FOUR MASTOID CASES.*

BY NORVAL H. PIERCE, M.D., CHICAGO.

CASE 1. *Operation for Chronic Suppurative Otitis Media without Removal of Membrana Tympani or Ossicles.* Man, aged 20, had measles at 7, following which both ears discharged, resulting in chronic suppuration. The right ear has been dry for a number of years. The left ear continued to discharge, profusely at times, and there has been pain over the mastoid region. The discharge was purulent in character and came from a small perforation in Shrapnell's membrane, the pars tensa being intact. He could not hear a whisper and a conversational voice only at two feet in the left ear. The right ear is also affected. On December 26th last, the mastoid antrum was opened and the external auditory canal taken away down to the annulus. The aditus ad antrum and surrounding cells were found filled with a cholesteatomatous mass of tissue intermixed with pus. When this was cleaned out up to the healthy bone, a cavity the size of a filbert remained. The tympanic membrane and contents of the cavum were not disturbed. A very careful examination disclosed no caries of the ossicles. A reverse Stacke flap was made from the external auditory canal and turned into the cavity; that is to say, as the Stacke flap covers the floor of the cavity, left after a radical operation, this that I made covered the roof and was packed in position. The posterior incision was closed; drainage was carried into the external auditory canal, and a wet fifty per cent. alcohol dressing put on. The posterior incision healed, as you see, by primary union. The cavum is now dry, likewise the antrum. There still remains a perforation in Shrapnell's membrane. The man can hear eight feet for voice, and two for a whisper in the left ear.

This operation is especially indicated in cases where there is only perforation of Shrapnell's membrane and the pars tensa is intact, or where there is only a small peripheral perforation in the pars tensa. Where there is extensive destruction of the tympanic membrane, and the ossicles are necrotic or bound down by adhesions, there is little gained in stopping short of a complete radical operation. In certain cases it will be found impossible to perform this operation, especially in those in which the chronic discharge is kept

* Read before the Chicago Laryngological and Otological Society, February 19, 1907.

up, not be a large cavity in the mastoid process, but by a fistulous tract, or where the antrum and aditus are reduced in size by plastic inflammation, or even obliterated, we must, after our attempts at reaching the antrum have proven unsuccessful, resort to the Stacke procedure of following up from the middle ear. There was two methods by which it may be performed. *First*, in the manner illustrated by the present case; *second*, by taking away the external wall of the epitympanic space also, yet leaving a rim of bone to hold the tympanic membrane. Attention has been drawn to this operation by a recent article written by Heath, but it is not a new procedure by any means. The results, so far as hearing is concerned, are more successful than those obtained by the complete radical operation, but it is only suited to selected cases.

CASE 2. *Acute Otitis Media, Mastoiditis, Abscess of the Neck.* Adult woman, admitted to the Policlinic with acute otitis media and mastoid involvement, with swelling at the tip, and a temperature of 102°.

January 13, 1906, the mastoid process was taken away and the anetrior zygomatic cells thoroughly cleaned out. Two days afterwards a large abscess appeared in the neck, accompanied by a rise of temperature to 103°. It rapidly invaded the deep tissues of the neck, and was opened just an inch above the sternum at the point marked by the present scar. Two weeks later the swelling developed on the side of the face. A drainage tube was inserted below the jaw at the point marked by the second scar. The patient was markedly septic; slight facial paralysis gradually came on, together with torticollis, which drew the head well to one side. You see now a woman in perfect health, with full movements of the facial muscles, and no torticollis. Massage of the sterno-cleido-mastoid muscles on the affected side will hasten the disappearance of these conditions which result from suppurative processes in the muscles themselves.

CASE 3. *Facial Paralysis following Cholesteatoma with Mastoid Operation. Partial Re-establishment of Function after Three Years.* This little girl was operated on when five and a half years old, for an enormous cholesteatoma in the left ear. Complete facial paralysis followed immediately after the operation and existed for four years. At the time of the operation I was convinced that the sequestrum which had formed in the deeper portions included the facial nerve. Three years ago the facial muscles began to show reaction and, as you see now, the patient can use the muscles quite

well, closing the eye perfectly. This case illustrates one of two things, either that the nerve is capable of regeneration after a very long time, or that nervous impulses may be carried to the facial muscles through channels outside the trunk of the facial, most probably through the hypoglossal.

In Seppy's Anatomy there is an illustration portraying a branch which goes from the peripheral portion of the facial to the hypoglossal. That this anastomotic action may take place is proven by a case reported by Bezold in which the sequestrum taken from the ear enclosed the facial canal.

CASE 4. *Acute Mastoiditis, Operation with Repeated Sloughing of Wound. Hysteria?* A girl, 16 years of age, was sent to me from Las Vegas, New Mexico. One year ago she had some work done on her tonsils. Three months afterwards she complained of pain in the right ear and over the mastoid region. On inspection, the membrane was found congested. Paracentesis was performed without result. Her condition continued for about a month, when the patient was placed in charge of another doctor. During the first part of July the temperature arose to 100°, with infiltration and tenderness over the mastoid. Her physician did a simple mastoid operation, finding softened bone with some pus. The wound healed kindly, and the patient did well, until September, when the mastoid again became infiltrated and tender. Another opening was made, and an immense amount of semi-necrotic bone, with a small amount of pus, was removed. The temperature then was 100.5°. Patient did well for two or three days, when she complained of pain and became unconscious at each dressing, but occasionally between times remaining for a few minutes, once for eleven hours, unconscious. The return of consciousness was marked by a jerk. After the last operation, while the wound seemed to fill in, it became gangrenous and sloughed. In October she was again operated on, and only granulation tissue was found. The wound healed kindly, but when practically closed, without any warning, the wound sloughed out and became gangrenous. It resisted all treatment; the bone became exposed, and unconscious states have continued up to the present time. There is now a punched-out hole behind the ear. The space is white, with a sprinkling of blackish spots. The white base is made up of a layer of carious bone. If this is scratched, bleeding of the vessels beneath takes place. About the edges of the wound is a slate-colored slough, with a narrow rim of periosteum, the neighboring soft tissues being slightly involved. The skin is not in-

filtrated, but is macerated from the discharge issuing from the wound. There is no active suppuration, and there is marked anesthesia of the scar and surrounding tissue. I have examined the patient carefully for the stigmata of hysteria and find the classical symptoms all present. She has complained at times of blindness in the right eye, coincident with the exacerbations occurring in the mastoid wound. Syphilis, tuberculosis, carcinoma, may, I believe, be excluded in this case. As the wound began to change in character and showed signs of rapid healing, I have not taken away any of the soft tissues for microscopic examination. I believe that we have here a process which is connected in some way with the hysterical state. Whether it has been produced by the patient's efforts to arouse sympathy by the introduction of substances beneath the dressing or not, I am unable to say, but the fact remains that under suggestion the wound is rapidly healing.

725—31 Washington St.

The Use of Suction in Middle Ear Disease. SONDERMANN. *Arch. f. Ohrenh.*, Dec. 1904.

Suction is applied to the middle ear by means of an apparatus devised by the author. It consists of a mask which fits on the side of the head, around the auricle, and which is connected with a rubber bulb. The air in the mask is rarefied and the secretions contained in the tympanum are drawn out by suction. The apparatus is applied by the patient himself after each irrigation. If the patient swallows while the apparatus is in place, air enters through the Eustachian tube, and a sort of Pollitzerization is performed. The author claims that the apparatus is a useful addition to treatment.

YANKAUER.