rule, badly borne by the aged.

The prognosis can most safely be based on the results of careful examination of the organic functions. We must be particularly on the lookout for even trifling signs of myocardiac ill-health, also the urea content of the blood and urine (as a guide to the integrity of the renal function) as well as retention of urea or water. Ophthalmological observation will sometimes enable us to give advice having for object to obviate an attack of apoplexy.

It is difficult to decide the precise bearing of syphilis in determining high blood-pressure, since our knowledge, such as it is, is based on the results of antisyphilitic treatment. Inadquately treated, syphilitic subjects would seem to be predisposed to the early advent of high blood-pressure which specific treatment appears to attenuate

and control it; so much so that it is regarded by many observers as the most effectual and the most trustworthy depressor. The influence of syphilis in the production of hypertension is not universally admitted, and, in any case, one requires to be very cautious in applying the treatment to elderly subjects.

A high pressure is more easily reduced in tuberculous subjects. A reduction in the amount of food (especially bread and liquid) is indicated, and is very generally applied. Numerous hypertensive accidents are apt to follow a heavy meal.

The high pressure subjects who seem to stand the best chance are those who discipline themselves to be small eaters without, however, discarding meat altogether. The principal thing is to reduce the intake of nitrogenous substances even in presence of a satisfactory nitrogenous elimination, also to keep an eye on the amount of salt ingested. This does not entail a very restricted regimen against which it is well to place the public on their guard seeing that there is an inconsiderate tendency to overdo these restrictions.

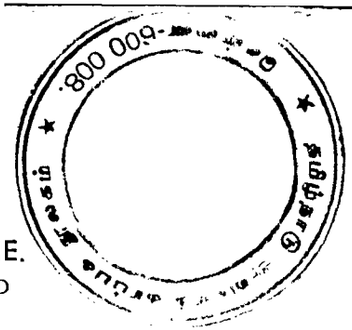
High tension is met with in all classes of society. Observation shows, however, that the peasant who is very frequently the subject of raised bloodpressure, is rarely so in districts where vegetables are plentiful and easily come by, more particularly when he cultivates a diet rich in vegetables, and especially in fruit.

A quiet life, after all, constitutes the basis of all treatment. Excess of every kind: anger, emotions, effort, are to be deprecated. On the other hand, the idea that residence at high altitudes is pernicious, is to be controverted.

Almost every where we get the impression that the fear of high pressure tends to become a veritable phoby, much to the disadvantage of the sufferer therefrom.

Among measures which may exert a favourable influence on the future of these subjects, the most popular are: Slight periodical blood letting, and this is conveniently achieved by means of leeches. Sedative courses of treatment (physiotherapeutics, spa, and climatic), and, chemically, citrate of soda, bromo-iodide medication, garlic, and benzoate of benzl.

It behoves us to disseminate what I may call commonsense advice, *e.g*, a simple life with a small food intake; but these measures can be reinforced by the administration of drugs having for object to combat vascular spasm and to assist the hæmolymphatic circulation. (*The General Practitioner*).



CHRONIC HEADACHE.

PAUL A. DRAPER, M.D
Colorado Springs.

Headache in every aspect is a challenge. The very commonness of the symptom has made us neglectful of its importance. In general practice, headaches are complained of by about 50 per cent of routine office patients and they are equally frequent in men and women. The physician who makes a diagnosis of headache without effort to know the cause and offer relief is unjustifiably shirking a tedious problem.

DEFINITION.

Headache is a symptom, although it may at times seem so prominent in the patient and so depressing to others as almost to amount to a disease. By chronic headache we refer to pain in the head of long standing; it may be habitual or recurrent, localized or generalized, facial or non-facial. Like facial pains, other head pains are essentially a neuritis or neuralgia, and the same nerves may be involved, either directly or indirectly.

MECHANISMS.

For the perception of pain in the head, the usual neural apparatus is utilized the same as for pain elsewhere in the body. Pathways must consist of (1) afferent tracts from receptors, (2) a central station and (3) pathways of pain to the cortex and consciousness. Afferent impulses must travel along either somatic (sensory) or sympathetic nerves. Pain in the head may be considered as arising in two general ways: (1) from direct irritation of sensory nerves transmitting pain impulses and (2) as reflex pains arising from irritation from somewhere else in the body. The trigeminal nerve is perhaps the most important of the sensory nerves of the head. The central roots of the trigeminal are considered to form a functional unit which can become active upon initiation from any part of the periphery and produce the symptom of headache. The trigeminal nerve has an extensive distribution in the dura mater. By way of complex anastomoses, other cranial nerves may act as vehicles for the transmission of afferent impulses. For example, the vagus nerve plays its chief role in the production of numerous reflex headaches. From irritated end-organs in thoracic and abdominal visceral disease arise impulses which travel to the brain stem where they may be reflected over branches of the trigeminal system. Or they may reflect in motor impulses to blood-vessels and reach expression in types of migraine.

Sympathetic fibers accompany blood vessels to the dura, the middle meningeal arteries being most important in this respect. Recent work as demonstrated the presence of sympathetic nerve fibres in the walls of the blood vessels of the pia mater which arise

from the sympathetic nerve plexuses of the internal carotid and vertebral arteries. It has also been pointed out that there is a rich nerve supply of the vessels of the choroid plexuses. Furthermore, there is some indication of the presence of nerve fibers passing from the ependymal cells which line the ventricles.

Direct observations during brain operations have shown that the dural sinuses are sensitive to pressure, traction, heat, and electrical stimulation. Many headaches can probably be explained on the basis of some sort of stimulation of the large dural sinuses. Traction or pressure upon one of these sensitive areas will result in headache. This is the case in most intracranial lesions.

The large blood vessels which supply the brain may suffer some stretching outside the head, such as in the neck or chest and thus lead to headache. Too much or too little fluid in and around the brain result in stretching the large vessels. The stretching is what hurts.

An explanation of many of the headaches of the psychoneuroses may be found in a strong, painful contraction of the occipitofrontalis muscle. When one considers that this muscle is part of a system for the expression of emotional states, it can be seen how it may be thrown into a state of contraction by prolonged anxiety, intense fear, or depression. Other neurotic headaches involve changes in the caliber of the blood vessels. It is in this manner that the grey matter, itself not sensitive to ordinary stimuli, may perceive pain independently of its sensitive coverings.

