

mastoid," pain is very severe, and extends over its entire surface. It comes on early in the attack and rapidly becomes general, so much so as to lead the surgeon to operate, expecting extensive suppuration, but only to find an extremely cellular bone with acutely inflamed cells filled with blood-clot.

Pain may be absent in those cases where the cortex is very thick and dense or in sclerosed bones met with in cases of long standing middle ear suppuration.

There is another class of cases where pain is very slight and sometimes absent. I refer to those caused by the *streptococcus mucosus capsulatus*. Dixon, the pathologist of the New York Eye and Ear Infirmary, first called attention to the insidious action of this germ in mastoiditis, and in a series of cases which the writer saw while at the Infirmary, and which were operated upon subsequently, the mastoids showed destruction quite out of proportion to the symptoms exhibited. In many of these cases pain on pressure was very slight, and sometimes absent.

Swelling over the mastoid tip extending down into the neck is seen in the Bezold perforation, where the pus has burrowed through into the digastric groove and found its way into the tissues below. The swelling in these cases rapidly becomes brawny, and is not readily mistaken for infected glands, besides, movement of the head causes considerable pain, owing to inflammation of the upper fibres of the sterno mastoid muscle.

Discharge from the canal may be from furuncles in it, or from middle ear disease; if copious, it points to the latter, and the more profuse the more likely are we to have mastoid abscess to deal with. It may be thin, mucoid and stringy, or thick and creamy in appearance, the former is usually seen in recent cases of a comparatively mild character, the latter in cases of longer duration and of a more severe or chronic type.

It is in the examination of the canal that we find one of the most valuable diagnostic signs of mastoiditis. This is a sagging or prolapse of the postero-superior wall near the drum, and it indicates a suppurative process in the bone. It must not be confounded with circumscribed otitis externa, which often causes a contraction of the canal near this region.

True sagging or prolapse of the canal is soft and can be dimpled with the examining probe, and is not especially painful. Furuncle, on the other hand, is brawny, hard and very painful.