Cerebrospinal fluid rhinorrhea after endonasal intervention to the anterior skull base (CRANIAL)


Proposal for a prospective multicentre observational cohort study to evaluate:
(1) Methods of skull base repair after endonasal surgery?
(2) Rates of post-operative CSF rhinorrhea?

Background:
- The endonasal transsphenoidal approach (TSA) is the preferred approach for treatment of pituitary adenoma and related sellar pathologies.
- More recently, the expanded endonasal approach (EEA) has allowed improved surgical access to the anterior skull base.
- Cerebrospinal fluid rhinorrhea is the most common complication of both approaches.
- There is a lack of comparative evidence to guide the ideal choice of skull base reconstruction.
- Resultantly, there is considerable heterogeneity in practice, and variation in CSF leak rates - estimated at 5% for TSA and up to 20% for EEA (although highly variable).

Aims:
- To evaluate (1) the methods of skull base repair, and (2) the corresponding rates of post-operative CSF rhinorrhea.

Methods:
- Multicentre (UK & Ireland), prospective, observational cohort study.
- Six months case recruitment + six months post-operative follow-up.

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients undergoing TSA for pituitary pathology</td>
<td>Age &lt;16</td>
</tr>
<tr>
<td>Patients undergoing an EEA for skull base pathology</td>
<td>History of pre-operative CSF leak</td>
</tr>
<tr>
<td>Patient undergoing transcranial surgery</td>
<td></td>
</tr>
</tbody>
</table>

- Principal data points (*primary outcomes):  
  • Baseline (demographics, tumour characteristics, endocrine & visual status)  
  • Operative (skull base defect diameter, intra-op CSF leak, *method of skull base repair used)  
  • Post-op (*post-op CSF rhinorrhea requiring repair or CSF diversion, other complications, endocrine & visual status)

Conclusion:
- Through insight into contemporary practice in the UK & Ireland, this study hopes to facilitate the development of consensus and the establishment national benchmarks for clinical practice.

Interested in participating as a local trainee or student collaborator?
Please visit our website: http://nansig.org/cranial by scanning this QR code. Alternatively, get in touch at cranialnansig@gmail.com