ETIOLOGY.

Knowledge of the causes of headache is helpful, not only from the standpoint of systematic classification, but also in treatment. The following types are recognised.

I. Local types.

Under this heading are included actual organic intracranial diseases, whether they be traumatic, inflammatory, vascular, neoplastic, or degenerative. Examples are brain tumour, cerebral arteriosclerosis, and cerebral syphilis. This group is sometimes referred to as primary headaches.

II. Reflex types.

1. Conditions outside of the brain but confined to the head (the so-called secondary headaches). Examples are nasal accessory sinusitis, neoplasms of the cranium and scalp, and eye strain.

2. Conditions outside of the brain and not confined to the head. Examples are cervical spondylitis, diseases of the chest and abdomen and pelvic disturbances, particularly in the female.

III. Toxemias.

These may occur either with or without fever and they may be exogenous or endogenous. Examples of the exogenous types are

the headaches due to alcohol, tobacco and carbon monoxide poisoning. The source of the latter is most commonly from automobile exhaust and illuminating gas. Examples of the endogenous group are head pains seen in kidney diseases and disorders of the gastro-intestinal tract, such as gallbladder disease and chronic constipation. Some toxic causes may be partially reflex and vice versa.

IV. Vascular types.

Here we refer to general vascular conditions other than those in the brain. Examples are myocardial insufficiency with venous congestion, arterial hypotension, and arterial hypertension, both essential and other types.

V. Psychogenic ("functional").

Mental factors may augment or perpetuate headaches from any other causes or they may in themselves be entirely responsible for the cephalalgia. Some headaches may become a habit, in morbid personalities and children who use headaches as a means of sympathy and getting what they want The psychalgias are otherwise known as mind pains or soul pains. They are seen in those who are under considerable emotional stress, particularly as a result of deep-seated conflicts, anxieties, worries, and disappointments. Such pains are probably caused by a sympathetic disturbance in the head that is translated into pain by the sensory nerves.

As to generalized psychogenic headaches they are very frequently on the basis of repressed hatred. We see them in the neurotic, the psychasthenic, "the patient with nervous exhaustion" and not infrequently in the psychotic. The psychogenic factors often play an important role in migraine and in other forms of headache as well. Nervous strain may be closely associated with hyperpiesis, thus showing the close relation between some of the psychogenic and vascular types of headache.

VI. Causes incident to alterations of intraventricular pressure.

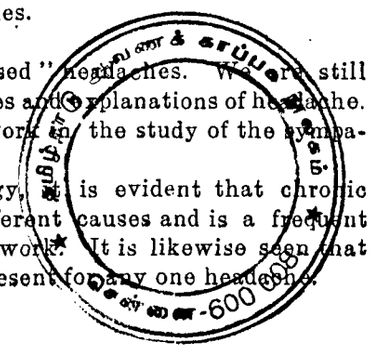
1. Lumbar puncture headaches. Here there is a fall of pressure which falls to rise until after some delay, because of persistent leakage of fluid.

2. Air injections – we refer here to the headaches which follow encephalography. These are most common when the injected air has entered the third and lateral ventricles.

VII. Unknown causes.

Here we include the "undiagnosed" headaches. We are still in doubt concerning some of the causes and explanations of headache. There is a particular need for more work on the study of the sympathetic nervous system.

From these remarks on etiology, it is evident that chronic headache may arise from many different causes and is a frequent complaint in all branches of medical work. It is likewise seen that more than one cause is frequently present for any one headache.



SYMPTOMATOLOGY.

This will not be presented here because you are already familiar with the main features.

DIAGNOSTIC METHODS.

Every phase of the patient's problem must be thoroughly studied. Co-operation of the internist, the ophthalmologist, the otolaryngologist, the neurosurgeon and the neurologist will reveal the causes of most headaches. Among the procedures employed in the obstinate cases are the following: Ocular refraction; ophthalmoscopic examination's looking particularly for swelling of the discs; visual field determinations; spinal puncture, with careful measuring of the pressure and total protein determination along with the usual cell count, globulin estimation, colloidal gold curve and Wassermann or Kahn tests; allergy tests; examination of a fasting blood specimen for nitrogen retention; sterioscopic pictures of the skull; and encephalography or ventriculography. The dental mirror should probably be used more by physicians, in order not to overlook small cavities on the posterior aspects of the teeth. Transillumination of the nasal accessory sinuses should be employed more, as valuable information is thus not infrequently obtained. In doubtful cases, x-rays of the teeth and nasal accessory sinuses should be made. The frequent mental aspects should be kept in mind, especially in those cases showing one negative finding after another.

TREATMENT.

The outlook for relief from chronic headache is more hopeful than in former years. Perfection of technic in the field of neurosurgery has done much to accomplish this. Trichlorethylene inhalations will usually give some relief in painful tic and occasionally where there is overlapping of the trigemenial with some of the other types of neuralgia of the head. The role played by disturbances of the eye should always be carefully evaluated early in the case. In pituitary headaches, hypodermic injections of the appropriate extracts may be the chief source of relief. The posterior extracts are probably better for this purpose than the anterior extracts in most cases. In small, weak individuals, with low blood pressure, one injection per week of pitressin may suffice.

For chronic headaches associated with chronic constipation or colon distress, colon bacillus vaccine therapy, particularly when used in conjunction with sodium ricinoleate by month has given very commendable results in some hands.

A combination of allergic and endocrine migraine is quite common and combined therapy in these cases is necessary for relief. Chondroitin sulphuric acid in six-tenths of agram capsules by mouth, three to six grams per day, has helped some cases of idiopathic headache when given over a period of from two or twelve months. Comparatively good results have also been obtained from

intravenous injections of one gram doses of sodium thiosulphate. A point to be emphasized is that while prompt temporary relief from migraine may usually be obtained from ergotamine tartrate (gynergen), its use should not take the place of efforts to find and remove the cause or causes of the condition.

