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REPORT OF A CASE OF ACUTE MASTOIDITIS IN A CHILD, FOLLOWED BY ACUTE MENINGITIS AND LABYRINTHITIS.*

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On December 23, 1911, I admitted a child to the service of Dr. Robert Lewis, Jr., at the New York Eye and Ear Infirmary. The mother said that the baby (a little girl of eight months) had been fretful for several days, and that the day previous she had noticed a slight swelling and redness behind the left ear. There had been no discharge from the ear.

Examination showed a slight inflammation and thickening over the mastoid, but the swelling was not very tender and there was no fluctuation. Examination of the canal showed no swelling and no pus. The drum was bulging slightly, and there was some sagging of the posterosuperior wall. The child's temperature on admission was 100.4° per rectum.

Although I was not at all positive that a mastoiditis was present, I thought it advisable to do an exploratory operation. The usual curvilinear incision was made, revealing no evidences of inflammation or pus. The periosteum and bone looked perfectly normal. I decided to explore at least into the antrum. On going through the cortex a large amount of pus and granulation tissue was encountered and practically the whole mastoid was destroyed. The mastoid was unusually large for a child of this age, and in the process of removing all pathologic tissue, an area of the sinus and of the dura in the middle fossa, about a half centimeter in diameter, were exposed. In the cleaning out of the antrum and the middle ear the incus was removed. The horizontal semicircular canal was brought plainly into view. Postsinus and zygomatic cells were involved. The

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operation was completed by closing up the skin wound, all except the lower angle, through which passed a drain into the antrum. A large incision was made into the drum and a dry dressing applied to the ear. A smear from the canal showed a mixed infection; a smear from the mastoid pus showed a few diplococci.

For the following twenty-four hours the child seemed to be fairly comfortable and the temperature ranged from 99° to 100.2° . Then it rose to 103° and the pulse became irregular. In twelve hours it rose to 104.8° and the child was drowsy and stupid. An inspection of the wound was made, the stitches removed and a thorough exploration undertaken, but nothing could be found. The wound was dry and clean. There was very little discharge from the ear. A thorough physical examination was made, but nothing could be found. Then the child began to have diarrhea, passing many greenish stools. I thought possibly this could account for the temperature. The child was given castor oil, an enema, and later calomel.

The temperature continued irregularly from 102.4° to 105° for the three following days, coming down to 101° just before death. During this time a nystagmus developed with the quick component to the left. The child became more and more stuporous. There was no rigidity of the neck, no Kernig sign, the reflexes were not exaggerated, but on December 28th a lumbar puncture was made and a quantity of thick turbid fluid under high pressure, was withdrawn. Smears and culture showed a mixed infection, with the streptococcus capsulatus predominating. A blood count at this time was very peculiar: R. B. C.—4,800,000; W. B. C.—8,800. Large lymphocytes—12.8 per cent. Small lymphocytes—60.2 per cent. Transitionals 8 per cent. Polynuclears—18.6. Myelocytes—.6 per cent.

Examination of the wound a few hours before death revealed nothing except the fact that there seemed to be no vitality to the parts. The child died five days after operation.

There are a number of interesting features to this case. There was never any discharge from the ear, the mastoid cortex looked normal. Although there was extensive involvement underneath, there was none of the usual signs of meningitis except the stupor, and yet the cerebrospinal fluid was under great pressure and turbid, and the blood count was extremely unusual, showing 60 per cent of small mononuclears and only

18 per cent of polynuclears in a total count of only 8,800. There is a great deal of question as to where the original infection through the dura took place. It may have occurred through the diploic veins, through an erosion of the middle ear, through the semicircular canals or through the area exposed in the mastoid wound. I believe that it took place directly through the middle ear. I had seen a somewhat similar case in private practice last spring in a child of about the same age, where there had been no discharge from the ear and examination showed the same physical signs. In this case, within three hours after seeing the child, symptoms of meningeal irritation had taken place with marked opisthotonos, rigidity of the neck, a temperature of 104° , etc. At operation the mastoid was entirely broken down, but no exposed dura was found except at the junction of the aditus ad antrum. The wound was closed and the child made an uneventful recovery.

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