



Technical Note

FREE HAND ASPIRATION FOR LARGE PERIVENTRICULAR HEMORRHAGE: CASE REPORT

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BACKGROUND

At present, there are several therapeutic options, including craniotomy and stereotactic aspiration, for large intracerebral hemorrhage perforating into the lateral ventricle. In the cases with Glasgow Coma Scale (GCS) scores under 6 with anisocoria, external ventricular drainage would be the first choice [2-4]. We have also performed anterior ventricular horn puncture in a standard manner. The target was the foramen of Monro, at a depth of 5.5 cm from the inner table of the skull. The point of insertion was located just anterior to the coronal suture, approximately 10 cm above the nasion, and 3 cm from the midline [1]. However, we noticed that the insertion of a catheter into the periventricular hematoma adjacent to the lateral ventricle was made easier by tilting the catheter 30° laterally as in the first case (Figure 1).

METHODS

In our method, inclining the catheter by 30° laterally, we used a silicone tube 3.5 mm in internal diameter (Silascon® ventricle drainage tube, Kaneka Medix Corp., Osaka, Japan) and then replaced it with another Silascon® tube with a 2.5 mm-internal diameter. From January 1999 through December 2000, eleven patients who all had GCS scores under 6 and anisocoria preoperatively were treated by this method. The series included two patients who were undergoing hemodialysis because of renal failure, two with bleeding tendency because of liver dysfunction, and one with heart failure.

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RESULTS

The insertion itself caused no complications. Cerebrospinal fluid was drained smoothly after removal of hematoma because the hematoma cavity connecting with the lateral ventricle was opened. Two typical cases using this technique are shown (Figures 1 and 2). All patients recovered favorable consciousness postoperatively compared with the preoperative state but hemiparesis remained. Postsurgical follow up at 3 months revealed the outcomes evaluated by Glasgow Outcome Scale (GOS) were moderate disability in 5 patients and severe disability in 6 patients.

CONCLUSION

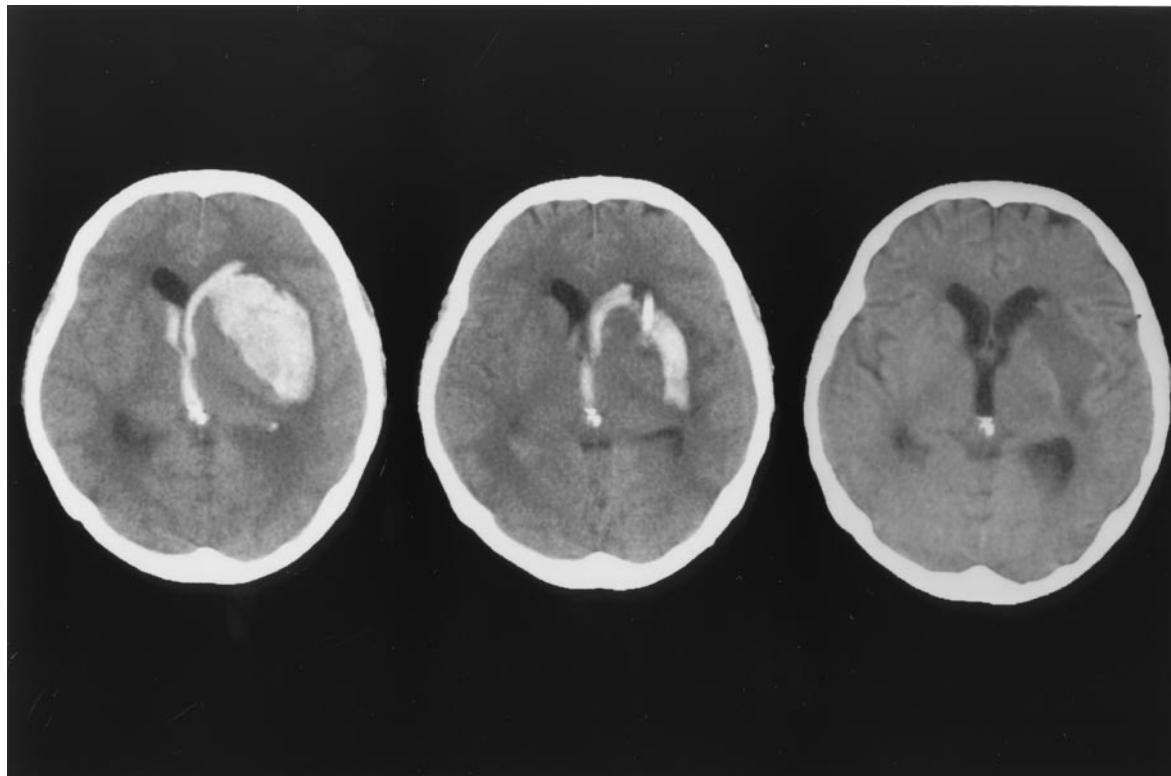
This direct aspiration and drainage of a large intracerebral hematoma that ruptures into the lateral ventricle is superior to simple ventricular drainage in regard to the removal of the hematoma clot. This technique would be the choice especially in patients with serious complications such as cardiac disease and renal failure. © 2001 by Elsevier Science Inc.

