Malleable microsurgical suction device

Technical note

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A malleable microsurgical suction device is presented which allows continuous drainage of cerebrospinal fluid or blood from an operative site. A malleable wire incorporated into the plastic tubing allows placement and readjustment of the suction tip to keep it where desired.

KEY WORDS • microsurgical suction device • microsurgery

In order to perform delicate microsurgical procedures, such as a superficial temporal artery to middle cerebral artery bypass, it is necessary to have a clean, dry operative field. The constant accumulation of cerebrospinal fluid (CSF) or CSF mixed with blood at the site of anastomosis can make surgery difficult and frustrating. Ordinary suction tips can be hazardous and require the use of the surgeon's hand or that of an assistant.

We have been using a modified suction system consisting of narrow plastic tubing with multiple perforations at one end* (Fig. 1). The multiple holes allow gentle suction and prevent any tissue from being aspirated into the suction tubing. Soft wire is incorporated into the tubing which allows easy placement and positioning of the suction unit. This malleable wire maintains the suction tip where it is needed. An alternative system that incorporates suction and irrigation allows constant moistening of the immediate area to prevent drying of tissues. The tubing can be fixed in the operative field with a suture or

*Suction device (MicroVac) manufactured by P.M.T., Inc., Hopkins, Minnesota.

Fig. 1. Four different sizes of the malleable microsurgical suction device. The third sample incorporates suction and irrigation action. The fourth sample has been bent to demonstrate the memory of the suction tubing.
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Figure 2. Left: Suction tip (black arrows) draining cerebrospinal fluid from a superficial temporal artery to middle cerebral artery anastomosis (arrowhead). A rubber dam lies below the middle cerebral artery. Right: Schematic drawing of the suction tip held in place by prongs of a self-retaining retractor.

This device comes in various sizes to allow irrigation and drainage from any operative field. With the use of this suction device, microsurgical procedures can be performed in a cleaner operative field and without the need to put down an instrument in order to pick up the suction tube (Fig. 2). We have used this suction instrument in over 100 microsurgical operations with good results.

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