LX.

A SEPTIC TYPE OF TEMPERATURE NOT REFERABLE TO THE EAR IN CASES OF ACUTE SUPPURATIVE OTITIS MEDIA.*

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If a patient with acute suppurative otitis media has a septic type of temperature the natural tendency for the otolaryngologist is to assign the cause of the fever to extension of the infection from the ear and mastoid to the sigmoid and lateral sinuses. It has been well established in such cases that in taking time to make a differential diagnosis the physician does not endanger the patient. Such a course may reveal involvement of other structures to account for the clinical picture and thus danger to the patient and embarrassment to the physician may be avoided. It is not assumed that some absorption may not take place from the ear, but it may be assumed, from the clinical course of the case, that the ear has not been the important factor.

In the five cases reported herein it is believed that four disease conditions acted as causal factors in the septic type of temperature. It will be noticed that all the patients were young children, in whom the clinical course for any disease process may not be expected to run true to type, thus making diagnostic possibilities difficult.

REPORT OF CASES.

Case 1 (A358689). Acute Suppurative Otitis Media, Pyelitis.—Marguerite A., aged nine months, was examined in the section on pediatrics of the clinic May, 1921, because she had not been well for about a week. The mother had noticed that the child had a high fever every afternoon and was very rest-

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less at night. She had lost 5.5 pounds. The stools had been green. Cough had not been noticed.

Examination revealed a temperature of 102.5 and a suppurative otitis media. The leukocytes numbered 41,000. Microscopic examination of the urine showed alkaline reaction, many pus cells and, on culture, bacillus coli. All symptoms disappeared under appropriate treatment for the pyelitis. The condition of the ear resolved after paracentesis and the usual treatment.

Case 2 (A335868). Suppurative Otitis Media, Central Pneumonia.—Alfred M., aged thirteen months, was first seen in the ear, nose and throat section of the clinic in September, 1920, when a suppurative otitis media was found in both ears. In November, 1920, the child was reexamined and trouble again found in both ears. He was kept under observation in the outpatient service. The records show that the ears would remain dry for one week, but without closure of the perforation, and the next week a discharge might be present. Early in January, 1921, the ears were almost normal.

January 14, 1921, the patient was brought to the Clinic because he had not slept well during the night and had often put his hand to his right ear.

Examination revealed the tonsils to be injected, the nose and left ear normal, and a dry perforation in the right ear, the membrane being milky white in color. The child's temperature was not taken, but two days later it rose rapidly to 104, and a mucopurulent discharge appeared in the right ear. The child was placed in the hospital for observation. During the night the temperature dropped to 99. The possibility of infection of the lateral or sigmoid sinus was thought of, but the presence of a slight cough made an investigation of the chest advisable. The examination was negative, January 20, the leukocyte count was 24,000; the examination of the urine was negative; culture of the blood was negative. Roentgenograms of the chest showed a definite shadow. The child was treated for the pneumonia. The condition of the ear did not change materially. After twenty-two days the child was dismissed from observation. (Fig. 1.)

Case 3 (A348892). Acute Suppurative Otitis Media, Abdominal Postoperative Condition.—Marcella K., aged four

years, was brought to the Clinic February, 1921, because of a biliary fistula, following an abdominal operation elsewhere.

The child's temperature was 99. The biliary fistula was draining. The cervical glands on both sides were enlarged, the tonsils were slightly reddened, the nose and ears were normal, the chest was normal. Examination of the urine was negative. The leukocytes numbered 6,000; the differential was negative. A culture of the discharge from the biliary fistula showed streptococcus and bacillus coli. In a few days the temperature rose to 103, the patient complained of abdominal distress, and developed acute bronchitis and suppurative otitis media on both sides. The leukocytes then numbered 8,900; the differential was negative, and culture of the blood was negative. The increased temperature with chilly sensations indicated sepsis. Examination of the blood for plasmodium malariae was negative; typhoid fever was ruled out. The condition of the ear appeared satisfactory. The chest remained negative. Further investigation elicited the fact that the child had had attacks similar to the present illness with chilly sensations and fever. No real causal factor was ascertained except the fistula in the abdomen. The child was dismissed from observation against the physician's advice after twenty-six days. Subsequent correspondence with the mother revealed that a chiropractor was treating the child and that the biliary fistula had closed after two weeks. She had increased temperature occasionally (Fig. 2). A definite diagnosis was not made in this case.

Case 4 (A349322). Suppurative Otitis Media, Gastrointestinal Disturbance.—Theodore B., aged twenty-two months, was brought to the Clinic in February, 1921, because he had not talked, because he was extremely restless at night and had a "head cold." He had had whooping cough at the age of ten months.

Examination revealed definite evidence of rickets and an upper respiratory infection; the temperature was 100. Laboratory examinations were negative.

March 7th, the child was referred to the ear, nose and throat section because of earache. Suppurative otitis media of both ears was found and paracentesis tympani performed. The child was not hospitalized, because of the objections of the

parents. There was an afternoon rise in temperature. All laboratory and physical examinations were negative. The parents were having difficulty in feeding the child and his bowels did not act normally. Castor oil was given and the temperature became normal and remained so.

Case 5 (A315116). Suppurative subacute otitis media, pyelocystitis.—Alice P., aged six years, was brought to the Clinic in May, 1920, because of a discharging left ear and fever in the afternoons. The trouble had started four weeks before with measles. There had been no chills. While the temperature was down the child appeared to feel well, although the general malaise was evident.

Infected tonsils and adenoids with enlargement of the cervical glands were found. The right ear appeared normal. The left canal was filled with purulent discharge. The membrane was full; the landmarks were not discernible. The discharge was pulsating through a posterior inferior perforation. There appeared to be no drooping of the superior canal wall, and tenderness of the mastoid was not elicited.

Many moist râles were heard throughout the chest. The temperature was 99. The leukocytes numbered 27,000; the differential count was negative. The urine contained many pus cells. The patient was sent into the hospital for observation, and treatment was directed to the condition of the ear and the pyelocystitis. As the urine cleared, the child's temperature and general appearance improved. The condition of the ear cleared up under local measures.

GENERAL SUMMARY.

It is apparent that in this group of children four clinical causes other than the disease of the ear were accountable for the clinical course. At least, treatment directed to the conditions appeared to clear up the symptoms. The deeply situated central bronchopneumonia in Case 2 was the most difficult to diagnose. Operation in this case no doubt would have resulted fatally. The hardly discernible cough was the symptom which led to the search of the chest for the cause of the symptoms.

The differential diagnosis in Case 3 was established on the fact that the chills and fever appeared shortly before the onset of the trouble in the ear and because of the infectious process

in the abdomen, although previously there had been no chills and fever from this source.

Pyelitis, or cystitis, particularly in little girls, may be overlooked unless a microscopic examination of the urine is made. Helmholz (personal communication) says that it occurs with upper respiratory infections and that a diagnosis cannot be made unless a catheterized specimen of urine has been examined. He believes that excoriation and redness of the vulva and acid reaction of the urine are not the cause of the rise of temperature but the result of the temperature. It has been our experience, however, that alkalizing the urine with potassium citrate has caused these symptoms and signs to disappear (Case 5).

Gastrointestinal disturbances in young children often are the cause of a rise in temperature, particularly if a change in diet has been necessary because of a change in location. With other causes not discernible a brisk cathartic, such as castor oil, is sometimes effective. This procedure is not looked on with favor by many pediatricists.

Fig. 1.

Fig. 2.