minimally invasive ICH evacuation were included retrospectively if follow-up computed tomography (CT) scans were available for analysis. Hematoma cavity volumes were calculated from the immediate post-procedural and three-month follow-up CT scans using the Analyze Pro software. Results: Twenty patients had follow-up CT scans at a mean time of 93 days from hematoma evacuation. The average cavity size at follow-up was 11938.12 mm³ (SD: 6996.49). The change in cavity size compared to the prior CT was 6396.74 mm³ (median 2542; range: -1030-27543; SD: 8472.45). This represented mean growth in cavity volume of 54%. Conclusions: This study provides preliminary data describing increase in cavity size after endoscopic minimally invasive evacuation of ICH. Comparison to atrophy in conservatively-managed patients is a further planned avenue of research.

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**Missed vertebral artery dissection: a case series**

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**Background:** Vertebral artery dissections are the second most common cause of posterior circulation stroke. Particularly in young people, they must be considered as causes of acute infarction, especially with a history of cervical trauma. Here, we present three cases of vertebral artery dissection that were initially not diagnosed as such. All were caused by uncommon mechanisms; one by self-inflicted neck manipulation, and one as a sequel of falling from a trampoline, and one from minor trauma to the head while standing.

**Methods:** This is a series of three cases seen by the authors of posterior circulation stroke secondary to vertebral artery dissection caused by uncommon mechanisms.

**Results:** N/A

**Conclusions:** Vertebral artery dissection should be considered as a differential diagnosis in patients presenting with acute head and/or neck pain and any neurological findings in relation to acute neck trauma.

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**Functional approach using intraoperative brain mapping and neurophysiological monitoring for surgery of arteriovenous malformations in eloquent areas**


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**Background:** Surgical resection of arteriovenous malformations (AVMs) in eloquent areas is significantly associated with greater surgical morbidity. We describe a functional approach for surgical treatment of these lesions. **Methods:** A total of 20 patients with AVMs in eloquent areas were surgically treated and retrospectively analyzed. Individualized functional approach, using brain mapping and/or neurophysiological monitoring was performed in each case according to every case specific features and location. Seventeen patients underwent surgery under assleep conditions and 3 patients underwent awake intraoperative mapping. **Results:** There was no mortality. Four patients had hemorrhagic complications (20%). Ten (50%) presented neurological immediate postoperative worsening. Eight of them achieved complete recovery in follow up and 2 showed a permanent deficit. At 6 months follow up all the patients (100%) had good clinical outcome (mRS less than 2). There were no intraoperative seizures but 5 patients (26.3%) developed postoperative seizures. Fifteen patients (75%) had total AVM resection. Language and/or motor function were identified in all but one patient (95%). Each case required changes in surgical strategy to preserve the motor and/or language functions during surgery. **Conclusions:** Intraoperative monitoring and brain mapping are valuable and safe for the treatment of eloquent AVMs by indentifying and protecting motor and language function during resection.