

Borrelia burgdorferi infection is worth screening to investigate sensorineural hearing loss (SNHL) etiology: a systematic review

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Abstract

Background and aim Sensorineural hearing loss (SNHL) is the commonest hearing disorder prevalent. *Borrelia burgdorferi* is a spirochete whose infection has been shown to result in SNHL. This systematic review aims to investigate the prevalence and association of *B. burgdorferi* infection in SNHL. Methods A systematic literature search on the databases PubMed, Google Scholar, and UpToDate® was performed. Study selection process was done in accordance with the PRISMA guideline. In brief, studies were selected first by title and abstract screening followed by a full-text inspection. The quality assessment of the included studies was performed using the Joanna Briggs Institute Critical Appraisal tool. Data on study characteristics, patient demographics, audiological, microbiological, symptomatological, and therapeutical findings were extracted. Results The study search retrieved a total of 8,772 studies and 9 of them met out eligibility requirement. There were altogether 964 SNHL patients. 71 (7.3%) were tested positive for *B. burgdorferi* infection. The commonest symptoms in infected SNHL patients were tinnitus (53%) and vertigo (47%). Patients treated with steroids along with ceftriaxone showed a higher hearing recovery rate. Conclusion *Borrelia burgdorferi* infection is responsible for a substantial proportion of sensorineural hearing loss and should be investigated whenever no other reasons of hearing loss are established.

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