Case series

2017

In the Department of Neurosurgery, Washington University School of Medicine in St. Louis, Missouri, Seventeen patients underwent 23 procedures using the ROSA system. A total of 87 electroencephalography electrodes were placed, with 13% deviating more than 3 mm from target. Six patients underwent stereotactic needle biopsy, and 9 underwent laser interstitial thermotherapy (LITT). One patient who underwent LITT required a subsequent craniotomy for tumor resection. Another patient experienced an asymptomatic extraaxial hematoma that spontaneously resolved. No patient suffered neurological complications during follow-up. Follow-up from the last procedure averaged 180 days in epilepsy patients and 309 days in oncology patients.

The precision, ease of use, and versatility of the ROSA system make it well suited for pediatric neurosurgical practice. Further work, including long-term analysis of results and cost-effectiveness, will help determine the utility of this system and if its applications can be expanded [1].

1)
Miller BA, Salehi A, Limbrick DD Jr, Smyth MD. Applications of a robotic stereotactic arm for pediatric epilepsy and neurooncology surgery. J Neurosurg Pediatr. 2017 Aug 4:1-7. doi: 10.3171/2017.5.PEDS1782. [Epub ahead of print] PubMed PMID: 28777037.