

centage of 13.38 which is certainly remarkable high.

Keen has collected 31 cases making a total with those of Hengst of 59. No death is recorded among the 59 although many of the cases were protracted and severe. In my list of ten cases there were two deaths, one from exhaustion and the other from meningitis. Mastoiditis is reported in one of Hengst's 28 cases, but it was evidently superficial as it was quickly relieved by Wilde's incision. In none of my cases was the mastoid involved, there being slight tenderness over the mastoid in one case only for two days. All the 28 cases of Hengst terminated in recovery of the hearing without chronic discharge. In only one of my cases that recovered was the hearing impaired and in this case the discharge became chronic.

The complication developed in the third or fourth week of the fever and was apparently responsible for continued high temperature for a period of from one to two weeks. There can be no doubt that the retention of nasal and naso-pharyngeal secretions in the naso-pharynx at a time when the patient is too weak to expel them is the cause of the trouble. In almost every case there was more or less epistaxis for a few days previous to the development of the ear symptoms. Under these conditions pyogenic bacteria will develop rapidly in the naso-pharynx and will tend to invade the middle ear by way of the Eustachian tube. Brannan in his article on Typhoid Fever in the Twentieth Century Practice, quoting Hengst, thinks it possible that some cases are caused by cold draughts of air on the side of the head, or by the entrance of cold water into the external meatus when the patient is being bathed. For my part, I do not think that these can be regarded as possible causes. In some cases catarrhal inflammation of the middle ear was present for a few days before suppuration took place. This probably extended by continuity from the naso-pharyngeal membrane. Treatment in this early stage failed in every case to avert suppuration. In all cases but one both ears were affected and the deafness was profound. When once resolution set in recovery was rapid and hearing was quickly restored.

The interest in these cases is mainly in connection with