Research Article

Unusual (Achromobacter Xylosoxidans) Germ in Blood Culture of Newborn

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Abstract

Introduction: Achromobacter xylosoxidans is an organism causes opportunistic infections; is a catalyst- and oxidase-positive, motile, gram-negative rod that oxidizes xylose and glucose. The bacteria will be confused with Pseudomonas species.

Objective: intravenous infection at the first time it is determined in neonatal hospitalization.

Observation: We will report the observation of a newborn baby who died due to a septicemia a Achromobacter xylosoxydans who resisted the imipenemes normally sensitive toy for the 1st time encountered in the neonatal intensive care unit CHU MOHAMED VI MARRAKECH MORROCO which never found in our hospital and which may be the declaration 'a new epidemic.

Conclusion: Axylosoxidans causes opportunistic infections that can be fatal in newborn with bacteremia The organism probably exists in a water environment and can be confused with Pseudomonas species and it's never found In our CHU.

Keywords: Achromobacter Xylosoxidans; Nosocomial; Unusual Infection

1. Introduction

Nosocomial infection is a major health problem. The most germs isolated in Moroccan's hospitals are klebseila pneumonia and pseudomonas aerogenosa, the emergence of new strains carried away is still in question, Achromobacter xylosoxidans, is an aerobic, gram-negative rod, is rarely isolated from clinical material It was never found in the neonatal department of the CHU Marrakech. It 'is the first time that is isolated in our CHU. The purpose of this report is to describe our experience with Axylosoxidans isolated from blood culture in a newborn.

2. Observation

A female neonate of 30 weeks gestational age was born to a 28-year-old woman, primiparous primagest. The mother presented in early labor with presumed severe preeclampsia, hi gave birth by caesarean to newborn that had a 1300 and has presented since birth a respiratory distress rated 5/10 according to the score of Silverman, with Apgar scores of 7 at 1 minute and 8 at 5 minutes, because of hyaline membrane disease, for that reason it was surfaced. On the second day of life, she presented with persistent hyperthermia T° 38°C and the HERO score was of 3, requiring work-up a blood test objectified white blood cells 14790/mm3, including 64% neutrophils and 26% lymphocytes, a reactive protein a 1,61 rag/l, in the fourth day the blood culture was positive to achromobacter xylosoxydan, resistant to cefotaxime and aminoglycosides, ticarcillin and sensitive to piperacillin and imipenem. Initial antibiotic therapy combined C3Gs and gentamicin, then adapted to tiename and amikacin. The patient received 5 days of intravenous treatment, The infant's course was complicated, and her condition continued to deteriorate and he developed hypotension and bradycardia requiring a short epinephrine infusion. The blood culture becomes sterile after 5 days; The child required intubation for decreased heart rate and absence of spontaneous respiration. Despite maximal support, the infant died after five day by septic shock.

3. Discussion

Achromobacter xylosoxidans is a non-fermentative Gram-negative bacillus emerging in cystic fibrosis, it is a bacterium described for the first time in 1971, isolated in medical centers in Latin America during the SENTRY program 1997-2002 [1]. It's an uncommon neonatal pathogen. The genus Achromobacter was firstly described in 1891 by Eisenberg, in 1923 by Bergey [2], and then in 1971 in an otorrhea sample [3], this genus belongs to the Alcaligenaceae family. Rare studies have clarified the natural resistance phenotype [4]. Until 1981 A. xylosoxidans was declared as an opportunistic pathogen according to Yabuuchi and Yano in the International Journal of Systematic Bacteriology; who found the germ in various pathological samples (blood, cerebrospinal fluid, pleural fluid, peritoneal fluid, urine, stool, ear pus, pharynx, eyes and various pus) [5]. However, the "pathogenic" nature of these bacteria remains controversial. However, it has been shown that A. xylosoxidans was responsible for nosocomial infections in immunocompromised patients [6].

Different studies have described A. xylosoxidans in bacteremia [7]; Aisenberg et al. [2] and endocarditis [8, 9] as well as chronic purulent otitis [10], keratitis [1], pneumopathies [6] or urinary tract infections [12]. Cases of meningitis [8, 13, 14] postoperative endophthalmitis [15], and osteomyelitis [16, 17]. However, it rarely isolated in neonatal hospitalization, so between 2009-2010 a Turkish study described an outbreak of Achromobacter xylosoxidans in a neonatal intensive care unit. Is that affected 22 newborn and it was fatal in 3 patients [19]. In 2013, a few rare studies which described the virulence of the germs among newborns [18]. However neonatological infections with achromobacter xylosoxydans are rarely detected, in our context it was the 1st time that this germ has been encountered in blood cultures of newborns.

4. Conclusion

A,xylosoxidans causes opportunistic infections that can be fatal in newborn with bacteremia The organism probably exists in a water environment and can be confused with Pseudomonas species. The antimicrobial susceptibility profile for each case should be taken into account in determining treatment. The virulence and clinical course under treatment is not well understood in our context. Further studies are needed to assess the importance of the different sources of contamination in hospital units.

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