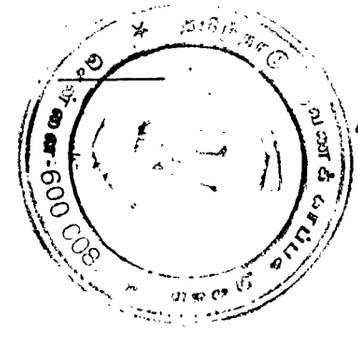
Uremic headaches can often be relieved by lumbar puncture during the time necessary for the basic nephritic condition to be brought under control by diet, medicines, and elimination of foci of infection.

Such a simple measure as the use of caffein by mouth as well as subcutaneously or intravenously should not be overlooked. Experimentation has shown that it will produce enough drop in intracranial pressure to give some relief not only to the more serious headaches associated with organic brain disease, but also to the less serious but more common types. This is a circumstance which explains the relief given to the "morning after" variety by a cup or two of hot strong coffee. Opium derivatives greatly increase intracranial pressure and hence should not be used following head injuries. Amyl nitrite increases this pressure more than any other drug. Therefore, its use as a vasodilator in hypertension may possibly be more hazardous than helpful. Intravenous hypertonic injections of glucose, sucrose, or sodium chloride change the osmotic dynamics of the body fluids, dehydrate the brain, reduce intracranial pressure and the headache that comes with and from it.

Acetylcholine preparations are often beneficial to hypertensive headaches as are combinations of theobromine and phenobarbital. The most obstinate cases of hypertensive headache have been relieved by splanchnic operations.

A tranquil mind is helpful to all headaches. General regulation of the hygiene, such as the correction of obviously erroneous modes of living and undesirable environmental factors has led to reasonable comfort in many patients with chronic headache.

(*Colorado Medicine August 1937.*)



BONE-MARROW FINDINGS IN THE DIAGNOSIS OF CERTAIN BLOOD DYSCRASIAS

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Despite the fact that many different types of cells are found in the circulating blood and despite the fact, also, that changes in these cells are the immediate cause of symptoms which arise in the blood dyscrasias. none of the cells arises in the circulation, but rather is formed at an entirely different location. In this respect cells of the hemopoietic tissues are unique; there is no other organ or tissue which forms cells, the usual product of activity being a secretion usually of a chemically distinct substance, such as thyroxin from the thyroid or insulin from the pancreas.

This unique feature of the bone marrow, namely, that it produces cells of different types for circulation in the blood, has however been responsible for a considerable amount of confusion in the study of its diseases. In the past, for instance, it has been believed that by examination of the cells which were present in the circulating blood, one could tell what was the condition of affairs in the tissues producing these cells. In many instances one may come remarkably close to forecasting what kind of disturbance has taken place within the bone marrow, but in many instances also the forecast is very erroneous.

Probably this fact has been recognized before to judge by previous attempts to study the bone marrow, but regardless of these few efforts the bone marrow seems rather well to have escaped study. Encasement of the marrow tissue within the bony covering of the ribs, vertebrae and long bones seems to have been the reason why such studies never received the attention due them. Ghedini apparently was the first to study the bone marrow in man. Following this, a series of papers appeared at intervals until Peabody's classic paper in 1927. Peabody, in common with many who preceded him, utilized the bone marrow obtained by tibial biopsy. Custer and Dameshek have studied bone marrow obtained by removal of buttons of bone from the sternum. More recently Osgood and many other workers have utilized a different technic for obtaining the material. The site selected has been the sternum, and the means by which its contents were obtained was aspiration by a needle with a syringe. Just as in the earlier method there was the objection that the procedure was a rather formidable operation, so in this later method there is the objection that the material aspirated consists chiefly of venous blood with a few bone marrow cells scattered throughout.

The methods at hand thus are rather complicated from the standpoint of thorough clinical study of patients with disturbances in blood-cell formation.

It seemed evident that if a trephine of sufficiently small caliber could be used, the procedure might become a most useful and widely used one. Not only would it be possible to carry out the studies readily and accurately but also it would be possible to repeat the studies after relatively brief intervals. This latter advantage would permit study of the response to medication at relatively frequent intervals.

The procedure used in the present studies (Weller) consists in insertion of an 18 gauge spinal needle with stylet in place cephalward into the sternum at the angle of Louis. With 5 per cent novocain infiltration the patient feels only a sense of pressure until the needle has penetrated the outer layer of cortical bone. Once the tip of the needle is within the marrow no discomfort is felt unless the needle is twisted, when sharp pain results. After the cortical layer of bone has been penetrated, the stylet is removed and the needle pushed forward a distance of 5 to 10 mm.; then it is removed slowly, and the material within the lumen is spread out in a thin film on a glass slide.

Practically all of the patients included in the present study have one point in common, namely, the presence of an anemia. For purposes of comparison, however, knowledge of the sternal marrow from a normal individual is first necessary. In these circumstances the bone marrow in the gross is grayish-yellow and gelatinous. When spread upon the slide a moderate amount of fat collects in droplets. The stained film shows a definite architecture of a network of cells infiltrated with fat globules.

The cells which constitute this network are about evenly divided between the red-cell and white-cell series. In general the numbers of each are few, but the grouping is fairly constant as one proceeds from area to area in the film. The cells of the erythrocyte series usually are erythroblasts or normoblasts, only an occasional megaloblast being seen for the most part. The cells of the leukocyte series are myelocytes, only an occasional myeloblast being seen. In addition eosinophils and basophils as well as occasional megakaryocyte are to be found.

In the case of anemia secondary to carcinoma of the stomach, for instance, the architecture resembles to a moderate degree that of the normal sternal marrow architecture. The difference consists chiefly in the increased size of the fat droplets, and the fact that in the reticulum there is a smaller number of cells of both the red-cell and white-cell series.

In the case of the classic type of pernicious anemia an entirely different state of affairs exists. The bone marrow is very hyperplastic, all semblances of architecture have disappeared in the films,

and one finds large numbers of megaloblasts. The polymorphonuclear cells which are present in the advanced stage of untreated pernicious anemia are for the most part very mature, and the number exceeds that of the myelocytes. After treatment with potent liver extract the picture changes considerably and this is the time when semblances of the normal architecture begin to be seen depending upon the stage to which the treatment has been carried.

