THE FLEXNER SERUM IN CEREBRO-SPINAL MENINGITIS.

It may be stated that substantial ground has been captured in the treatment of this terrible disease. This is fortunate from several standpoints. In the first place the death rate is high, and those who recover are often to be commiserated rather than congratulated, because of the serious sequels left in the wake of the disease. In the second place there are good grounds for believing that like some other diseases it is becoming more prevalent.

In every case suspected to be one of cerebro-spinal meningitis, lumbar puncture should be at once performed, and if the fluid is purulent or cloudy, the serum should be injected and not wait for the bacterial examination, which can be secured later. The serum does no harm if used by mistake. All the fluid that will come away readily should be withdrawn. The removal of a large quantity of infected fluid is helpful. A large injection of the serum should be given. Local or general anaesthesia may be required. The serum should be warmed to that of the body. The serum must be injected slowly and under strict antiseptic precautions. A large needle should be used to permit free flow of the fluid and serum. A larger amount of serum may be injected than of spinal fluid removed, but the effects of increased pressure must be carefully watched. If the cerebro-spinal fluid be very thick and purulent and only a small amount will flow out, the canal may be irrigated with sterile saline solution, prior to injecting the serum. When no fluid will flow and the case is advanced there may be adhesions at the base of the brain. In such cases it has been proposed to inject the cerebral ventricles.

At first the doses were too small, about 5 to 10 cc. The initial dose should be at least 30 cc. In severe cases it may be 45 to 50 cc. It has also been found best to give a full dose for three or four successive days rather than wait to see if the first dose is going to do any good. In any severe cases the doses may be given at shorter intervals than 24 hours. The daily dose should be given until the cerebro-spinal fluid is quite clear. The symptoms may then be watched.

The mortality in this disease runs any where from 50 to nearly 100 per cent., usually about 75 per cent. Under the serum treatment the death rate is reduced to about 30 per cent. When the treatment is begun from one to three days of the disease the death rate was 23 per cent; when from four to seven days of the disease, it was 27 per cent.; and when after seven days, it was 39 per cent.

Relapses occur in about five per cent. of the cases, but they are seldom fatal, and yield to treatment. The time of convalescence is materially shortened. Complications and sequelae have been found to be infrequent.