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Dr. Arthur Mathewson, *President.*

Dr. Gorham Bacon. *Report of a Case of Mastoid Disease affecting both sides, and presenting Symptoms of an Intra-cranial Complication. Operation. Recovery.*

The patient was a boy four years of age, giving a history of a cold and complaining of earache. Four days later the pain in the left ear was severe, and on the following day the temperature went up to 104° F. It continued at this height that day and next, and was not less than 103° F. at any time. Dr. Bacon was then called in, and found there was a discharge from the left ear; it ached, and the mastoid of that side was painful on pressure. The drumhead was bulging and there was a small perforation. The right drumhead was also red and bulging, but not perforated. Both membranes were at once incised under chloroform.

The ears were douched frequently with a boric acid solution and the Leiter coil was applied to the left mastoid region. Although both ears discharged freely, the temperature remained elevated at night, and the patient was restless and dazed. Next day (March 6) the temperature was 104° F., and Dr. Bacon enlarged the incision in the left drumhead. The Leiter coil was applied over the right mastoid, which was now becoming involved, and the boracic douches continued. On March 8, after consulting with Drs. Janeway and Gruening, it was decided to open the left mastoid cells. The contents of the mastoid process, consisting of softened bone and granulations, were entirely removed, and the sigmoid sinus was exposed by extending the incision. The outer wall of the sinus was thickened, pulsation was felt in it, but not seen; the wound was washed and packed with gauze. The temperature fell to 102° F. next day, but soon rose as high as before; accordingly the right mastoid was opened and treated like the left, the conditions being found the same, but more marked than on the left side; the sinus was less pinkish in colour.

After this last operation the temperature fell, and the boy made a rapid recovery. A culture was made, and pneumococci were found with a few streptococci. The difficulty in this case was to

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decide how far the operation should be carried and when to do it. Dr. Bacon felt quite sure he had to deal with a case of sinus thrombosis before opening the mastoid cells, but as both mastoids were affected, it was impossible to tell whether a thrombus had involved the left sigmoid sinus, or the right, or both. He advised against inserting a hypodermic needle into the sinus in these cases unless absolutely necessary, for fear of carrying infective material into a vessel free from it. The needle is of little value in determining the presence of a thrombus, for one may exist even where fluid blood is withdrawn; a free incision is the only method to be relied upon. By opening both mastoids and exposing the sinuses, the latter could be explored, if need be, the following day, but though the inflammation had extended to the sinus walls, and a thrombus would undoubtedly have been formed, the symptoms were entirely due to the mastoid disease. Anxiety may be anticipated if cultures made early in the case show pneumococci and streptococci. Surgery carried out with strict antiseptic precautions should in such a case have a free hand. The Leiter coil is of little avail and, in fact, often only masks the symptoms.

Dr. GRUENING concurred as to the difficulties presented by this case. It was often a perplexing question, when the wall of the sinus was thickened, as to whether in addition there is a clot adherent to the inner surface; here a septic thrombus could not be demonstrated. He agreed that the introduction of a syringe was without any value whatever, and was dangerous.

Dr. SPRAGUE had recently had an almost parallel case in a child. There was a history of pyæmic symptoms, convulsions and vomiting, both drumheads were in a similar condition to those of Dr. Bacon's patient, and were treated on the same lines. The pyæmic symptoms subsided, but very temporarily, and returned with the characteristic temperature curve. The mastoid processes were opened, one four days later than the other, and both sinuses explored, one with a needle (which proved unsatisfactory) and the other (the right) with a bistoury; the blood was fluid. The symptoms improved for a week and then the child became unconscious; accordingly the dura was incised on the left side and the brain explored. No pus was found at the time, but it came freely from the cranial cavity through the left mastoid wound six hours later. The patient was making a good recovery.

Dr. KNAPP thought in these cases the most likely location of the pus was the bulb of the jugular vein.

Dr. BLAKE concurred. In a case of his—a man with double mastoid disease and burrowing of pus in the neck—the pus, when

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followed to its source, was found on both sides in the region of the jugular bulb.

