Endoscopic endonasal approach complications

see Internal carotid artery pseudoaneurysm after endoscopic skull base surgery.

see Cerebrospinal fluid fistula after endoscopic skull base surgery.

see External nasal deformity.

The most feared complications following endoscopic endonasal skull base surgery are arterial vascular injuries. Previously published literature is restricted to internal carotid artery injuries. The ideal method for controlling arterial bleeding during this kind of procedure is debated, and a variety of techniques have been advocated.

A retrospective review of a prospectively acquired database of consecutive endonasal endoscopic surgeries at the New York-Presbyterian Hospital/Weill Cornell Medical Center from December 2003 to June 2015 and identified all cases of arterial injury.

Of 800 cases, there were 4 arterial injuries (0.5%), of which only one involved the internal carotid artery (ICA), for a risk of 0.125%. The other 3 involved the ophthalmic artery, anterior communicating artery, and A1 segment of the anterior cerebral artery. In all cases, definitive treatment involved occlusion of the artery either through endovascular means (3 cases) or direct surgical ligation (1 case). Neurological examinations were unchanged after arterial repair with only 1 small asymptomatic stroke. Literature review identified 7336 patients, of which there were 25 arterial injuries, of which 19 were of the ICA. Hence, the total rate of arterial injury was 0.34% and the rate of ICA injury was 0.26%. Arterial sacrifice was the only reliable method for managing arterial injury.

Arterial injury is an uncommon event after endoscopic endonasal surgery. Attempts at arterial repair are rarely successful, and vessel sacrifice is the most reliable technique at this point [1)].

1)
https://academic.oup.com/ons/article/13/1/138/2608023/Managing-Arterial-Injury-in-Endoscopic-Skull-Base