In the case of myeloid leukemia the sternal marrow again is very hyperplastic. The cells are mainly of the myeloid series with mature polymorphonuclear cells, myelocytes and myeloblasts as well as eosinophils predominating. The number of eosinophil cells is definitely increased above normal in this type of disturbance.

In general, insofar as cases of pernicious anemia are concerned, the changes which have been observed in the bone marrow cells by this method coincide with those described by previous observers. Despite the fact that Peabody utilized biopsies of the tibial rather than sternal bone marrow, the present studies agree with his findings in that the change is particularly in the immaturity of the cell forms which are present.

As regards pernicious anemia in colored persons the present studies indicate that this condition is not particularly rare, certainly not as rare as one is led to believe from the literature. The changes in these patients also follow the previously described changes in the bone marrow which have been accepted as characteristic of pernicious anemia

Thus far no case of aleukemic leukemia has been observed. Several patients with relatively low leukocyte counts have been studied, however, and it has been found that the bone marrow in these cases is practically identical from the cytological standpoint, with the bone marrow in pernicious anemia. This, it is believed, is corroboration of the excellent clinical results obtained by Murphy in the treatment of so called "agranulocytosis" by intramuscular injections of liver extract. In the cases with low leukocyte counts the presence of free hydrochloric acid in the gastric contents seems no obstacle to the administration of liver extract.

Of the 2 cases of myeloid leukemia in which simultaneous studies of both peripheral blood and bone morrow have been carried out, it was found in 1 that the changes in cells in the circulating blood were relatively slight, while the bone-marrow biopsy specimens showed marked abnormalities.

In the present series of cases, 2 have satisfied the criteria for aplastic anemia, that is, there was no response to any form of medication. In these cases the bone-marrow specimens showed a certain number of stem cells present, the total number, however, being far below that found in an untreated case of pernicious anemia with an erythrocyte count at a corresponding level.

In summary, the greatest help to be obtained from sternal marrow biopsies is information concerning the direction which therapeutic management of the case should take. Regardless of certain unusual cells in the circulating blood, or the presence of free hydrochloric acid in the stomach contents, if there is a megaloblastic hyperplasia of the bone marrow cells then liver extract is indicated. If the stem cells are few in number, little response to therapeutic measures is to be expected. If, finally, the bone-marrow cells are abnormal in kinds and numbers, even though those in the circulating blood are relatively normal, the case deserves diagnosis and management as one of the neoplastic diseases (leukemia).

(*Medical Annals of the District of Columbia August 1937*).

DIAGNOSIS AND TREATMENT OF OCCIPUT POSTERIOR POSITION.

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My reason for presenting a paper on occiput posterior position is because of its great frequency. Piper is inclined not to call it a complication or even an anomaly but rather a normal presentation. Its frequency is probably much greater than most records show, since many case are unrecognized until labor is well advanced. Tweedy's 1 per cent and Edgar's 4 per cent probably apply to persistent occiput posteriors, otherwise the percentage would be much greater.

Some of the more recent reports show its greater frequency. probably due to earlier diagnosis before rotation has taken place, Danforth, recently reporting 443 out of a total of 1,565 private case or an incidence of 27.1 per cent Scott in 1,000 consecutive cases found it to occur 144 times or on incidence of 14.4 per cent.

Of my last 500 private cases 110 were occiput posteriors or 22 per cent since many cases rotate spontaneously and escape recognition, this per cent is probably too small.

Harper states that primary position of occiput is posterior in approximately 50 per cent of all cases. Potter claims he finds it in 70 per cent of his cases. One reason for the general impression that the posterior position is of infrequent occurrence is that statistics show that the occiput is found in front in from 70 to 90 per cent of cases. This is true for the majority of posteriors rotate anteriorly and examination made after rotation has well begun reveals occiput in anterior position, making persistent posterior position relatively

infrequent. Therefore statistics based upon examinations made at different times during labor, and particularly if late, are valueless in determining the frequency with which the occiput, at the onset of labor, is directed posteriorly. Furthermore the term posterior is applied by some authorities only to those cases in which the posterior position persists. If only the latter are called occiput posterior the infrequency of this presentation is very evident. For the above reasons most writers claim that the position is much more frequent than their records show. It is the persistent posterior that make the condition of greater gravity than it should be.

Diagnosis. The diagnosis can be made with a reasonable amount of certainty before labor begins unless obesity or rigidity of the abdominal wall or excess of liquor amnii make conditions unfavorable for abdominal examination. Inspection shows absence of normal uniform anterior convexity the rounded arch of the back being replaced by the irregular ventral surface of the child so that a flattering or irregularity of contour of the abdominal wall is produced. A concavity just above the pubis instead of the normal convexity is usually evident. This is the space between the chin and chest and differs markedly from the much shallower depression found in the anterior position. The freely movable feet above and just to the left of the umbilicus is one of the most dependable signs upon which the diagnosis of R O P can be made and vise versa of the L O P. The movements of the feet can be seen quite often in thin persons.

On palpation the back is difficult to locate offering a firm rounded resistence in the right or left flank. The feet can be felt in the location above mentioned As a result of imperfect flexion the head tends to occupy a higher level than usual. The cephalic prominence can easily be felt. It frequently remains freely movable after a time when engagement should normally have occurred. Such delayed engagement of the head should always suggest the probability of a contracted pelvis or a malposition of the head. If the pelvic measurements are normal the posterior position of the head is the most likely explanation. On vaginal examination the head is high and sometimes difficult to palpate. The cervix is located further back and the anterior lower segment is more elongated than in anterior positions. This posterior location of the cervix is nature's attempt at accommodation of direction of the birth canal to that of the long diameter of the head by posterior displacement of the cervix. In neglected cases sometimes a large caput has obscured both sutures and fontanelles making diagnosis difficult.

On auscultation the fetal heart beat is heard with maximum intensity in the flank on the same side as the back. In cases of marked deflexion of head it may be heard on the opposite side rather low, in front due to the approximation of the chest wall of the fetus against the maternal abdominal wall. In cases of occiput posterior position

the diagnosis of occiput anterior is likely to be made because of this location of the heart beat anteriorly. To avoid such a mistake always search for sounds equally as prominent in the opposite flank. Palpate the cephalic prominence on the side opposite the back and locate the feet. If these precautions were taken in cases suitable for examination few posterior positions would be missed.