Dr. J. E. Sheppard. *Report of a Case of Thrombosis of the Lateral Sinus. Operation. Recovery.*

A young lady aged twenty, first seen May 16, 1898, in consultation with Dr. Ayres. Eighteen months previously she had suffered from frequent headaches, mostly frontal, with rise of temperature to 101° or higher; the cause of these had not been discovered. Ten days from present time, as a result of grippe, the patient was seized with severe left-sided earache, lasting three days, when discharge appeared, which lessened, but did not entirely relieve, the pain. Three days after the discharge began she had a chill, then two more, and then quite recently again two chills, the temperature ranging from 99° to 105⅖°. Her condition, on examination, was one of general weakness, with discharge from the ear. No external evidence of mastoid trouble, except tenderness posteriorly over the region of the emissary vein. A perforation whistle was obtained on inflation; temperature 105⅖°. A positive diagnosis of sinus disease was made from the temperature record taken hourly, and an operation was performed at once. A free incision was made in the membrana tympani; then the mastoid cells and antrum were thoroughly opened, and pus was found in the apex cells, in the deep cells along the meatus, and also far posteriorly. The sinus was then exposed for more than an inch, and its surface seemed thickly covered with pus. The whole wound was washed out with alcohol, and packed with 5 per cent. iodoform gauze wet with 1 per cent. carbolic solution. On May 18 (twenty-four hours after) the temperature fell to 100⅖°. Next day it rose to 103⅖°, and there was much pain in the head. At 3 p.m. on May 20 it reached 105⅖°, following a chill, which lasted half an hour. The wound was opened, and an incision ¾ of an inch in length made in the sinus. A large amount of thrombotic material, with some pus amongst it, was turned out; fluid blood flowed freely from above; the wound was cleansed and repacked. After the last note the temperature fell steadily to normal, and there remained for thirty hours, when it began to rise and increase through many fluctuations from so low as 97⅕° to 106° F. The patient had frequent chills. The blood was examined, and showed an extreme degree of leucocytosis, but no plasmodium malariæ. Dr. Browning saw the case, but failed to find any localizing cerebral symptoms. He reported both optic discs choked. Dr. Gruening coincided in the opinion that pus was forming in the

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sinus. On June 6, seventeen days from the second operation, the left internal jugular was exposed and tied with its branches, and about 2½ inches removed free from clot. The lateral sinus was then investigated through the original opening downward towards the bulb of the jugular, and a moderate amount of pus came away; then, with rongeur forceps, it was exposed upward and backward to within about 1 inch of the torcular, slit open to within ⅓ of an inch of the bony opening, and a considerable amount of thrombotic material and pus was removed. Finally, a probe was passed well up into the torcular, followed by free hæmorrhage, and the wound was closed. With the exception of one slight rise of temperature accompanying an escape of pus (probably from the sinus towards the bulb of the jugular), the temperature slowly fell after this, and the patient made a rapid recovery. In the pus was found staphylococcus, either *aureus* or *cereus flavus*. The early appearance of symptoms indicating intracranial involvement (the initial chill having occurred within six days of the beginning of earache and three days of the discharge) was remarkable in this case.

Dr. GRUENING remarked that subnormal temperature was not characteristic of malaria, as some supposed; he had observed it in cases of thrombosis, as here instanced. The papillæ showed a *bonâ fide* choked disc; he had never seen one so pronounced in thrombosis before.

Dr. FRYER remarked upon the presence of leucocytosis as an important diagnostic and prognostic point. Although a large amount of pus was forming in the body, if there were no reaction there was no leucocytosis; but where, as in Dr. Sheppard's case, the well-being of the patient was marked, leucocytosis always followed or accompanied the disease.

Dr. J. ORNE GREEN. *Caries into the Labyrinth, causing Abscess of the Cerebellum.*

An exhibition of three specimens of caries of the temporal bone, resulting from chronic tympanic suppuration of twenty, "many," and one and a half years' duration respectively. In all the fatal result was due to abscess in the antero-inferior portion of the cerebellum, infected through the labyrinth. The cerebellum was reached in two cases through the meatus internus, and in one through the aquæductus vestibuli. In all three specimens the tympanic wall of the vestibule was perforated by caries just above and behind the foramen ovale, and the external semicircular canal had been opened into.

