

# Otosyphilis – missed opportunities for early treatment?

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## 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 otosyphilitic 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.

Age	Stage	Time to treatment	Neurosyphilis on CSF exam?	Steroid cover?	Neurological regimen?	Outcome
31 M	2°	3 months	Yes <sup>1</sup>	Yes	Yes	Stable
34 M	2°	3 months	No <sup>3</sup>	No	No	Stable
34 M	2°	2 weeks	Not done	No	Yes	Improved
47 M	2°	2 days	Cannot be excluded <sup>2</sup>	Yes	Yes	Improved
51 M	2°	2 months	Cannot be excluded <sup>2</sup>	Yes	Yes	Stable
34 F	Late	6 months	No <sup>3</sup>	Yes	Yes	Stable
48 M	2°	2 months	Cannot be excluded <sup>2</sup>	Yes	Yes	Improved

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

## Table of Outcomes in Otosyphilis

- Improved audiological outcome was seen in 2/3 (67%) patients receiving early Rx (<1 month after hearing loss) versus 1/4 (25%) of those receiving late Rx. This was a statistically significant association (p=0.048).
- Improved outcome was seen in 3/6 (50%) receiving a neurological Rx regimen versus 0/1 in the patient receiving standard Rx (p = 0.999).
- Two of 5 patients (40%) receiving steroid cover had an audiological improvement, compared to one of two patients (50%) not receiving steroids (p=0.741).
- Median time to Rx was shorter in patients with established HIV infection (two months) than those recently diagnosed HIV positive or remaining HIV negative (3.5 months).

## 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.