On vaginal examination, if a caput has not formed, the anterior fontanelle can easily be felt and it is almost a positive sign of posterior position. After a caput has formed and the anterior fontanelle cannot be felt, by placing a finger on each frontal bone, the two bones can be made to move one upon the other, whereas a result of moulding such cannot be elicited at any other suture line in the vault. Palpating the ear is the most positive sign.

Much valuable information would be secured if every primipara could have an x-ray of her pelvis shortly before term. Any abnormality of the pelvis such as has been described by Caldwell, Molay and Thoms could be studied before labor begins, and we would also be able to estimate the relative size of head and pelvis by means of Roentgen pelvimetry and fetal cephalometry as worked out by Ball.

In occiput posterior position with good flexion labor will usually proceed favorably, other complications being absent. The underlying cause of the difficulty is lack of flexion of the head. O. Bjornson of Winnipeg, says the deflexsion is due to the posterior position of the convex fetal back against the convex maternal lumbar spine. This brings about extention of the fetal spine resulting, in turn, in extension of the fetal head.

Treatment. The majority of occiput posterior positions are not diagnosed before labor begins. Possibly not very much can be done before labor does begin but some of the obstetricians of the British Isles, recommend the use of pads placed between the anterior superior spine and the cephalic prominence and held in place by an abdominal binder. The patient should lie semiprone on the side opposite to that occupied by the child's back so that the action of gravity may supplement that of the pads in bringing the back and head around to the front. Watson is also enthusiastic as to the value of a pressure pad so bound or strapped against the anterior shoulder as to rotate it toward the opposite side, thus turning the whole fetal ellipse including the head to better relationship with the inlet. He makes the extreme statement that he has not failed in success by this method.

Danforth has well said the proper management of occiput posterior positions should begin with the first stage. In the first place on account of the frequent long drawn out first stage see that the patient gets plenty of rest. What we want is dilatation and rotation. Nothing is more effective to this end than that measure of rest and relaxation which is possible to secure, without actively interfering with the process of labor. For this purpose I think morphine is still

the most reliable drug we have to relieve pain and produce relaxation, used either alone or by the synergistic method of Gwathmey. This method we used for years and found very satisfactory. Patients still ask for rectal ether. Since the advent of pentobarbital we seldom use the rectal anesthesia. We are now trying paraldehyde but have not had enough experience with it to draw any conclusions as yet. There are so many ways of relieving pain in obstetrics but none are ideal. Each physician has the method he is most familiar with and with which he is most successful.

In the second place see that the patient gets nourishment. This should be largely liquid, nonresidue diet for one should always keep in mind the probability of having to administer a general anesthetic. Adair reports one case of fatal aspiration pneumonia. Plenty of carbohydrates, milk soups and fruit juices every 3 or 4 hours is a good rule. In long labors which are frequent in posterior positions the importance of nourishment is evident as an aid in prevention of exhaustion and constriction ring dystocia. If one will anticipate these long labors and insist on patients taking nourishment, exhaustion and acidosis, which Rudolph has demonstrated often in the cause of and precedes the formation of the constriction ring, may be prevented.

After the head is fixed in the inlet we have the patient lie on the side to which the occiput points. This position is not considered of much importance by many authorities but I have always had a certain amount of faith in it and still use it. Since the patient has to lie in some position we may as well give her the benefit of the doubt.

The bag of waters should be preserved until the end of the first stage of labor. After complete dilatation it is not safe to wait longer than 2 or at most 3 hours because of the danger of a constriction ring.

If head is floating, but no disproportion, rupture of the membranes when dilatation is complete or nearly so will hasten the engagement and moulding of the head so that in an hour or two we can proceed with manual rotation and forceps after the method of Danforth. If the head has not engaged and there appears some indication to terminate labor, version is the operation of choice unless Cesarean section is indicated.

In some the occiput will rotate posteriorly and if the baby is small, or the patient is a multipara, having strong pains, she may deliver in that position. Douglas has recently shown some very good statistics with delivery by forceps in the posterior position. I am not particularly concerned about that large group of cases in which, especially in multiparae, after full dilatation and rupture of the membranes, the head rotates with the next few pains and delivery occurrs normally. In this series 49 rotated and delivered normally

with the exception of 2 in which low forceps were used. It is the persistent posteriors that give us the most trouble and which require close observation in order to know just when to interfere.

After complete dilatation the two methods of delivery which we favor, are, manual rotation and forceps after the method of Danforth and version according to Potter's technique. When choosing which procedure to follow carefully weigh all factors before deciding on which operation to do. Other things being equal statistics show that the child is invariably a better risk advancing by the head than by the breech. In cases of occiput posterior careful attempts at manual rotation carried out slowly and with a minimum of violence are preferable to the more rapid and forceful extraction that version necessarily entails. After one unsuccessful attempt at manual rotation we should not delay in doing a version, for the longer we wait the more difficult it is likely to be. We delivered 36 by manual rotation and forceps some of which might have rotated and delivered normally if given more time.

The following conditions are necessary for rotation. The head should be engaged and a fair degree of moulding taken place, otherwise after the head is rotated one would have the same difficulty in delivering as in a high forceps operation. It is desired to rotate the head in the pelvis but if necessary it may be disengaged, moulding having taken place, it will not be difficult to bring it into the pelvis after forceps are applied.

Manual rotation is such a satisfactory method that I think for the general practitioner, when confronted with this condition, it is probably the safest and most conservative procedure to do. The technique of manual rotation has been thoroughly described by Danforth. A few of the important points are:

1. Do not wait more than 2 or at most 3 hours after complete dilatation.
2. Use right hand internally.
3. Ether anesthesia sufficient to complete relaxation of the uterine muscle.
4. Rotate head with right hand, at same time pushing shoulder and back over with the left hand.
5. Proper application of forceps.

We prefer version for the following conditions since it can be done more rapidly.