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Dr. CLARENCE J. BLAKE. *Blood-clot in Mastoid Operations.*

The first impulse to the series of observations which has now been continued during the past six years on the blood-clot dressing after mastoid operations came from a case of acute suppurative mastoiditis, in which the customary reopening of the wound at the first dressing was prevented by the occurrence of an erysipelas of the scalp and face, which ran its course in about ten days, and left the mastoid wound to heal by first intention. A number of cases followed in which the mastoid, after thorough evacuation, was allowed to fill with fresh blood, and the skin-wound apposed without sutures. The shortest period between operation and complete healing so far attained was four days. The possibility of avoiding the packing and dressing of mastoid wounds being thus proved, the question came as to the class of cases to which the method was applicable, and observations have been made upon all mastoid cases, including even chronic suppurations of the mastoid and middle ear, only excluding those in which the large extent of the field precluded them. The admissibility of this course appeared justifiable, even where primary healing could not be expected, because the unsutured wound, if giving evidence at any time of infection of the blood-clot, could be immediately opened painlessly with a blunt probe, and the wound treated in accordance with the conditions found. It has even been shown that it is quite possible for a blood-clot to remain intact in one part of the evacuated mastoid and become septic in another, primary external healing obtaining in the former situation, and breaking down, with consequent necessity for drainage and subsequent healing by granulations, in the latter. Thus, in two recent cases a sinus has been established spontaneously from the antrum to the lower portion of the external wound, the remaining portion of the blood-clot being apparently intact and covered in by the apposed lips of an incision healed by first intention.

Of twenty-five cases subjected to the blood-clot experiment in 1896-97, sixteen were so-called acute ones, and seven of these recovered by primary healing, and were discharged well in an average of ten days. In the nine remaining acute cases, and in nine chronic ones of long-continued suppuration with later mastoid implication, it was necessary to reopen the wound as above described, and allow it to heal by granulations.

Dr. SPRAGUE had tried this method in about ten cases. He always strove for union by first intention as far as possible, suturing at least the upper part of the wound, and inserting in the lower portion a lightly-rolled wick of gauze, one end of

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which was inserted into the antrum. His results had been very satisfactory, and the healing method seemed much improved.

Dr Bacon had seen some of Dr. Blake's cases, and noted how well they had done. He had only tried the method in acute, never in chronic ones, though he had seen evidence of Dr. Blake's success with them also.

Dr. Crockett had long followed Dr. Blake's lead in the treatment of chronic cases, and he thought healing by first intention could be got in a large proportion of them. He never dressed a case till the fourth or fifth day, unless urged to by some special indication. The first dressing was very apt to be an occasion for infecting a case through neglect of antiseptic precautions, employed as a routine at the operation.

(To be continued.)

SEVENTIETH CONGRESS OF GERMAN SCIENTISTS AND PHYSICIANS—DEPARTMENT OF OTOLOGY.

First Sitting, September 19, 1898.

Monatschrift für Ohrenheilkunde, November, 1898.

President: Dr. Breitung (Coburg). *Secretary:* Dr. Teppmann.
Introducer: Dr. Jürgens.

I. Dr. Jürgens (Düsseldorf). *A Patient who had undergone the Radical Operation, with Separation of the Auricle and Cartilagino-membranous Meatus.*

A girl of seventeen had suffered since infancy from otorrhœa. There was destruction of the membrane, granulations in the tympanum, and a fistula leading to the antrum. The posterior wall of the meatus was carious, and the attic and antrum contained granulations and cholesteatoma. Stacke's operation was performed, and xeroform insufflations were used to hasten healing. The author advocates closure of the wound in the bone, especially in women.

Replying to Reinhard, Jürgens said the mesial wall was skinned over before operation.

II. Dr. Breitung (Coburg). *On Better Hearing in a Noise, and the Significance of this in the Pathology and Treatment of Chronic Progressive Deafness, in the Light of the Neuron Theory.*

Breitung puts forward the theory that in paracusis the power of differentiating sounds is diminished, whilst the sensibility to differences is rather increased, and he regards the condition as analogous to hemeralopia. He thinks that the factors that produce improve-

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