Radiofrequency thermocoagulation

see Percutaneous radiofrequency trigeminal rhizotomy.

see Radiofrequency thermocoagulation for epilepsy.

Surgery for giant meningiomas carries a high risk of bleeding and is time-consuming. This historical control study tests the hypothesis that the use of radio frequency thermocoagulation (RFT) during surgery improves outcome.

From November 2010 to October 2011, 20 giant vascularized meningiomas were surgically resected with intraoperative use of ultrasound-guided RFT prior to resection. The historical control group consisted of 25 patients in whom tumors were removed without RFT by the same surgical team. Blood loss during resection, changes in tumor consistency, time taken for the operation, and the extent of resection were compared between the two groups. RESULTS: There was less blood lost during resection and the duration of the operation was shorter in RFT-assisted surgery than in the historical control group (P<0.05). Apart from the effect of devascularization, the tumor consistency became soft after RFT, which could also be beneficial. CONCLUSIONS: Satisfactory devascularization and tumor softening were achieved after RFT without incremental complications. RFT-assisted surgery for giant vascularized supratentorial meningiomas is easier and safer than non-RFT surgery [1].

1)
Yi X, Wei L, Liu Y, Long Q, Liu W, Fei Z, Liu Y, Yan L, He G, Zhang M, Zhou X. Efficacy of radio frequency thermocoagulation in surgery for giant supratentorial meningiomas: A historical control study. Clin Neurol Neurosurg. 2014 Dec 27;130C:26-32. doi: 10.1016/j.clineuro.2014.12.008. [Epub ahead of print] PubMed PMID: 25576882.