

ABSTRACTS

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Primary Jugular Bulb Thrombosis. JACOB L. MAYBAUM and IRVINE B. GOLDMAN. (*Laryngoscope*, Vol. xxxviii., No. 9, p. 569.)

The term primary jugular bulb thrombosis is employed to designate the formation of an infected thrombus in the dome of the jugular bulb, the lateral and sigmoid sinuses not being affected by the thrombosis in the initial stages of the lesion. It occurs usually in young children. Owing to anatomical variations in the relationship of the tympanic cavity and the jugular bulb, it can readily be seen how an active purulent middle-ear infection may primarily invade the blood current and attack the bulb, the pathway of infection being through the small communicating veins and lymphatics, or by a destructive process through the bone. It is important to remember that the jugular bulb may become directly infected as a result of an acute inflammatory process in the middle ear, without evidence at any time of a middle-ear discharge.

The aural history may be so indefinite as to escape the attention of those who see the patients first; but, in the majority of cases, a subacute purulent otitis is present. The hearing may be only moderately impaired. Apart from this the only symptom of importance is a fluctuating temperature between 99° F. and 104° F. Not infrequently the temperature runs a low course for a few days, followed by a rapid rise and fall. A distinct rigor may not be observed, but as a rule chilly sensations are met with. If fluctuations in temperature continue, pallor becomes evident and the tongue becomes white and dry. The spleen is enlarged, glands at the angle of the jaw are enlarged and tender, and early changes are noticed in the fundus oculi. There is a leucocytosis of 12,000 to 15,000, with a high percentage of polymorphs (75 to 85 per cent.).

Daily estimations of hæmoglobin and red blood cell count show a progressive secondary anæmia. The diagnosis can be clinched by the presence of an acute middle-ear suppuration and a positive blood culture.

Ottenberg has made blood culture studies recently, and they demonstrate that if blood is taken simultaneously from both internal jugular veins, cultured, and the colonies counted, a preponderance of bacteria may be found in the blood obtained from the vein on the normal side as compared with that from the diseased side. It appears that, in the presence of an occluding thrombus involving the jugular bulb and lateral sinus, the general systemic invasion is produced, in large measure, as a result of the free circulation of blood at the torcular end of the thrombus; the infection is carried by way of the sinus on the normal side. Surgical interference must be carried out early.

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A low ligation of the internal jugular vein is done. If doubt exists, the mastoid is exenterated and the sigmoid sinus inspected. The sinus is followed back until it appears to be normal, plugs are inserted at the torcular and bulbar ends. It is of utmost importance to obtain free bleeding from the torcular end. If the condition of the patient permits, the sigmoid groove is followed to the bulb, curetted, and drained. Operative procedure upon the bulb is unnecessary in the majority of cases, but if sepsis continues then it is imperative, and this necessity is determined by the presence of suppuration in the bulb as shown by our ability to cause pus to well up on pressure over the tender swelling at the angle of the jaw. Ordinarily, the sigmoid sinus is exposed and as much of the bulb is curetted as is possible. If this is not sufficient Friesner's procedure is adopted, as follows:—The splenius capitis muscle is detached from the posterior border of the mastoid; the underlying periosteum is elevated from the base of the skull towards the bulb. The postero-external wall of the sigmoid groove is followed down, thus exposing the dura of the posterior fossa. The jugular process of the occiput is removed with rongeur forceps. The facial nerve is at a safe distance. The bulb now presents, and can be thoroughly curetted and drained. The technique outlined does not take more than five minutes. Intravenous saline administered during or after the operation is of value. Blood transfusion may also be utilised in selected cases.

Case histories of 9 cases are detailed and also tabulated. There was only one death in this series, and this was due to the presence of a temporo-sphenoidal abscess. Eight of the 9 cases showed a positive blood culture, 7 were hæmolytic streptococcus; 1 non-hæmolytic streptococcus.

The author concludes: (1) a mild middle-ear infection in young children associated with a septic temperature otherwise unaccounted for, suggests the possibility of a primary jugular bulb thrombosis. (2) Early diagnosis and prompt surgery is imperative for a favourable outcome. (3) Blood cultures by Ottenberg's method materially aid in diagnosis. (4) Occlusion of the main channels of systemic infection, especially of the torcular end, is of prime importance. (5) A jugular bulb operation should be performed only if there is evidence of sepsis after the main channels have been obliterated. Extensive jugular bulb operations are seldom indicated.

ANDREW CAMPBELL.

Otitic Pyæmia without Sinus Thrombosis. T. E. BEYER.
(*Laryngoscope*, Vol. xxxviii., No. 12, p. 785.)

That pyæmia may occur without involvement of the lateral sinus was first noted by Schwartz. Other authorities agree that pyæmia occurs without sinus thrombosis, the majority ascribing such instances to involvement of the venules of the cellular walls.

