

Prevalence of Methicillin Resistance Staphylococci (MRS) from Neonatal Septicemia and Comparative Evaluation of Newer Rapid Latex Agglutination Method with Conventional Methods for diagnosis of MRS

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Abstract

Background & Aims: Neonatal septicemia is a major cause of neonatal mortality in developing countries. Rapid treatment with antimicrobials is very crucial for essential outcome. Methicillin Resistance Staphylococcus (MRS) are important cause of nosocomial infection, which causes septicemia especially in neonates. They are frequently resistance to other antibiotics also. So, rapid, sensitive and specific procedures are required urgently to initiate timely treatment. This study was undertaken to perform comparative evaluation of conventional methods with rapid agglutination method in diagnosis of MRS and to estimate the prevalence of MRS among neonatal septicemia cases. **Materials and Method:** This study was done in one of the major tertiary care hospitals in Ahmedabad, Gujarat. All the blood samples collected from the patients with sign and symptoms of septicemia, from January 2012 to July 2012, were cultured and identified by standard microbiological method. MRS detection was done by conventional methods and latex agglutination method. **Results:** *Staphylococcus* coagulase negative constituted 61.96% and *S.aureus* 4.33% of total bacterial isolates. Methicillin resistance in *S.aureus* and in CONS, was 44.44% and 25.91% respectively. Prevalence of MRS among neonates was 32.72%. The sensitivity and specificity of oxacillin disk was 68% and 100% respectively for detection of MRS. Latex agglutination test method shows sensitivity and specificity of 100% for detection of MRS. **Conclusion:** Along with cefoxitin disc diffusion method, latex agglutination method is to be used for early diagnosis & treatment and for prevention of over use of vancomycin for methicillin resistant *staphylococci*.

Keywords: Septicemia, MRS, Blood culture, *S.aureus*, Cefoxitin, CoNS