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CASE REPORT

Staphylococcus lugdunensis endometritis: A Case Report.

Le Staphylocoque lugdunensis endometritis : Un rapport de cas.

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ABSTRACT

BACKGROUND: ***Staphylococcus lugdunensis* has been reported to cause several localized and blood stream infections, but not endometritis.**

OBJECTIVE: **To desribe a case of *Staphylococcus lugdunensis* endometritis associated with premature rupture of membranes.**

CASE REPORT. **A 39-year old woman presented with premature rupture of membrane (PROM) and underwent an emergency caesarean section at 40 weeks of gestation. Her endometritis was characterized by a foul odour and was so extensive that the baby was adherent to the endometrium and had to be separated by a gentle pull. In spite of these, neither the mother nor her baby suffered any adverse effect. The organism exhibited several unusual characteristics that are atypical of staphylococci. The baby did not develop any sepsis. The mother responded well to antibiotics and both were discharged home on the 4th post-operative day.**

CONCLUSION: **To the best of our knowledge, this is the first report of this organism causing endometritis.**
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RESUMÉ

Contexte: Lugdunensis de staphylocoque a été rapporté pour causer plusieurs ruisseau localisé et d'infections de sang, mais pas endometritis.

Objectif: Pour décrire un cas de Staphylocoque lugdunensis endometritis a associé avec le rupture prématuré de membranes.

Rapport: Un vieille femme de 39 années a présenté avec le rupture prématuré de membrane (le concert) et a subi une urgence une section césarienne à 40 semaines de gestation. Son endometritis a été caractérisé par une odeur dégoutante et était si vaste que le bébé était adhérent à l'endomètre et eu être séparé par une force légère. En dépit de ceux-ci, ni la mère ni son bébé ont souffert l'effet défavorable. L'organisme a exposé plusieurs caractéristiques insolites qui sont atypiques de staphylocoques. Le bébé n'a pas développé de septicité. La mère a répondu bien aux antibiotiques et les deux ont été déchargé à la maison sur le quatrième jour poste-opératif.

Conclusion: Au meilleur de notre connaissance, ceci est le premier rapport de cet organisme cause endometritis. ***WAJM 2007; 26(3): 243 – 245.***

***Keywords: Staphylococcus lugdunensis*, endometritis, premature rupture of membrane.**

Mots clés : Lugdunensis de staphylocoque, endometritis ; les Membranes, le rupture prématuré

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Abbreviations: CoNS, coagulase negative staphylococcus; NST, Non-streas test; PROM, premature rupture of membrances

INTRODUCTION

The coagulase-negative *Staphylococcus* (CoNS) species constitute a major component of the normal micro flora of humans. The role of CoNS species in causing infections in man has been recognized and well documented over the last two decades, especially for the species, *S. epidermidis.*[1] The infection rate has been correlated with the increase in the use of prosthetic and indwelling devices and the growing number of immunocompromized patients.[1,2]

There is a need for the accurate identification of CoNS, so that precise delineation of the clinical disease produced by this group of bacteria can be accomplished and appropriate therapy instituted. In their review of CoNS, Kloos and Bannerman[2] emphasized the isolation of a strain in pure culture from the infected site or body fluid as most contaminated clinical specimens produce mixed cultures of different strains and/or species.

Staphylococcus lugdunensis is a coagulase-negative *Staphylococcus* (CoNS) that was first described by Freney et al[3], in 1988 and has the potential to be an opportunistic pathogen. *S. lugdunensis* is an unusually virulent CoNS and can cause many types of infection, ranging from localized breast abscess[4] to life-threatening infections such as peritonitis[5] and endocarditis[6,7]. Unlike *S. epidermidis*, which usually results in indolent sub acute infections, *S. lugdunensis* results in acute infections, similar to *S. aureus*. *S. lugdunensis* infections typically resemble *S.aureus* infections in terms of the virulence of the organism and the clinical course of infection, which is often highly destructive to tissues and organs.[5,6].

The aim of this report is to alert clinicians and microbiologists to be vigilant concerning unusual organisms, so that they are not missed and to ensure that prompt and appropriate antibiotic therapy is instituted.

