Color-Doppler Ultrasound-Assisted Endoscopic Neurosurgery for Intracerebral Hemorrhage

林家瑋

Wen-Ta Chiu;Shin-Yuan Chen;Jia-Wei Lin;Yi-Hung Gan;Ming-Zer Chiang;Chang-Ho Tseng;Jeng-Guan Chen

摘要

Abstract

Background. Over the past few years, the use of endoscopy in neurosurgery has gradually gained importance. In this study we described the performance of Color Doppler Ultrasound (CDU)-guided endoscopic neurosurgery in ten patients with intracerebral hemorrhage. The completeness of hematoma evacuation was also evaluated.

Methods. CDU, resectoscope, cutting loops, biopsy forceps, and the irrigation and suction device were the main instruments used in treating intracerebral hematoma. The CDU probe was utilized to locate the exact position of the hematoma and to provide direct visual control of the operation. The cutting loops and biopsy forceps were applied to morcellate and fragment the hematoma. Next, the fragmented hematoma was aspirated by a suction and irrigation device. CDU was then re-used to verify the completeness of hematoma resection and hemostasis as well as evaluate the position of midline shifting.

Results. The completeness of hematoma evacuation in our patient series was over 90% in three patients, over 50% in five patients, and less than 50% in two patients. One patient showed signs of rebleeding two days post-operatively and underwent conventional craniotomy.

Conclusions. This endoscopic neurosurgical procedure caused less trauma

around and along the route to the hematoma, and inflicted less damage to healthy brain tissue. Sonography, especially CDU, is quite helpful in the localization of hematoma and evaluation of intra- or post-operative bleeding. The operation time was also significantly shortened as compared to conventional craniotomy, thereby reducing the risk of operation.