The Changing Landscape of Epilepsy Surgery

December 7, 2013

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Comprehensive Epilepsy Center
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How To Vote via PollEv.com

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Web Response

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TIP

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Temporal lobectomy (is) the most common neurosurgical approach to intractable epilepsy.

"Anterior temporal lobectomy remains the most effective form of epilepsy surgery (Devinsky 1993, Sato, 1991)."

## Number of Surgeries performed worldwide between 1986-1990

<table>
<thead>
<tr>
<th>Surgery Type</th>
<th>Number (%) of surgeries performed</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior Temporal lobectomy</td>
<td>4862 (59%)</td>
<td>66%</td>
</tr>
<tr>
<td>Amygdalohippocamp-ectomy</td>
<td>568 (7%)</td>
<td></td>
</tr>
<tr>
<td>Lesionectomy</td>
<td>440 (5%)</td>
<td>5%</td>
</tr>
<tr>
<td>Extratemporal resection</td>
<td>1073 (13%)</td>
<td></td>
</tr>
<tr>
<td>Hemispherectomy and Large Lobar Resections</td>
<td>448 (5%)</td>
<td>18%</td>
</tr>
<tr>
<td>Corpus Callosotomy</td>
<td>843 (10%)</td>
<td>10%</td>
</tr>
</tbody>
</table>

Are Times Changing?

- IS Temporal lobe epilepsy still the most common type of epilepsy?
- IS Temporal Lobectomy still the most common surgery?
- IS epilepsy surgery overall rising or falling in utilization?
- If the landscape is changing, how would we know?
Are Times Changing?

To determine whether physicians felt that MTLE was still the most common type of surgical candidate, we used the new “Q-PULSE” mechanism.
Intro to Q-Pulse

• New AES effort
• 2 epileptologists invited from every NAEC epilepsy center make up q-pulse panel
  – Each filled out a survey providing demographics (age, pediatric vs adult, years in practice, primary interest, geographic location)
• Q-Pulse questions pushed to panel via Survey Monkey
• All responses anonymized, but demographics can be linked with responses
• We received 97 replies to the survey
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At your center, how many of the treatment resistant epilepsy patients have mesial temporal lobe epilepsy?

- 10-50% (the minority): 51%
- <10% (very few): 11%
- <10% a small minority: 35%
- Don't know: 51%

*No-one endorsed “all patients” or “no patients”
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Compared to 10 years ago, your epilepsy center sees ___ pts with mesial temporal lobe epilepsy.
If the landscape is changing, how can we know for sure?

• Epilepsy centers may behave in different ways:
  – They may elect to perform only temporal lobe surgeries
    • In this case, the absolute number of surgeries at the center might fall, but the percent of the total made up of TLE would not change
  – They may attempt to perform increasing number of neocortical surgeries
    • In this case the absolute number of surgeries at a center may stay the same, rise or fall, but the percent of temporal lobectomies would fall
Absolute number of surgeries in Bonn Epilepsy program

Bien et al. Trends in presurgical evaluation and surgical treatment of epilepsy at one centre from 1988–2009 J Neurol Neurosurg Psychiatry 2013 vol. 84 no. 1 54-61
Four most common surgeries in Bonn

Bien et al. *Trends in presurgical evaluation and surgical treatment of epilepsy at one centre from 1988–2009* J Neurol Neurosurg Psychiatry 2013 vol. 84 no. 1 54-61
Symposium

• Who was I treating then? Who am I treating now?
  — Dennis Spencer MD

• The Changing Surgical Landscape in Kids
  — Howard Weiner MD

• What Is the Evidence that the Landscape is Changing? Theories of Change
  — Dale Hesdorffer PhD

• Perspective of Basic Science: Is There Life Outside the Hippocampus?
  — Jeffrey Loeb MD, PhD

• Where do we go from here?
  — Jacqueline French MD