

## ***Ralstonia mannitolilytica* bacteremia in a newborn unit**

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### **Abstract:**

**Introduction:** The bacterial genus *Ralstonia* (Gram-negative nonfermenters) is becoming more prevalent in cases of infection with three bacterial species, *Ralstonia pickettii*, *Ralstonia insidiosa* and *Ralstonia mannitolilytica*. *R. mannitolilytica* had previously been called “*Pseudomonas thomasi*” and *R. pickettii* biovar 3/“*thomasi*”, and has been described in a number of hospital outbreaks. Reports have described it as causing meningitis, peritoneum infection, renal transplant infection and bacteremia. The *Ralstonia mannitolilytica* bacteremia was linked to contaminated parenteral fluids that had been prepared with deionized water or saline contaminated. The aim of this study is describe three cases of bacteremia by *R. mannitolilytica* in a newborn unit in Curitiba, Southern Brazil, during the period from March 6th to March 23th. **Methods:** The blood culture samples were obtained from the newborns and incubated in the automated system BD Bactec TM FX (BD Diagnostic Systems, Sparks, MD, USA). Swabs were collected from all newborns and from environmental sources in newborns unit. Agar MacConkey was used to bacterial isolating from swabs and environmental samples. The bacterial isolates were identified using phenotypic methods, automated commercial system Vitek 2 Compact (bioMérieux, Marcy-l’Etoile, France), matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF-MS) and partial 16S ribosomal RNA gene sequencing. The sensibility tests were realized using broth dilution methods. Genetic relatedness of the isolates was investigated by pulsed-field gel electrophoresis. **Results:** The specie *R. mannitolilytica* was isolate in blood culture and rectal swabs of three patients. The environmental cultures performed were negative. All isolates of *R. mannitolilytica* (three from blood cultures and three from rectal swabs) have presented monoclonal profile in PFGE analyses and were resistant to carbapenems (meropenem and imipenem). All patients received antimicrobial treatment and discharge from maternity. The source of the common infection was not detected. **Conclusion:** *Ralstonia* spp. are not recognized as major pathogens, however, the clinicians and microbiologists should pay attention to emergence of *Ralstonia* spp. infections. These species have certain characteristics, such as resistance to disinfection practices and the ability to survive in water supplies, which allows them to cause many potentially infections.

**Keywords:** *R. mannitolilytica*, bacteremia, *Ralstonia* spp.