Case report

A 39-year old female, Gravida (G12), Para (P10) Sibling alive (SA1), reported to the emergency room at 40 weeks gestation having ruptured her membranes prematurely two hours earlier. She had mild labour pains. Vaginal examination revealed that the cervix was about two cm dilated. Investigations carried out included a high vaginal swab. Within two hours of her admission to the ward, she was having strong uterine contractions. At this time, the cervix was 4 cm dilated and the patient was shifted to the delivery room. Two hours later, the non-stress test (NST) started to show late decelerations, depicting fetal stress and the patient was shifted to the operating room (OR) for an emergency cesarean section.

The abdomen was entered through a Pfanestel incision and a lower segment cesarean section was performed. Upon opening the uterus, there was foul smelling liquor. A female baby was found adherent to the endometrium and had to be delivered by a gentle pull. She had an Apgar score of 7, and 9 at one and five minutes respectively. The baby weighed 2450 grams. The placenta was also foul smelling and was delivered completely and weighed 600 grams. Swabs were taken from the uterus and the placenta for aerobic and anaerobic cultures and the placenta was sent for histopathological examination. The baby was clinically stable and sucking well in the nursery.

Post-operatively, the mother received, Heparin, 7,500 i.u. subcutaneously 8 hourly for four days, Injection Diclofenac 75mg when necessary, intramuscularly., Cefuroxime 1.5g intravenously 8 hourly for four days; injection Metronidazole 500 mg intravenously 8 hourly for four days; injection Pethidine, 100mg intramuscularly 8 hourly for 24 hours; Injection promethazine, 25mg intramuscularly 8 hourly for 24 hours. Postoperatively, the WBC was 16.7 x10^9/L; Hb. was 11.0g/dl; PCV was 33%. Blood cultures were carried out on two consecutive days and were negative for both the mother and the baby. We isolated in pure culture, a beta-haemolytic, golden-yellow, Catalase positive, Gram-positive cocci in clusters which were repeatedly coagulase negative, both by slide and tube methods[8]. It was DNase positive, but did not ferment Mannitol. It was sensitive to Novobiocin. It would have been discarded as a contaminant, but for its unusual features and the fact that it came from an endometrium. A preliminary report was sent to the ward as *Staphylococcus* sp. while the isolate was sent to Aseer Central Hospital for phenotypic identification, using the Microscan machine. (Microscan Walk away 40 SI Dade Behring Inc. 1584 Enterprise Blvd., West Sacramento, CA 95691, USA). The organism was identified as *Staphylococcus lugdunensis*, sensitive to: Cefuroxime, Ciprofloxacin, Clindamycin, Erythromycin, Gatifloxacin, Gentamicin, Levofloxacin, Linezolid, Rifampicin, Synercid, Tetracycline, Trimethoprim/sulfamethoxazole and Vancomycin. It was resistant to: Penicillin, Oxacillin, Amoxicillin and Ampicillin/sulbactam. No anaerobe was isolated after ten days of incubation. The patient did very well on Cefuroxime and both she and her baby were discharged home on the 4th post-operative day. Six weeks after her discharge from hospital, the mother and baby were in good health.

DISCUSSION

During the past decade, *Staphylococcus lugdunensis* has emerged as an important pathogen implicated in both community-acquired and nosocomial infections.[7-9]. *S. lugdunensis* has been shown to be associated with serious infections such as endocarditis[7] catheter-related bacteremia[9], pyelonephritis[10], meningitis[11], septic arthritis[12], spondylodiscitis[13], and urinary tract infection[14]. Similar to other CoNS strains, *S. lugdunensis* is considered part of the resident flora of the entire surface of the human skin and mucous membranes.[15]. However, recent studies[16] have shown that most (73%) of the infections involved sites below rather than above the waist (27%). This observation is consistent with the finding by Bellamy and Barkham[17], that the natural habitat of *S. lugdunensis* was located in the pelvic girdle region. This probably explains how our patient got infected.

The patient presented with

ruptured membranes and the organism may have ascended via the vagina into the uterus, thus causing endometritis. Her relatively early presentation spared her and her baby from serious infection. *Staphylococcus lugdunensis* is known to produce fibrinogen-binding protein, which may explain the sticking of the baby to the endometrium.

Our isolate was resistant to all Penicillins. However, it was sensitive to the second and third generation Cephalosporins. This is in agreement with the finding by Cassanova-Roman et al[10]. Obstetricians should look out for this organism especially in women with PROM and institute early and appropriate therapy in order to forestall any adverse outcome.

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