Microbiological Study of Nosocomial Sinusitis in ICU

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INTRODUCTION

Nosocomial sinusitis is a common complication of patients treated in an intensive care unit (ICU). Unlike community-acquired sinusitis, nosocomial acquisition is harder to diagnose due to the patients characteristics: frequently unconscious, with orotracheal intubation and multiple other diseases.

The diagnosis is usually made with a computed tomography scan. The early diagnosis and treatment is important to prevent serious complications as pneumonia, sepsis, meningitis, intracranial abscess.

The maxillary puncture presents itself as a very important procedure, being useful to the diagnosis and also to the therapeutic strategies. One of the greatest advantages of this procedure is the need of surgical environment for its performance.

METHODS & MATERIALS

Critically ill patients in intensive care unit with unilateral or bilateral maxillary sinusitis diagnosed by computed tomography and nasal endoscopy with portable video set-up were included in this protocol. Inclusion criteria:

- Intermittent in ICU for longer than 48 hours
- Fever onset after 48 hours in the UCI
- Clinic-radiological diagnosis of infectious rhinosinusitis
- Protected airway thought orotracheal tube or tracheotomy

Exclusion criteria:

- Other active infectious site present

The patients were submitted to uncapped nasal swab and puncture of the maxillary sinus brought the inferior meatus.

The collection of intranasal material trough punctured was carried with the patient in the proper stream bed of ICU, after antisepsia of the facial region. Sedation was performed with initial dose of 10 mg of midazolam and 50 mcg of fentanyl, progressing to individualized dose according to patient’s reactions. Certification of the protection for the airway by the orotracheal cannula balloon was performed. The material was submitted to microbiological culture and antibiogram.

RESULTS

The present study evaluated 22 patients with diagnosis of nosocomial maxilar sinusitis, that had been submitted to the procedures. All the samples sent to the microbiological examination presented bacterial growth.

The results for polymicrobial flora in our 22 cases were positive in 8 patients in swab (37%) and in 9 patients in puncture (41%). It had accurate correlation between the isolated microbial agent in swab and the puncture in 14 of the 22 cases (63%).

The bacterial species in swab and puncture and the index of resistance of antibiотical drugs are specified in tables 1, 2 and 3.

CONCLUSIONS

The nasal swab was of little value to the diagnosis, while the direct puncture of the maxillary sinus could assess the specific bacterial agents, allowing a right to the point therapeutic.

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