

Enterobacter Asburea in Intravenous Infection in Neonatal Born

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Abstract

Introduction: Enterobacter asburiae (*E. asburiae*) is a facultative anaerobic rarely isolated in neonatal care; the nosocomial infections continue to be a serious problem, associated with increased mortality rates, immediate and long-term morbidity, prolonged hospital stays, and increased cost of care, because of resistance of this species.

Objective: It's a nosocomial infection of blood, that the first time it's determined in neonatal hospitalization CHU Mohamed VI Marrakech.

Observation: We report in this subject a case of a preterm baby had a septicemia secondary to enterobacter asburea it's the first time this microorganism was found in CHU, resulting from contaminated intravenous fluid hospitalized in neonatal care unit, in CHU Mohamed VI Marrakech

Conclusion: The case reported in this work pushes us to deepen investigations concerning the resistance and the clinical evolution of the affected patients.

Keywords: Enterobacter Asburea, Nosocomial, Unusual Infection

Introduction

The neonatal Nosocomial infection is enterobacteria its severe and responsible of morbidity and mortality in the neonatal intensive care unit. The reported prevalence of nosocomial infection from Morocco in 2009 was around 8.1%. The most found germs were negative Grams. The present study was undertaken to determine the case of a newborn baby had Enterobacter asburea bacteremia first described in the blood cultures of newborns who were hospitalized in the neonatology department of CHU Marrakech.

Observation

The newborn is female hospitalized in the neonatal intensive care unit. Without difficulty breathing; since birth has presented a respiratory distress syndrome rated 2/10 according to the Silverman score secondary to an early neonatal pulmonary infection,

admitted at a postnatal age with diagnoses of prematurity (32-33 weeks), very low birth weight (1,400 g), Maternal serology tests were negative. Mother had 17 years old first-born who gave birth vaginally, was admitted to the maternity ward with a diagnosis of preeclampsia, for which labor was induced and delivered after 12 hours of labor. After admission, the newborn was put on ventilator support type: continuous positive airway pressure (CPAP) with intravenous (IV) C3G and GENTAMICIN, IV maintenance fluid, radiant heater. He also received trophic feeding (breast milk) through a nasogastric tube. Until his hospitalization she developed a nosocomial infection suspected in front of the generalized marbling with the grayish tint TRC greater than 3 sec and she continued to require oxygen frequently; a complete blood count was done (white blood cells 3760/mm³, including 1060 neutrophils and 2130 lymphocytes platelets 209000/mL, hemoglobin 12 g/

dL). a C reactive protein at 34.23 rag / L The blood culture results were positive for *Enterobacter asburia* sensitive to CEFOTAXIME and AMINOGLYCOSIDES, to TICARCILLIN and with PIPERACILLIN and IMIPENEM the patient was kept nothing by mouth, on maintenance, based on the culture and sensitivity antibiography was changed to IMIPENEM and AMIKACIN. The evolution shows clinical a biological improvement, the newborn declared discharging at home after 30 days of hospitalization

Discussion

Enterobacter asburia (*E. asburia*) is a facultative anaerobic, non-spore-forming gram-negative rod-shaped bacterium belongs to the to the family of Enterobacteriaceae complex, which comprises six heterogeneous species. *E. asburia* is an opportunistic pathogen that its strains arisolated from a variety of clinical and environmental specimens, these bacteria rarely can cause nosocomial infections. In addition, is en general resistant of β -lactamases [1, 4, 7].

This species was firstly described in 1986 by Brenner and al, from strains of enteric group 17 which since 1978 brought together atypical strains of bacteria of the genus *Citrobacter* and *Enterobacter* [2, 3, 7].

E. asburia is a very rarely isolated. It can sometimes be detected in the environment or on working floors (water, food, hospital environment: probes, catheters), from Consumed Powdered Infant Formula Milk [6]. Its clinical significance in samples other than blood cultures is still uncertain and poorly understood [4, 5, 6].

The strains studied by Brenner et al. (Brenner et al., 1986) were naturally and consistently sensitive to GENTAMICIN and SULFADIAZINE, and generally to CARBENICILLIN, KANAMYCIN, STREPTOMYCIN, CHLORAMPHENICOL, NALIDIXIC ACID, and COLISTIN. They were all resistant to AMPICILLIN, CEFALOTIN and TETRACYCLINE. Our patient's case was susceptible TO IMIPENEM, COLISTIN AMIKACIN and resistant to CEFOXITIN [2, 3].

Recently in 2005, environmental strains isolated from rivers in the United States showed resistance TO IMIPENEM by production of an IMI-2 CARBAPENEMASE of plasmid origin, thus confirming the hypothesis of an environmental reservoir of this type of resistance gene [8].

In the literature, no case has been described in the rank of blood

cultures of newborns, our patient had responded well to TIENAM for 10 days with AMIKACIN for 5 days with oxygen weaning after adaptation the treatment to the antibiotic sensitivity testing.

Conclusion

Enterobacter asburia, rarely isolated in human specimen, it is a bacteria opportunist, finded as environmental strains, it's generally sensitive TO IMIPENEM, with a lack of data on the emergence of this strain in blood cultures, the case reported in this work pushes us to deepen investigations concerning the resistance and the clinical evolution of the affected patients.

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