

INTERNATIONAL SYMPOSIUM ON INFECTIOUS DISEASES AND VACCINES



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Severe intracranial infections in children : the emergence of Otosinogenic Empyema

Abstract: Intracranial empyemas (IE) are rare complications of the ORL sphere that can compromise life or cause neurological sequels. Few studies describe their characteristics. In the “Ile de France region”, pediatric IE are sent to our referring hospital to be treated according to our multidisciplinary protocol.

This monocentric retrospective study have taken in account a previously studied cohort of 76 patients over 5 years in our hospital (2016-2020), and added all patients until march 2023, for a total cohort of 151 patients over 7,25 years. We noticed a remarkably increasing incidence from 2020 and forward. In addition to the previously studied data, we have analysed risk factors for neurological sequels or surgical reintervention.

Bimodal distribution was found in regards to age at presentation: otogenic empyema (OE) in younger children than sinogenic empyema (SE). SE presented significantly more neurologic symptoms and subdural IE localization on imaging.

A surgical drainage was performed after imaging in 100%. A surgical reintervention was necessary in 33% of SE and 10% of OE ($p<0,001$).

Bacteriologic sampling was collected in 100%, and germ was identified in 93%. Predominant germs were *Fusobacterium necrophorum* (50%) on OE and *Streptococcus milleri* (45%) for SE.

Risk factors for surgical reintervention were parietal localisation for SE, and the presence of residual empyema for both. Neurologic sequels were observed in 23% of cases (30% of SE vs 14% of OE, $p<0,05$). Risk factors for sequels were subdural and parietal localisation of the IE.

This study shows one of the largest cohorts of pediatric intracranial empyema from ORL infections. The good results in terms of morbi-mortality confirm the efficacy of a multidisciplinary approach framed by an established institutional protocol.

Keywords: Intracranial empyema, ORL, mastoiditis, sinusitis, neurosurgery, intensive care.

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