Computed Tomography is Required to Rule out Nasopharyngeal Pathology in Adults with New Onset Serous Otitis Media

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ABSTRACT

Objectives
1. Review the current diagnostic evaluation of adults with new-onset serous otitis media (SOM).
2. Compare the ability of fiberoptic nasal endoscopy (FNE), random nasopharyngeal biopsies, and computed tomography (CT) to detect nasopharyngeal pathology.
3. Clarify the role of imaging and random nasopharyngeal biopsies in the evaluation of SOM.

Methods
This is a retrospective chart review of adults who presented with SOM to a tertiary care center from 2006 to 2012 and who underwent pressure equalization tube (PET) placement and nasopharyngeal biopsies. Subjects were identified through a search of operative and pathology records. Charts were reviewed for physical exam findings, including FNE, intraoperative exam, biopsy results, and imaging. FNE findings were classified as suspicious or non-suspicious.

RESULTS
Thirty-four subjects were identified who met the inclusion criteria. Chief complaints included aural fullness (n=27), subjective hearing loss (n=9), and otalgia (n=1). As per our inclusion criteria, all subjects had unilateral (n=18) or bilateral serous otitis media (n=16) on exam. All subjects underwent in-office FNE. Findings were classified as suspicious (n=5) or non-suspicious (n=29). The five suspicious FNE exams were documented as nasopharyngeal inflammation without obvious mass, friable mucosa without discrete lesion, small left-sided nasopharyngeal mass, and two large nasopharyngeal masses. (Table 1)

Table 1.

<table>
<thead>
<tr>
<th>Subj #</th>
<th>NP exam findings</th>
<th>NP exam classification</th>
<th>Final Pathology</th>
<th>CT findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Adenoid hypertrophy</td>
<td>Non-suspicious</td>
<td>Polyp</td>
<td>NP mass</td>
</tr>
<tr>
<td>8</td>
<td>Inflammation</td>
<td>Suspicious</td>
<td>NPC</td>
<td>NP mass</td>
</tr>
<tr>
<td>13</td>
<td>Fissile mucosa</td>
<td>Suspicious</td>
<td>Benign</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>Small LP mass</td>
<td>Suspicious</td>
<td>Benign</td>
<td>None</td>
</tr>
<tr>
<td>18</td>
<td>Large NP mass</td>
<td>Suspicious</td>
<td>NPC</td>
<td>NP mass</td>
</tr>
<tr>
<td>22</td>
<td>Large NP mass</td>
<td>Suspicious</td>
<td>Benign</td>
<td>None</td>
</tr>
<tr>
<td>23</td>
<td>Normal NP exam</td>
<td>Non-suspicious</td>
<td>NPC</td>
<td>NP Fullness/mass L=R</td>
</tr>
</tbody>
</table>

DISCUSSION
Nasopharyngeal carcinoma is a rare and aggressive form of head and neck cancer which is notoriously hard to diagnose in early stages due to its lack of specific signs and symptoms. The majority of cases of NPC are identified once disease has spread to involve the cervical lymph nodes or the skull base. New-onset serous otitis media occurs in the setting of NPC when a mass has grown such that it obstructs the Eustachian tube orifice. Patients with SOM may present with chief complaints of aural fullness, subjective hearing loss or otalgia leading to identification of SOM. Though NPC is a rare cause of serous otitis media, prompt evaluation for the presence of NPC is necessary. Our department’s standard of care includes in-office FNE to evaluate for nasopharyngeal mass. Regardless of FNE findings patients are taken to the operating room for random nasopharyngeal biopsies. Imaging has not historically been part of our standard work-up. Flexible nasal endoscopy provides a minimally invasive way to visualize and evaluate the nasopharynx in the office. While FNE is undoubtedly a valuable tool, it should not be relied upon as the primary tool for diagnosis. Based on our data, FNE is only 50% sensitive in identifying significant nasopharyngeal pathology. Two similar studies that employ FNE to evaluate for nasopharyngeal pathology found sensitivities of 90% and 100%. We et al found that 7 of 111 subjects with normal FNE were subsequently diagnosed with NPC.

REFERENCES

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