TWO UNUSUAL CASES OF MASTOIDITIS IN CHILDREN.

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It is, of course, not unusual for the mastoid region to show signs of suppuration before the tympanic membrane perforates. In the following case, however, there was no bulging and no attempt at perforation of the membrane, which, to the naked eye, was apparently normal:

CASE I.—*Primary Mastoiditis?*

I was called to see a child, aged 2 years, who had been suddenly attacked by mastoid pain, with slight oedema above and behind the auricle. The tympanic membrane was practically normal. Temperature and pulse were slightly raised, but the general condition was good. There were no infected adenoids, but slight reddening of the pharyngeal mucosa was noticed. Owing to the absence of marked constitutional signs and the possibility of the condition being non-suppurative, palliative treatment was adopted.

Three days later, however, without any change for the worse in the general state, fluctuation was obvious above and behind the auricle.

Operation.—The usual incision was made and a subperiosteal abscess was found communicating with the antrum through a fistula in the outer antral wall; the superficial cells extending through the squamosa, above the antrum, were entirely full of pus. The middle ear was, of course, left intact.

Healing was rapid and uneventful. The tympanic membrane throughout was normal.

In every way this case suggested a case of primary mastoiditis. That the superficial air cells of the squamosa should to a great extent be infiltrated with pus, without any signs or symptoms of middle-ear suppuration, is rather unusual. Absence of pain in the ear itself was a noticeable feature throughout. Other members of the family had just recovered from "influenza." There was no preliminary stage of middle-ear inflammation before the mastoid cells were attacked.

CASE II.—*Primary Extradural Abscess?*

A child, aged 8 years, presenting slight mastoid oedema of one side, but no severe constitutional symptoms except slight pyrexia, was sent to me by a doctor who had only the same day been consulted. The child was recovering from a mild attack of whooping-cough. There was some thin watery yellow pus in the external meatus, but on cleansing and packing this did not recur in quantity. No evidence of any perforation of the membrana tympani could be obtained by inspection, by suction, or by the use of hydrogen peroxide after cleansing. The whole external meatus was, however, sodden. No indications of intra-cerebral involvement could be obtained.

Operation.—The usual mastoid incision was made. There was marked congestion of superficial tissues, but no pus in the antrum or middle ear. The mucosa of the antrum was a little oedematous. The lateral sinus was exposed and found to be pulsating. Part of the bridge was removed, but no pus could be obtained from the middle ear. On account of these negative findings, it was decided to open up the posterior fossa. This was done through the posterior antral wall. After removing bone which was apparently healthy, the pus-searcher suddenly perforated what seemed to be the tense wall of an abscess in the posterior fossa. Immediately the operation wound was flooded by the spurting up of about two ounces of thick white pus under pressure. The opening was then sufficiently enlarged to pack the cavity with iodoform gauze, but no attempt was made at any other treatment owing to the copious haemorrhage from the vascular granulations lining the cavity. The mastoid wound was sutured, leaving a space sufficient for the packing of this abscess cavity backwards through its narrow neck. The antrum itself was not packed.

Recovery was rapid, only a small amount of pus being found on the packing gauze, the remainder of the wound healing up cleanly. Hearing was perfect one month afterwards.

Neither before nor after operation was any evidence discovered of perforation of the membrana tympani, nor of pus in the antrum. The only pus ever seen, with the exception of that in the posterior fossa, was in the external meatus before operation, and this never recurred.

During the operation no fluid could be syringed either way through the membrane, nor at any time was there any reaction to hydrogen peroxide in the meatus. The pus present in the meatus on admission was quite different in appearance from that in the posterior fossa. The former was yellowish, then watery; the latter was thick and milky white.

There are two possible explanations: (1) Either the perforation in the tympanic membrane was so small or was so situated that it could not be demonstrated by the

methods employed; or (2) the whole tract from external meatus and tympanic membrane to the dura mater was simultaneously affected by an acute infection (probably pneumococcal, from the whooping-cough); this spread by the lymphatics around veins to the posterior fossa, and was there cut off from the surface by lymphangitis occurring in the bony channel.

The pus in the external ear was probably an accumulation from a mixed infection through atmospheric exposure; it is to be remarked in this connexion that there had been no treatment of the ear by syringing. The conditions found and the rapid and complete return to the normal with such simple treatment support the second explanation.

INTRAPERITONEAL RUPTURE OF THE BLADDER.

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STATISTICS show that intraperitoneal rupture of the bladder is more common in men than in women, and nearly 90 per cent. of recorded cases occurred in adult males.

The operation for the relief of intraperitoneal rupture necessarily has a high mortality. Dambrin and Papin put it at 43.5 per cent. in 78 cases, but early operative interference and improvements in technique have in recent years reduced it to 20.5 per cent.

Death is due to peritonitis, shock, or haemorrhage. The earlier the operation the better the prognosis. Of 13 cases observed by Zuckerkandl, operated upon in the first twelve hours, 8 recovered, but in 21 cases after twelve hours there were only 6 recoveries.

The case here recorded presents several features of interest. First, the age and type of the subject, together with the associated difficulties to be contended with. Secondly, the operation, which, in itself unorthodox, was performed full twenty-four hours after the accident. Thirdly, it demonstrates the ease with which a rupture of the viscus may be produced in an individual subject to alcoholic excess, a condition which predisposes alike to the neglect of micturition, over-distension of the bladder, and relaxation of the abdominal muscles, whose protective influence is thereby lost.

On May 5th, 1914, I was asked to see a man, nearly 70 years of age, of pronounced alcoholic tendencies, with arteriosclerosis and emphysema and weighing 19 st. The story was that at 9 p.m. the previous night he was returning home when he tripped over a stone and fell upon his face. In the early hours of the morning he was seized with intense pain in the abdomen, and an urgent desire to pass urine, but repeated attempts to void any were ineffectual.

At 5 a.m. he was seen by his medical attendant; a soft rubber catheter was passed and four or five ounces of blood-stained urine drawn off. Two hours later it was passed again and a similar quantity of perfectly clear urine obtained.

He was transferred in the sitting position by motor to a nursing home, and the operation was performed at 9 p.m., that is, precisely twenty-four hours after the accident. I have mentioned that the patient weighed 19 st., and the picture which he presented upon the operating table filled me with misgivings. The diagnosis was that of rupture of the bladder, and, in view of the fact that the patient was so bad a subject, I decided merely to drain the abdomen thoroughly to relieve the fast spreading peritonitis and tie in a catheter rather than delay by trying to find and suture the collapsed bladder. The abdomen was opened and two very large tubes introduced, one to the left flank, whither the urine was tracking, and one down to the bladder. For some hours both tubes drained well, but latterly all the urine came from the pelvic one, and next to nothing from the catheter.

The patient's general condition improved so much that it was decided to look for the bladder and repair the damage. This was done on the fourth day after the first operation. It was by no means easy, even by the suprapubic route, to effect an entrance into the collapsed and, by this time, retracted bladder in so adipose an individual. When once this was accomplished, I was very agreeably surprised to find that the lower end of the pelvic tube had found its way through the small tear at the fundus of the bladder into its interior, thereby affording the most complete drainage possible. This tube was gently withdrawn from the abdominal wound above, and the edges of the tear seized and sutured in the ordinary way. The bladder was temporarily drained by a small suprapubic tube and a Hamilton-Irving's box. In the abdominal wound a short tube was left for forty-eight hours. There was a good deal of sloughing of skin and fat around the tubes, and, as the result of infiltration with urine of the pre-vesical areolar tissue, a