1. Impending fetal or maternal death from hemorrhage.
2. Prolapse of the cord.
3. Rapidly advancing toxemia.
4. Indications of heart failure.
5. All cephalic presentations arrested high up wherein vaginal delivery is not contra-indicated because of pelvic contraction.

In doing a version if the head has had time to mould the danger of injury to the after coming head will be much less. Harper sums up the dangers in delivering the after coming head in the following:

"The dangers in breech extraction per se arise from possible delay in delivery of the after coming head, resistance to the advance of which is due to the fact that it is an unmoulded head that must engage, descend and be born in a relatively short interval following birth of the navel.

"Therefore, version and extraction under conditions that have denied the head the advantages of satisfactory moulding are procedures entailing risks to the child that one may unhesitatingly assume if the emergency warrants, but responsibility that one is not justified in assuming from choice."

If version is the procedure of choice, Potter's method is probably as good as any. D'Esopo has very aptly said, "Very few agree with his indications but nearly all subscribe to his technique." A few important points of this operation are:

1. Complete dilatation of the birth canal.
2. Complete anesthesia.
3. Long rubber gloves.
4. Rupture of the membranes rather high.
5. Bring down both feet if possible being careful not to straddle the cord.
6. Deliver buttocks in hollow of sacrum.
7. As buttocks are delivered favor anterior rotation of back.
8. Deliver arms anteriorly.
9. Deliver head in oblique position.
10. Two fingers in baby's mouth to aid flexion.
11. Pressure with other hand over pubis after arms are delivered.

I have never found it necessary to use forceps on the after coming head. The following condition is very frequently seen in occiput posterior position: Membranes ruptured for 2 or 3 hours, head rather high with more or less moulding, cervix not completely dilated, anterior lip edematous. Something has to be done. It is not safe to wait too long after rupture of membranes. These are cases in which rotation is often difficult or unsuccessful. We prefer version as a primary operation. In this series version was performed 18 times, 16 times as a primary operation and twice after rotation failed.

I am familiar with forceps rotation only through the literature and as yet, have seen no reason to adapt it. I feel there is greater danger of maternal and fetal injury than rotating by hand.

Is it ever justifiable in occiput posterior position to deliver by Cesarean section? It probably is, more often than was previously thought.

Paine, in a recent paper on occiput posterior position says, "If labor fails, indicated by decrease in the duration and frequency of uterine contractions, before dilatation of the cervix is complete, obstetrical judgment alone can estimate, in a given case, if delivery from below will be attended by reasonable success or if Cesarean section is not the wiser procedure."

In long dry labors success from below is frequently impossible. If mother and baby are in good condition Cesarean section should be seriously considered.

If we all could be as successful in treating contraction rings as Rudolph and Harper, Cesarean section should never be necessary. Rudolph has had very good results with medical treatment. He recommends soft and liquid diet consisting of 3000 calories of food rich in carbohydrates and 2000 cc of water for each 24 hours. Patients should be fed every 2 or 3 hours. She should receive sufficient sedative to ensure adequate rest and sleep. This management he says will prevent exhaustion and acidosis.

Harper says he has never seen a contraction ring fail to fade out under prolonged ether anesthesia given continuously to a surgical degree. He says it begins to fade after 15 minutes. In rings of long standing it may take an hour or more. Only once has he seen it fail and that was where pituitary extract had been given.

Pendleton, in a recent article on abnormal Bandle rings says that we should advocate more Cesarean sections and fewer podalic versions.

Conclusion.

1. In all cephalic presentations occiput posterior position should be anticipated until definitely proven otherwise.
2. No one procedure is suitable for all cases. Weigh the different factors carefully before deciding which to do.
3. The patient should be given sufficient rest and nourishment in order to better stand a long labor which may have to be terminated by an operation.

(*Illinois Medical Journal, August 1937.*)

Extracts.

CHANGES IN PROSTATIC TISSUE AFTER OPERATION.

H. A. Zide, M.D., Fellow in Urology, The Mayo Foundation: Many conjectures have been made about the ultimate effect of prostatic operations on the remaining tissue. Statements have been made to the effect that an increased possibility of malignancy of the remaining portion of the prostate gland, an increased amount of infection, and other deleterious effects follow transurethral resection as compared with the enucleation type of operation performed either by the suprapubic or the perineal approach, for benign hypertrophy of the prostate gland.

For this reason it was decided to examine microscopically the tissue removed in all cases of benign prostatic hypertrophy in which two or more transurethral or suprapubic operations had been performed at the Clinic, at intervals of three or more months in order to determine the changes which had occurred. Eighty-five cases were found, in eleven of which the initial operation had been suprapubic enucleation and in seventy-four it had been a transurethral resection. The shortest interval between the first and second operation was three months and the longest was sixteen years. The transurethral resections were practically all of the cold punch type in which the Braasch-Bumpus resectoscope had been used.

The tissue obtained was studied in regard to evidence of infection, malignancy and changes in amount and character of the parenchyma, smooth muscle and fibrous stroma.

Study of the parenchyma of prostatic tissue removed at the second operation disclosed no evidence of abnormal mitosis or malignancy. In sections of prostatic tissue from four of the eighty-five cases no evidence of columnar prostatic epithelium was found. Of the remaining eighty-one cases in twenty five (31 per cent) there was an increase in the amount of parenchyma. An increase in parenchyma was found in a higher percentage of the cases of suprapubic prostatectomy than in those of transurethral resection but this series is too small for a definite conclusion on such a point. An equal amount of epithelium was present in thirty-eight (47 per cent) of the cases and the quantity was decreased in eighteen (22 per cent). The type of epithelium remained columnar and the epithelium in the tissue removed at both operations stained similarly.

In prostatic hypertrophy, the predominent microscopic picture is one of glandular hyperplasia combined with fibrous and muscular overgrowth. The fibrous stroma varies and is greatest when infection is present.

Changes in smooth muscle of the prostate gland were compared in seventy-seven cases. In thirty-two of the twenty seven cases (29 per cent) an increased amount of smooth muscle was present. All

of these except one were cases of initial transurethral resection and in all the second operation was performed more than six months after the primary operation. In 67 per cent of cases equal amounts of smooth muscle were present; in 4 per cent it had decreased at the time of the second operation.

