Method of needle immobilization for ventriculography

Technical note

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The authors describe a method of needle immobilization for ventriculography, which minimizes cerebral trauma incident to ventriculograms.

Key Words • ventriculography • needle immobilization • technique

The increasing availability and improved accuracy of angiography as well as the recent development of computerized tomographic scanning have greatly reduced the indications for ventriculography. However, in the evaluation of an infant with rapidly increasing head size, ventriculography often remains the diagnostic procedure of choice. A well-known complication of ventriculography is the persistence of "needle tracts" with the subsequent development of communicating porencephalic cysts.1,2 In an effort to minimize the cerebral trauma caused by ventriculography, we have developed an alternative method of needle immobilization. We believe this method represents an improvement over existing techniques.

Technique

After the scalp has been shaved and prepped, a needle puncture is made through the skin at the point where the ventricular needle is to be introduced. A hole closely matching the needle size is made through the bottom of a sterile transparent cup. The skin puncture site and the hole in the bottom of the cup are aligned and the device is taped in place (Fig. 1 upper). The ventricular needle can then be introduced in the usual manner until cerebrospinal fluid (CSF) is obtained (Fig. 1 lower). The cup serves to immobilize the distal end of the needle and prevents lateral movements as air is introduced. An additional advantage of this method is that it
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allows the use of a long connecting tube so that air may be injected under fluoroscopic control. We believe that the use of this method significantly reduces trauma to the brain at the time of ventriculography.

References


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