**Haemophilus influenzae meningitis in a two-year old child.**

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**Introduction**

Haemophilus Influenzae type b (Hib) meningitis is a life-threatening medical emergency. Historically causing significant mortality and morbidity, it was the leading cause of bacterial meningitis in children under 5 years of age. Its frequency has dramatically decreased worldwide, and it became extremely rare with the introduction of the Hib vaccine (1993 in Belgium). Rapid and accurate evaluation is essential to guide further specific investigations and to start treatment as soon as possible.

**Aim and method**

We describe the case of a two-year old child without any previous personal or familial history, who presented with meningitis. He had a delay in his booster vaccinations. An Haemophilus Influenzae type b grew both in blood and cerebrospinal fluid (CSF).

**Case report**

A two-year-old boy was brought up in the emergency room for uncontrollable vomiting and fast worsening of his general state in the 48 hours prior to his admission. His clinical condition then quickly declined adding new symptoms: headaches and the inability to hold the upright sitting posture. Upon examination, the child was slightly pale and seemed uncomfortable and irritable. Clinical examination showed no fever, an erythematous pharynx and mucosal dryness. Photophobia, a nuchal rigidity with positive Kernig and Brudzinski signs were noted. Blood test showed a predominantly neutrophilic inflammatory syndrome (White Blood Cells: 30750/µl, CRP: 46,6mg/dl). CSF analysis was highly suggestive of bacterial meningitis (23052 leukocytes/mm3 including 77% neutrophils, proteins: 178mg/dl, glucose: 1mg/dl). Both blood and CSF cultures grew an Haemophilus Influenza type b. He received IV doses of steroids during the first 72 hours and ceftriaxone 100mg/kg/j. After improvement in his general condition, ENT symptoms such as walking difficulties, imbalance and a slightly hearing loss were discovered. A thorough investigation revealed bilateral labyrinthitis with slight cochlear ossification requiring a close ENT follow-up and vestibular physiotherapy.

Evolution was slow and IV antibiotherapy was prolonged for a total of 21 days. ENT symptoms resolved very progressively.

**Conclusion**

A reemergence of severe infections due to Hib has been identified in the last few years, due to different factors including a reduction in indirect protection or herd effect, a decrease in antibody titers among children vaccinated before 1 year of age who did not receive a booster dose, and the emergence of more virulent, contagious strains.

In our patient, we concluded that the meningitis was a consequence of the loss of immunity in light of the lack of vaccine booster. Antibody titers in children vaccinated before one year of age have a tendency to decrease more rapidly.

Any bacterial meningitis and in particular meningitis due to Hib infection requires a careful ENT examination to detect early signs and symptoms of complications due to damage in the inner ear. An initial ENT evaluation must be performed and reassessed on a regular basis during and after treatment. One of the most feared complications is the cochlear ossification which - if it goes undetected - becomes irreversible and does not allow cochlear implant.

*Key words:* Haemophilus Influenza type b, Meningitis, Vaccination

*Category*: Immunology, Infectiology