The fibrous stroma was compared in seventy-eight cases. An increased amount of fibrous stroma was present in twenty cases of this group (26 per cent). This increase was frequently associated with a decrease in the amount of parenchyma and an increased number of lymphocytic collections. In 63 per cent of cases equal amounts of stroma were found at both operations, whereas 11 per cent the amount of stroma had decreased at the time of the second operation. In all cases in which the fibrous stroma was decreased, the initial operation was transurethral resection.

These studies revealed that the changes after operation in smooth muscle tissue and fibrous stroma are more or less parallel; in approximately 30 per cent of the cases both had increased at the time of the second operation. The fact that a decreased quantity of fibrous stroma was only present after transurethral resections may indicate a decreased amount of infection after this type of operation as compared with the suprapubic operation.

The belief is held by some urologists that transurethral resection of the prostate gland leads to subsequent prostatitis, possibly by sealing the prostatic ducts which have functioned previously as routes of drainage. A comparison of the relative number of circumscribed and diffuse lymphocytic cells was made in order to note the changes, if any, produced by the operation. Seventy of the eighty-five cases were suitable for this comparison. An increase in the number of lymphocytes was found at the second operation in twenty-one cases (30 per cent). In 33.3 per cent of the cases of suprapubic prostatectomy and 30 per cent of the cases of transurethral resection this increase was found and it was usually present in the cases in which the second operation was performed after a period of six months. The same degree of lymphocytic infiltration was present at both operations in 46 per cent of cases. In 24 per cent there was a decrease.

No marked frequency of prostatitis was found after transurethral resection as shown by a study of the lymphocytes. Apparently transurethral resection does not close or seal the prostatic ducts causing retention of infection and prostatitis, but allows free drainage. This is shown by the clinical and microscopic response of prostatitis, following transurethral resection, to massage of the prostate gland.

SUMMARY AND CONCLUSIONS.

1. No evidence was found to suggest an increased tendency to the development of carcinoma of the remaining prostatic tissue following transurethral resection over that following enucleation of the suprapubic type. In this series signs of early malignant changes

were not present and malignancy was not found in any case at the time of the second operation.

2. There is no marked frequency of prostatitis after transurethral resection.

3. In the majority of cases the prostatic tissue removed because of recurrence of the lesion, either a true recurrence or one resulting from remnants of hyperplastic tissue, will resemble closely that obtained at the primary operation, whether it was an enucleation or a transurethral resection.

RADIUM AND NASAL POLYPI.

L. L. ALBERT, M.D., *Tucson Arizona*

Polypi in the nasal cavities are common, and though not serious as regards life, deserve prompt, efficient treatment. Nothing can be so uncomfortable as a nose full of polypi. The cold wire snare and, more infrequently, sinus operations are the usual treatment, but radium has received considerable attention in the last decade.

Polypi develop in the nasal cavities, nasopharynx, antra and ethmoid cells. In the nasopharynx they are usually pedunculated and originate from the lateral walls pushing into the posterior nares. Carious changes in the ethmoid cells lead to the formation of excessive granulation tissue. The mucosa of the sinus wall becomes uneven, causing degeneration and often cysts. Polypi are not new growths nor lymphoid tissue, but are degenerative changes due to chronic irritation.

Radium is especially effective in the treatment of new growths and lymphoid hypertrophy but it also has its place in treating polypi. Radium may be applied in the nose in several ways. The best method is probably a combination of surgery and radium. Complete surgical removal of polypi is accomplished either by the snare or radical operation. In a week or two, when the nose has healed sufficiently, a rubber sound containing one or more radium tubes in tandem formation is applied to the nasal cavity in such a way as to cover as much of the involved mucosa as possible. These tubes are anchored with strong silk attached to the cheek by adhesive. The nostril is packed with thin strips of vaseline covered iodoform-gauze to keep the tubes in place. These radium tubes each contain 5 mgm. of radium and are of 1 mm. platinum filtration. The dose is 500 to 1000 mgm. hours, depending on the size of the area to be treated. For polypoid tissue in the naso-pharynx the nose is cocainized, the small rubber catheter with the radium is passed from the nose into the mouth. A strong silk thread anchors it to the cheek.

Other cases may be treated with a 25 to 50 mgm. of radium screened with a silver tube of 0.5 mm. wall. This is covered with a sterile rubber finger cot and left in place from 1 to 2 hours. Subsequent treatments are given weekly until the polypi entirely disappear. A radium reaction usually appears in 4-8 hours and rapidly subsides.

One must not forget that radium is a powerful agent and that severe and serious actions may follow its applications Cartilage is sensitive to radium, and even a slight over dosage may cause severe perichondritis, perhaps with necrosis which may never heal. Mucosal adhesions and fibrosis also may complicate matters, so all in all, the use of radium is a dangerous procedure.

Whether the snare or radium is used, recurrences are frequent. Definite conclusions on radium must await more time and experience. Where surgery alone is insufficient the combination may be successful. I would strongly urge that radium be used only by one thoroughly familiar with the dangers as well as the advantages.

Ira Kaplan: Practical Radiation Therapy, 1931.

Medical News & Notes.

ANTI-CANCER CAMPAIGN.

EXTENSIONS TO DR. P. RAMA RAU'S CLINIC.

HEALTH MINISTER WELCOMES PRIVATE INITIATIVE.

Dr. T. S. S. Rajan, Minister for Public Health, laid on 2nd Feb. evening in the presence of a large gathering of medical men, the foundation-stone of the new extensions to the Radiological Institute and Cancer Hospital of Dr. P. Rama Rao in Poonamallee High Road, Madras. Major-General N. M. Wilson, Surgeon-General with the Government of Madras who was also present on the occasion declared open the two free beds for women suffering from cancer, assigned specially in commemoration of the occasion. The ward, in which the beds are situate, is to be called Dr. U. Rama Rau ward.

After light refreshments Dr. Rama Rau gave an account of the Institute and said "at present it can be said that the institute is self-contained for all kinds of radiological work diagnosis and treatment. When the extensions are completed and all the apparatus installed, there will be accomodation for ten more patients in addition to the existing five".

