Investigating the parotid tumour: are magnetic resonance imaging scans more accurate in diagnosing malignant parotid tumours than fine needle aspiration cytology?

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Background

The key step in the evaluation of parotid lumps is to differentiate benign lesions from malignant ones. The ENT-UK guidelines advocate the use of fine needle aspiration cytology (FNAC). There are minimal evidence-based data concerning alternative diagnostic tools.

Objective

We decided to investigate the accuracy of magnetic resonance imaging (MRI) compared with FNAC in correctly diagnosing malignant parotid tumours.

Methods

All patients who had undergone parotidectomy from January 2012 to June 2013 were identified. The parotid sample list was acquired from the pathology department. Only parotidectomies carried out for primary tumour removal were considered; all parotidectomies performed as part of a complete dissection for other primary malignancies were excluded.

Retrospective analysis identified the investigations that took place prior to surgery. The results of each test were compared to the definitive histopathology result, which was considered the ‘gold standard’ diagnosis.

Results

<table>
<thead>
<tr>
<th>MRI &amp; FNAC diagnosis</th>
<th>Tissue pathology diagnosis</th>
<th>Predictive value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Malignant</td>
<td>Benign</td>
</tr>
<tr>
<td>MRI</td>
<td>– Malignant</td>
<td>6</td>
</tr>
<tr>
<td>– Benign</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>– Sensitivity (%)</td>
<td>85.7</td>
<td>–</td>
</tr>
<tr>
<td>– Specificity (%)</td>
<td>–</td>
<td>95</td>
</tr>
<tr>
<td>FNAC</td>
<td>– Malignant</td>
<td>4</td>
</tr>
<tr>
<td>– Benign</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>– Sensitivity (%)</td>
<td>57.1</td>
<td>–</td>
</tr>
<tr>
<td>– Specificity (%)</td>
<td>–</td>
<td>100</td>
</tr>
</tbody>
</table>

Data represent numbers of patients unless indicated otherwise. MRI = magnetic resonance imaging; FNAC = fine needle aspiration cytology; PPV = positive predictive value; NPV = negative predictive value

Conclusion

Accurate pre-operative assessment of benign versus malignant parotid lumps helps the surgeon to plan excision and determine the need for neck dissection; it can also significantly alter the incidence of peri-operative facial nerve paresis or paralysis.
Our results highlight the sensitivity of MRI as a diagnostic tool in differentiating malignant from benign parotid lesions. Fine needle aspiration cytology demonstrates significant accuracy in benign lesions, but appears limited for malignant pathology. There may be a substantial role for MRI; we feel this should be explored by analysing a larger cohort of malignant parotid tumour data, the outcomes of which may have a potentially significant impact on changing current recommended practice.

Quality improvement without significant costs: improving rates of day-case tonsillectomies in the absence of a dedicated day-case unit

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Background and objective
Over 55,000 tonsillectomies are performed in England every year. Historically, patients stay overnight. The Royal College of Surgeons deemed tonsillectomies inappropriate for day-case surgery in 1985, citing reactionary haemorrhage as the contraindication. Since then, published evidence has concluded that this risk is low, prompting a shift in practice. We present the challenges of improving rates of day-case tonsillectomies in the absence of a dedicated day-case unit.

Methods
Data on day-case tonsillectomy rates in both children and adults were collected over six months in 2011 (n = 123). New local protocols were designed specifically for day-case tonsillectomies. Day-case tonsillectomy rates were re-audited over six months in 2012 (n = 125) to assess the effect of intervention.

Results
Day-case tonsillectomy rates increased in children from 9 to 25 per cent. A similarly significant increase was noted in adults, from 6 to 43 per cent. There were two re-admissions over the re-audit period, neither of which involved day-case patients.

Conclusion
This project demonstrates how healthcare processes can be streamlined to save time and resources without compromising patient safety. By engaging colleagues and patients, we made dramatic improvements, without needing to construct an expensive, purpose-built day-case facility, which is all the more relevant in times of efficiency savings.