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Abstract of Original Papers

SPINAL PUMPING FOR CONGENITAL DEAFNESS

Part III-Experimental Studies on the Effect of Spinal Pumping
upon Inner Ear Tissues.

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1. In cases where bleeding occurred in the acoustic nerve canal and the cochlear aqueduct, it was found that bleeding also occurred in the perilymphatic duct; however, in no case was there bleeding in endolymphatic duct. The bleeding was believed to have originated in subarachnoid cavity.

2. In most cases Reissner's Membrane drooped.

3. It was found that Corti's Membrane drooped to touch Corti's Organ in the lowest and the lower half of the intermediate turns of the cochlea.

4. It was found that after three or more cycles of pumping the hair cells atrophied and finally disappeared. This atrophy was most pronounced at the beginning of the second turn of the cochlea and the effect diminished proportionally to the distance from here toward the lower and upper extremities of the cochlea. This phenomenon is interpreted as suggesting the presence of mechanical irritation exerted by the pumping, especially concentrated upon that portion of the cochlea. This interpretation conforms with the author's clinical experience that the effect of pumping is favorable for both the intermediate and high pitched tones.