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The author describes shortly three cases in which a simple mastoid operation had been performed, followed by bloodclot closure. One developed symptoms of meningitis, and metastases in the periarticular tissues of both ankles. The other two developed signs of pyæmia in joints, etc. It is interesting to note that neither the sinus nor the dura were exposed at operation and all were sutured by the bloodclot method.

The conclusions reached are that mild cases of pyæmia may occur following acute otitis and acute mastoiditis, which recover without operation on the sinus. Whether such infections result from diploic vein thrombosis, mural thrombosis, direct invasion of the blood or lymph stream, or thrombosis of the jugular bulb cannot be definitely determined. The presence of organisms on blood culture is not an absolute indication for exploring the lateral sinus, as each of these three cases showed a positive blood culture. There is a full bibliography.

ANDREW CAMPBELL.

Lesions of the Cochlea Experimentally Produced in Guinea-Pigs by Injecting Fecal Extract from Cases of Progressive Deafness. Preliminary Communication. MARK J. GOTTLIEB. (*Laryngoscope*, Vol. xxxix., No. 2, p. 115.)

These experiments were undertaken owing to an impression that progressive deafness is due to a poison circulating in the body and injuring the auditory apparatus. Leicher states that serum, whole blood, and to a certain extent urine, saliva, and sweat of otosclerotic patients, show a much stronger poisonous effect on plant cells than do similar body fluids from healthy, non-menstruating subjects.

The subject matter in this paper deals with the effects on guinea-pigs of extracts of stools from four cases of deafness, and from three healthy individuals in whom no sign of deafness exists. The fæces were obtained in a liquid form, and 2 ounces or more of the stool was beaten up with 500 c.c. of normal saline, and after a sufficient time had elapsed, centrifugalised and sterilised. The guinea-pigs were injected over a period of some weeks, and then killed. The temporal bones were examined microscopically, leading to the conclusions that the stool of patients with progressive deafness is undoubtedly toxic to guinea-pigs. It produces hæmorrhagic lesions in the cochlea, into and around the nerves, and into the dura. These lesions were not found in the controls, though the latter received more intensive treatment than those injected with stool extract from progressive deafness patients.

The experiments are described in detail and apparently there are more to come at a later date.

ANDREW CAMPBELL.

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A Case of Ceruminal-Gland Adenoma. YOSHIJI FUJIMOTO (Okayama).
(*Oto-Rhino-Laryngologia*, Vol. ii., Part 9, p. 863.)

The case was one of a woman, 40 years of age, from whose right external meatus a pale tumour of the size of the tip of the little finger projected, having taken ten years to develop. The microscope established the diagnosis of ceruminal-gland-adenoma, as described by Brock (*Zeit. für Lar., Rhin. Otol., etc.*, 1926, Band xiv., p. 349), and Ruttin (*Monats. für Ohrenheilk. und Laryngo-Rhinologie*, 61st year, Part 7, 1927, p. 750).

JAMES DUNDAS-GRANT.

Bilateral Lateral Sinus Thrombosis. Opening of the Sinuses and Ligature of the Internal Jugular Vein on one side. WORMS and LACAZE. (*Arch. Inter. de Laryng.*, July-August 1929.)

After a detailed description of his case, the speaker emphasises the following points:—

(1) No deductions can be made of the contents of a lateral sinus by an inspection of the exposed vessel. Puncture of the sinus-wall—except rarely, in cases of mural thrombosis—is a reliable method of exploration. (2) The case establishes the fact that bilateral occlusion of the lateral sinuses produces no obvious circulatory disturbance. There is neither facial œdema nor increased intracranial pressure. It should be noted, however, that in this case there was an interval of fourteen days between the operation on the two sides, during which collateral circulation could have occurred. (3) There is no necessity to attack the jugular bulb by direct exposure when it is thrombosed. The punishment is greater than the crime, and the speaker insists that there is no need to ligate the internal jugular vein if, after removal of the clot, free bleeding occurs from the jugular portion of the lateral sinus.

MICHAEL VLASTO.

Serous Mastoiditis—Anatomical and Radiological Study. H. BOURGEOIS.
(*Arch. Inter. de Laryng.*, July-August 1929.)

This patient had a unilateral deafness of three months' duration. There was slight pain and marked tenderness over the mastoid, with slight temperature. Examination showed that there was a small collection of fluid in the tympanic cavity: the result, no doubt, of an exudative otitis media. Radiography showed that there was no bone absorption, and consequently no suppuration. Owing to a continuation of the pain, tenderness, and temperature, the mastoid was opened. The cells were filled with secretion, the mucous lining was œdematous, but there was no bone necrosis, and culture was sterile.

