An Institutional Review Of Endoscopic-Assisted Supracerebellar Infratentorial Surgery Of The Pineal Region

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Surgical approaches to pineal lesions present a challenge because of limited visibility and maneuverability within the posterior fossa.

The supracerebellar infratentorial (SCIT) technique has emerged as an approach to pineal lesions.

We aim to demonstrate the efficacy of the endoscopic SCIT technique through a case series conducted at our institution and highlight the advantages of the endoscopic technique over the microscopic alternative.
Methods

- We conducted a retrospective review of pure endoscopic SCIT cases conducted at our institution. Demographic information, preoperative and postoperative imaging, neurological status, surgical data, and complications were recorded.
Results

- 6 patients who had received pure endoscopic SCIT surgery were identified for analysis.
- The average lesion volume was 14.12±7.24 cm\(^3\). The median postoperative length of stay (LOS) was 5.0 days.
- The average surgical duration was 3.54±0.71 hours. Gross-total resection (GTR) was achieved in 5/6 patients, and near-total resection was achieved in 1/6 patients.
Results

• Our endoscopic series bolstered minimally-invasive procedures and small craniotomies due to increased visibility and maneuverability of the endoscope.
• As a result, this endoscopic series reports a high proportion of GTR, short hospital course, and short surgical duration.
Discussion

• The endoscopic SCIT procedure is a safe and effective approach for deep-seated pineal lesions. This approach allows for visibility and maneuverability around the lesion, achieves high rates of GTR, and is associated with low rates of complications due to its minimally invasive nature.

• Further longitudinal studies should compare outcomes following open and endoscopic neurosurgery for pineal lesions.
Summary Points

- Pineal tumors are rare, and their deep location in the brain makes maneuverability and visualization difficult.

- Endoscopic resection of pineal lesions via the SCIT technique is safe and effective.