Otosyphilis – missed opportunities for early treatment?
Bradshaw D, Pallawela S, Nelson M, Scott C, Day S

Background

- Otosyphilis is one of the few reversible causes of hearing loss.
- The diagnosis is made if there are audiological symptoms and positive syphilis serology and other causes have been excluded.
- Audiological outcome after treatment (Rx) is generally poor; robust evidence for optimal management is lacking.
- We present a small case series of otosyphilic patients.

Methods

Cases were identified and data gathered by notes review.

Results

- Seven patients were identified between 2007 and 2011.
- Median age was 34 (range 31 – 51) years
- Six (86%) were male.
- Six (86%) were diagnosed with secondary syphilis and one (14%) late stage syphilis.
- Six of seven (86%) patients were co-infected with HIV, two (29%) testing HIV positive at syphilis diagnosis.
- Deafness was invariably the presenting audiological feature and was bilateral in three (43%) cases.
- All patients had other symptoms of syphilis, rash (4/6, 67%) and ocular involvement (3/7, 43%) being the most common.
- Of 6/7 patients who consented to a lumbar puncture, neurosyphilis was probable in one (17%) patient, excluded in two (33%) patients and considered possible in the remaining three patients (50%).
- The median time from audiological symptoms to syphilis Rx was two months (range two days to six months).
- Four (57%) had previously visited a health care professional who had failed to diagnose otosyphilis correctly.
- Six (86%) and five (71%) patients received a neurological regimen and steroid cover respectively.
- Overall, hearing improved in three (43%) and stabilised in four (57%) patients.

Discussion

- This small study identifies a delay to Rx in many cases.
- Early Rx may lead to an improved audiological outcome.
- HIV positive patients may have more regular syphilis testing, reducing the delay to Rx.
- Otosyphilis is uncommon, but with increasing rates of syphilis nationally, we must be alert to its manifestations and promptly initiate Rx.

Table of Outcomes in Otosyphilis

<table>
<thead>
<tr>
<th>Age</th>
<th>Stage</th>
<th>Time to treatment</th>
<th>Neurosyphilis on CSF exam?</th>
<th>Steroid cover?</th>
<th>Neurological regimen?</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 M</td>
<td>2°</td>
<td>3 months</td>
<td>Yes¹</td>
<td>Yes</td>
<td>Yes</td>
<td>Stable</td>
</tr>
<tr>
<td>34 M</td>
<td>2°</td>
<td>3 months</td>
<td>No²</td>
<td>No</td>
<td>No</td>
<td>Stable</td>
</tr>
<tr>
<td>34 M</td>
<td>2°</td>
<td>2 weeks</td>
<td>Not done</td>
<td>No</td>
<td>Yes</td>
<td>Improved</td>
</tr>
<tr>
<td>47 M</td>
<td>2°</td>
<td>2 days</td>
<td>Cannot be excluded²</td>
<td>Yes</td>
<td>Yes</td>
<td>Improved</td>
</tr>
<tr>
<td>51 M</td>
<td>2°</td>
<td>2 months</td>
<td>Cannot be excluded²</td>
<td>Yes</td>
<td>Yes</td>
<td>Stable</td>
</tr>
<tr>
<td>34 F</td>
<td>Late</td>
<td>6 months</td>
<td>No³</td>
<td>Yes</td>
<td>Yes</td>
<td>Stable</td>
</tr>
<tr>
<td>48 M</td>
<td>2°</td>
<td>2 months</td>
<td>Cannot be excluded²</td>
<td>Yes</td>
<td>Yes</td>
<td>Improved</td>
</tr>
</tbody>
</table>

¹CSF VDRL 1:4, TPPA / EIA IgM/G positive; ²CSF VDRL negative, TPPA/EIA IgM/G positive; ³CDF VDRL negative, TPPA/EIA IgM/G negative or equivocal