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The case is of interest firstly, because it shows that there is an acute serous mastoiditis on all fours with an acute catarrhal otitis media, and secondly, because it confirms the accuracy of X-ray diagnosis.

MICHAEL VLASTO.

Otitis Media in Relation to Acute and Chronic Disturbances of Nutrition in Sucklings. D. BOTTACIN. (*Zent. f. Hals-, Nasen-, und Ohrenheilkunde*, 1929, Vol. xiv., p. 88.)

Three cases are reported of severe disturbance of nutrition with diarrhoea, fever, and toxic symptoms in association with a definite ear condition. Two children died, and one recovered after paracentesis. The post-mortem findings in the two fatal cases are described.

The author discusses the opinion of French and Italian authorities on the relation between otitis media and disturbances of nutrition. He believes that the acute purulent condition of the ear can, in a previously healthy child, affect the intestinal canal as a *locus minoris resistentiæ*, and should this occur, a vicious circle of reciprocal deterioration of aural and intestinal conditions follows, not infrequently with fatal results.

F. W. WATKYN-THOMAS.

The Question of Ligation of the Vena Jugularis in Sinus Thrombosis of Aural Origin. M. LICKUS. (*Zent. f. Hals-, Nasen-, und Ohrenheilkunde*, 1929, Vol. xiv., p. 94.)

There is still considerable discussion as to the indication for ligation of the internal jugular in sinus thrombosis. Some surgeons perform the operation only in exceptional cases; others perform it almost as a routine treatment, some even when the thrombus is limited to the mastoid portion of the sinus.

In a series of 15 cases, one of which can be excluded as a death due to intercurrent disease, ligature was performed twice. Of the 2 cases in which ligature was performed, 1 died. In the other, the ligature was inefficient as the thrombus extended beyond the ligature. In the fatal case the ligature did not prevent septicæmia. In the remaining 12 cases there was 1 death and 11 recoveries. From these results the author deduces that ligation is unnecessary, and that the favourable results in cases where the vein has been ligated are probably not due to the ligation.

F. W. WATKYN-THOMAS.

Certain Aspects of Tinnitus, particularly Treatment. ISAAC H. JONES and VERN O. KNUDSEN. (*Laryngoscope*, Vol. xxxviii., No. 9, p. 597.)

Noises in the head constitute one of the most distressing and persistent symptoms that can disturb a patient. Tinnitus is a disturbance of the auditory mechanism, which, although it is perceived in

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the auditory centres, may originate along the pathways or in the end-organs, or indeed it may exist in the centres themselves. In the great majority of cases of tinnitus the exciting cause lies, apparently, in the end-organ. The nervous mechanism of the end-organ can be disturbed in two ways only:—By actual irritation of the cochlear structures themselves, or by the introduction into the cochlea of vibrations set up in the conducting mechanism of the middle ear. A lesion of the cochlea may result in the loss of hearing, a perversion of hearing function called tinnitus, or both. The difficulty is to visualise what is the exact nature of the disturbance which causes tinnitus, nor do we appreciate where the tinnitus is produced. The lesion which produces tinnitus must be separate from the one which causes deafness. Deafness may result from inadequate articulation between the active membrane and the contiguous auditory nerve-endings, whereas tinnitus may result from exactly the opposite, a continuous co-aptation of the vibratory membrane and the nerve-endings. It is suggested that in lesion of the middle ear, the two muscles, stapedius and tensor tympani, are responsible for providing the necessary vibrations for the cochlea to transmit. It is difficult to classify the types of tinnitus. They may be subjective or objective. The most usual clinical classification is on the basis of the location of the lesion, conductive or perceptive. The perceptive variety is generally continuous and more or less constant, and changes in weather do not influence it. In objective tinnitus the source is outside the ear, such as spasmodic contraction of the palatal muscles, which produce a clicking sound. The tinnitus which sounds to the individual as a more or less pure tone may be described as tonal, as compared with the other which is a noise.

Treatment.—Local treatment may be employed in tinnitus of middle-ear origin, and this is not altogether unsuccessful. Tonsillectomy may produce complete relief. The prospects of relief are best in cases of tubal congestion. Experience shows that cochlear defects are frequently the results of focal infection from tonsils, teeth, nasal sinuses, gall-bladder or even prostate. Syphilis, mumps, scarlatina, influenza, meningitis must each deserve consideration. In hyperthyroidism, Lugol's solution is of use; while in hypothyroidism, thyroid extract gives good results. Tinnitus during the menopause may be relieved by ovarian extract. The blood pressure should be carefully investigated and treated accordingly. Mechanical devices have been used for the purpose of bombardment and also to mask the tinnitus. In the "bombardment" the object is to desensitise the cochlea in certain tonal regions, corresponding to the tone of the tinnitus. Unfortunately, this fatigue phenomenon is not lasting in its relief. The other type of instrument is for the temporary masking of