

tained from the patient no symptoms whatever occurred; these facts would seem to show that alteration in pressure, and the introduction of a fluid of different specific gravity are the causative factors.

I have been able to collect reports of 173 cases, operated on under this form of anaesthesia by different surgeons and under almost all conditions possible. The results I have roughly summarized as follows:—

In 10 cases, no analgesia was produced; severe headache was reported in 79; nausea in 71; vomiting in 74; involuntary defaecation occurred in 9 cases, and urination in 4; profuse perspiration, 26 times; rise in temperature of two or more degrees, 55 cases; 12 patients had chills, and I showed distinct signs of collapse.

A. W. Morton, of San Francisco, states (*American Med.*, August 3, 1901) that by injecting the solution as rapidly as possible the analgesia may be extended to all parts of the body, and reports 8 cases in support of this statement. The following is an example:—

Male, *æt.* 62, Carcinoma of tongue. Injected rapidly 20 m. 2 per cent. cocaine into third lumbar space. Analgesia complete in 5 minutes. Lingual arteries ligated; the glands in the neck, and the entire tongue removed. Operation lasted 2 hours. No after effects and recovery uninterrupted.

A similar fact was noted by Brainbridge, of New York, but not with intention of producing general analgesia. In his case, a girl *æt.* 11, the conjunctivæ, mouth, tongue and posterior pharyngeal wall were tested, and found insensible to pain (*Med. News*, May 4, 1901, Case IX.)

Let us now look at the dangers or disadvantages and the advantages of this method over others. There is always a certain amount of danger from infection of the canal, causing a septic meningitis, a disease from which cases of recovery are very doubtful. Of course, rigid aseptic precautions render this danger almost nil, but the difficulty of completely sterilizing the patient's skin, and the ease with which the puncture is made, make it in the hands of a person who is not excessively strict, a very real danger. Another drawback is one which applies to lumbar puncture in general, and that is the ill effects produced by interference with the pressure, and with the contents of the cerebro-spinal canal.

In the majority of individuals there seem to be no effects from the aspiration of a few drops of liquor cerebro-spinalis, nevertheless Gumprecht (*Deutsche Med. Woch.*, XXVI., June 14, 1900) has collected 17 cases of lumbar puncture for diagnostic purposes, in which death followed quickly after the puncture, and in which the fatal termination could be attributed to no other cause than this trivial operation. Another danger lies in the analgesic drug itself. In the cases of which I