KEY WORDS

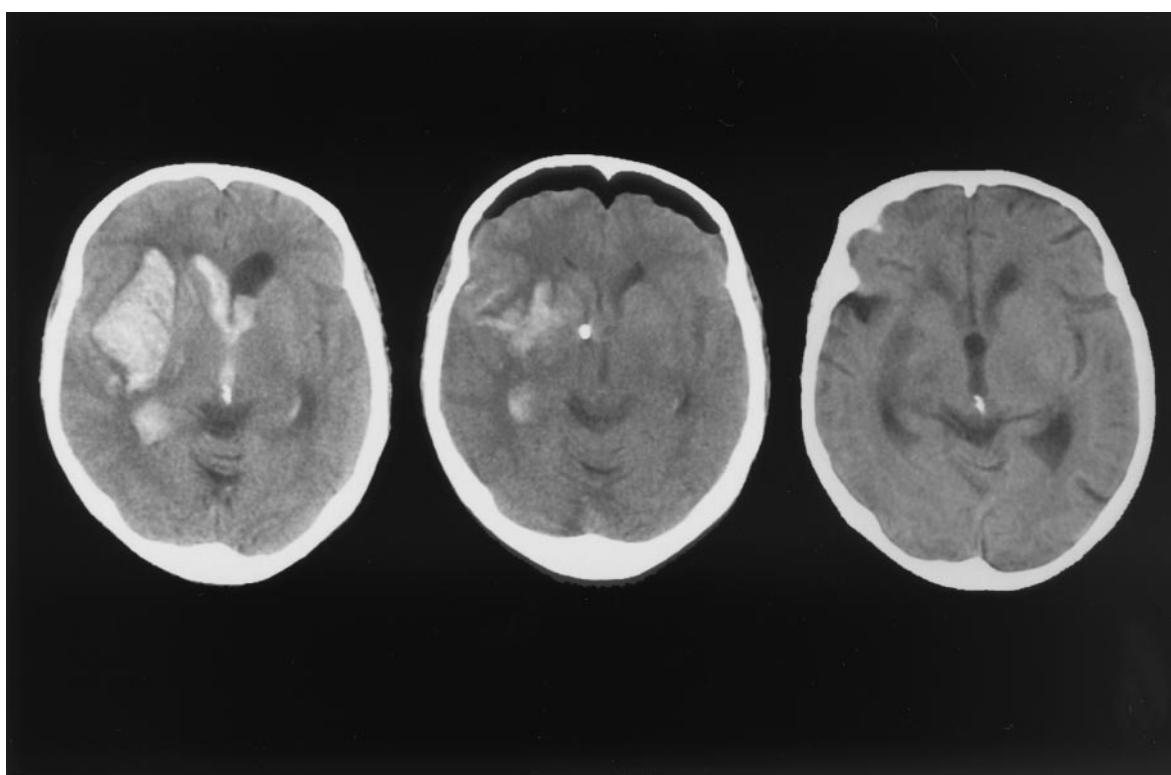
Periventricular intracerebral hematoma, aspiration, ventricular drainage.

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1 CT images demonstrating sequential changes in a 58-year-old female. **Left:** Preoperative image showing left putaminal hemorrhage perforating into the lateral ventricle. **Middle:** Postoperative image obtained 2 days later, revealing reduction of hematoma. **Right:** Repeated CT image obtained 1 month later showing a favorable evacuation of the hematoma.



2 CT images demonstrating sequential changes in a 72-year-old female. **Left:** CT image on admission showing right putaminal hemorrhage perforating into the lateral ventricle. **Middle:** Repeated CT image obtained just after operation. **Right:** CT image 1 month later showing a favorable evacuation.