SPINAL PUMPING FOR CONGENITAL DEAFNESS

Part I-Comparison with the Effect of Spinal Pumping on Chronaxie of the Optical Nerve

By

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1. Spinal pumping was administered to 20 cases of congenital deafness.
2. Of these 20 cases, 7 were partial deafness. Administration increased hearing in all of partial deafness patients. Of the remaining 15 cases of total deafness, 5 also showed increased hearing. Hence 12 patients among 20 showed increased hearing.
3. General decrease of Rheobase and Chronaxie were observed. The average Rheobase figure dropped from 6.8 volts to 5.8 volts and the average Chronaxie figure, from 2.3σ to 2.1σ .
4. Results showed pumping increased sensitivity of the optical nerve or the optical center.
5. Since similarity is expected between the optical and the acoustic nerves, both being sensory cerebral nerves, and because pumping activated the former; it is inferred that the pumping activates the acoustic nerve or the acoustic center, thus increasing their sensitivity, develops or enhances the ability of hearing.

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Part II-Experimental Study on Spinal Pumping Pertaining to Hearing Capacity.

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1. Experiment on rabbits was conducted to learn the effect of sub-occipital pumping to the hearing capacity which was tested by means of auditory pupillar reflex.
2. In the pumping 0.5 cc of spinal fluid was drawn and reinjected, the performance being repeated five times for each administration. The pumping was administered repeatedly at an interval of 48 hours.
3. In general, pumping in rabbit caused increase or at least no decrease in hearing capacity up to and including the third administration, but on additional administrations the hearing capacity was found decreased.