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Hearing disorders

Mechanisms of bacterial meningitis-related deafness

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Bacterial meningitis is the most common cause of acquired postlingual profound sensorineural hearing loss and labyrinthitis ossificans. This article reviews the underlying mechanisms including bacterial etiology responsible for bacterial meningitis-related hearing loss, time course of hearing impairment, sites of histological damage, routes of infection from meninges to labyrinth, suppurative labyrinthitis and ossification, pathophysiological processes, roles of cytokines, and finally, roles of reactive oxygen species and reactive nitrogen species.

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Introduction: Bacterial etiology responsible for bacterial meningitis-related hearing loss

( )

60 0%

( ) [1,2].

3 7[].

Hemophilus influenza (64%), *Streptococcus pneumoniae* (16%) *Neisseria meningitides* (10%).

H. influenza , *S. pneumoniae*

[5], *H. influenza*

. *S. pneumoniae*.

[5].

Time course of hearing impairment

4 [2,5,10].

12 15

24 (17 1

) [11]. 12

36

[5, ,12,13],

[14,15].

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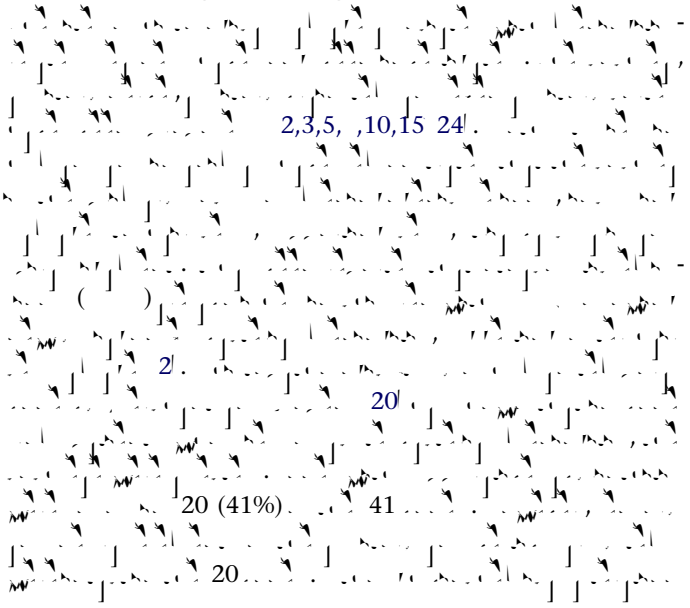
Sites of histological damage



-1 , -6, -α.
( ),
31,32.
37. *et al.*
3
34.
-α
et al. 33
-α -α
S. pneumoniae
-α

Roles of reactive oxygen species and reactive nitrogen species

( )
( ),
31,32.
et al. 35,
( )
( ),
et al. 23
et al. 36
( ),

3
31,32.

Conclusions

4
( ),
-α,

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