CONCLUSION

Pediatric head and neck infections by Fusobacterium necrophorum and other Fusobacterium spp. infections are severe and required a combination of antibiotics, surgery, and sometimes prolonged anticoagulation. No international guidelines exist yet to our knowledge.

The incidence of Fusobacterium infections in children increased these last 10 years, without satisfying explanation yet.

INTRODUCTION

We witnessed during the last few years an apparent increase of head and neck infections caused by Fusobacterium. The severity of these infections is highly variable, ranging from uncomplicated infections to Lemierre syndrome, clinical entity which associates local septic thrombophlebitis of the jugular veins, septicemia, and possible distant septic metastasis. Although the reason for this increase is unknown, theories related to decreases in antibiotic use and improved detection techniques and anticoagulation trend may account for the change.

We sought to describe the epidemiology, the microbiological features, and the clinical characteristics of these head and neck infections caused by Fusobacterium necrophorum and other Fusobacterium spp., and to propose therapeutic guidelines.

MATERIAL AND METHODS

This retrospective, monocentric, cohort study ranged from January 2006 and December 2016. Electronic patients’ charts and the microbiology department information data system were reviewed for demographic and microbiological data analysis. The number and % of specific diagnosis and treatment among patients with positive Fusobacterium spp. culture were calculated. The incidence was calculated based on the number of specimens investigated each year.

RESULTS

We included 62 patients (medium age of 49 months, sex ratio=1:4). The incidence has been indeed increasing each year: 0 patient in 2006 to 18 patients in 2016. Three major causes sites of F. necrophorum and other Fusobacterium spp. infections were mastoiditis (n=28), cervical lymphadenitis (n=20) and peritonsillar abscess (n=10). Only mastoiditis and cervical lymphadenitis caused severe complications: 13 intracranial thrombophlebitis, 6 thrombophlebitis of internal jugular vein, 7 intracranial empyema, 2 facial paralysis et 2 arthritis of the temporomandibular joint. There were no meningitis , no skull base osteomyelitis, no septic metastasis and no patient died.

All our patients were treated by a combination of local treatment (surgery or mastoid puncture) and intravenous antibiotics after a CT scan. Appropriate IV antibiotic therapy was an association of a β-lactam (penicillin, cephalosporin) and an anaerobic antimicrobial agent (metronidazole, clindamycin) for 2 weeks if in case of complicated infection (intracranial abscess or thrombosis), to only 3 days if the evolution was quickly satisfying. A routine check imagery was prescribed performed 6 weeks after in case of thrombosis. The outcomes of patients with Fusobacterium spp. were good.

DISCUSSION

Severe Fusobacterium infections were more frequent last few years. Our patients were previously healthy (only 11% had a significant medical history). There were a female predominance in mastoiditis; 77% of patients had received antibiotics before their admission. The otogenic variant of Lemierre syndrome represented 86% of all Lemierre syndrome cases.

All our cases of thrombophlebitis (internal jugular vein or intracranial) were treated with low-molecular weight heparin and oral anticoagulation was proposed. Point-of-care device for INR was used. The combination of appropriate antibiotic treatment with surgical debridement was shown to prevent complications.

The follow-up was:
- A CT scan at 6 weeks to control the thrombosis
- A thrombophilia screening.

If the thrombophlebitis was persistent, it was maintained for 3 more months.