Major-General Wilson, after paying a tribute to the magnificent work done in the institute which had been made possible by the skill, knowledge and researches of Dr. P. Rama Rau, explained that cancer could be cured by certain types of radio-therapy. He said that much fine work had been done by Mr. Rama Rau in that direction and added it behoved all to popularise the anti-cancer campaign. Madras could very well be proud the family of Rama Rau which had done so much in the past in the field of medical science and hoped that it would continue its useful work in future also.

NEED FOR SPECIALISATION.

Dr. Rajan in laying the foundation-stone for the new extensions, said the venture of Dr. Rama Rau had shown the possibilities of profession. The time had come in Madras when specialisation had become a necessity on account of the competition in general practice. The career of Dr. Rama Rau had shown that merit, skill and knowledge would have their reward. The Minister called upon the medical men to rise equal to the demand made by the suffering public and give of their best, highest and noblest for the service of ailing humanity. If the public institutions also displayed the same spirit of service as shown in some of the private clinics he avowed they could have a healthier society in the province.

Dr. Rama Rau thanked Dr. Rajan and the Surgeon-General and all those who had responded to this invitation.

NEW DIAGNOSTIC LABORATORY.—The Hon. Dr. T. S. S. Rajan, Minister for Public Health, opened on 3rd Feb. the Ehrlich Laboratory, Royapettah. A select gathering of medical men was present on the occasion.

Dr. S. Balasundaram, who is in charge of the Laboratory, received the guests.

Dr. T. S. Tirumurti read an address welcoming the Minister and explaining the work done by the Laboratory. The institution, he said, was purely a diagnostic laboratory where tests, pathological, bacteriological and biochemical would be carried out at the request of medical practitioners.

The need for more laboratories of the kind, Dr. Tirumurti continued, to help medical practitioners, was obvious. Though clinical diagnosis should not be subordinated to laboratory diagnosis, it was being increasingly realised how essential laboratory tests were for the correct diagnosis of diseases. The necessity for laboratory examinations of blood, faeces, etc., was greater, especially in the treatment of diseases peculiar to the tropics.

About a year ago, when the Minister for Public Health opened a diagnostic laboratory of this kind at Bezwada, he (Dr. Tirumurti) pointed out to him, the need for a laboratory of this nature being organised as a part of the headquarters hospital in every district. The speaker hoped that the suggestion had not been forgotten. He had reason to believe that the Minister was hatching with the Surgeon-General many plans to inaugurate post-graduate specialist courses of various kinds, so that at least the young members of the profession might venture into new fields of useful and specialist nature, where it would be possible for them to make a name for themselves.

He should be failing in his duty, the speaker concluded, if he did not bring to the notice, especially of the juniors in the profession, that during the short period of his principalship, Dr. Lakshmanaswami Mudaliar had formulated a scheme in consultation with his colleagues for a diploma course in Pathology, Bacteriology and Biochemistry. The speaker believed that the proposal was receiving very sympathetic consideration at the hands of the Surgeon-General and the Minister. He hoped that young members of the profession would take advantage of this course and strike into new ventures of the kind which Dr. Balasundaram has started.

Dr. Rajan made a suitable reply and wished the laboratory all success.

Dr. Rajan and the other guests then went round the laboratory inspecting its equipment and the arrangements made for carrying on diagnostic work.

SALEM DISTRICT MEDICAL ASSOCIATION. An ordinary meeting of the Salem District Medical Association was held on the 6th February in the Salem College Hall, with Lt.-Col. S. C. Alagappan, I M S., District Medical Officer, and President of the Association, in the chair, when the Hon. Dr. T. S. S. Rajan, Minister for Public Health, spoke exhorting the medical men to have faith in themselves, their profession and their system. A large gathering of medical practitioners was present.

Lt.-Col. Alagappan welcomed the Minister and paid a tribute to his abiding interest in the profession and spirit of self-sacrifice in the cause of the country.

Dr. Rajan said that since he assumed office he had always been lucky to get the hearty welcome and warm affection of the members of the medical profession wherever he went and he hoped that he would be lucky enough to have it throughout his term of office. He did not however really know whether he had served them well or not in his eager desire to do the utmost good to the best of his capacity. He advised the allopathic practitioners to have belief in themselves and their systems and study human psychology. If they looked upon money alone, the patients would not come to them. But if they looked to the man, money would surely and automatically come to them. They should shake off their inferiority complex and have belief in themselves. Ordinarily 95 per cent of the qualified medical graduates could not procure Government jobs but all the same they got on well. It was the speaker's idea that all the knowledge and experience of all these practitioners should not be allowed

to become rusty, Doctors also should do their bit of service to the cause of suffering humanity and that was the truth of the orientation he was proposing to make. It was not with the sole object of saving any money that he was proposing the measure. It was to make the knowledge and experience of the practitioners available to the public at large and the practitioner would also be doing his bit of duty and gaining in experience. The State could not meet the entire cost of medical relief and he hoped that philanthropists would also come forward and help the State by giving liberal donations for medical relief as was being done in the Western countries.

A dinner was held in honour of the Minister's visit.

NORTH ARCOT DISTRICT MEDICAL ASSOCIATION. A meeting of the North Arcot District Medical Association was held on the 12th February at Ambur, with Capt. U. Ananthayya, Vice-President, in the chair. Mr. C. Nathamuni Naidu of Ambur read a paper on "Infantile Convulsions," A discussion of the Government's new Honorary Medical Scheme was held.

Resolutions requesting Government to throw open the Honorary system to all registered medical practitioners, irrespective of academical qualifications, and to raise the minimum honorarium to Rs. 50 were adopted.

The occasion was taken advantage of to bid farewell to Capt. Ananthayya on the eve of his transfer, at a tea party, and appreciative references were made to which Capt. Ananthayya made a suitable reply.

THERAPEUTIC NOTES.

The French Medicines Agency has put into the market Crinosthenyl and Crinomenstryl and supplied large quantities of the drug, for clinical trial, to the medical practitioners. Reports from the practitioners who gave a fair clinical trial under reasonably controlled conditions are very satisfactory. The general opinion is that Crinosthenyl is useful in cases of neurasthenia and crinomenstryl in the vague distempers of the climacteric. These are as useful as some of the more costly endocrine products.

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