To study the characteristics of neonatal fungal sepsis and the difference between bacterial sepsis and fungal sepsis. To improve the understanding of neonatal fungal sepsis” Zhang et al (2017).

Abstract:

OBJECTIVE: To study the characteristics of neonatal fungal sepsis and the difference between bacterial sepsis and fungal sepsis. To improve the understanding of neonatal fungal sepsis.

METHODS: Clinical data of neonatal fungal sepsis in neonatal intensive care unit (NICU) were collected from 2011 to 2016 in Peking University first Hospital. The clinical characteristics were analyzed retrospectively. The difference between neonatal fungal sepsis and bacterial sepsis was also analyzed.

RESULTS: Fifteen cases of neonatal fungal sepsis were recruited. Over the study period, the incidence of neonatal fungal sepsis was 0.52%, while it was 2.5% in very low birth weight infants. Clinical characteristics were nonspeci-fic. All the infants were treated with parenteral nutrition and broad spectrum antibiotics. Peripheral inserted central catheter (PICC) was placed in thirteen patients. Pathogenic analyses indicated Candida glabrata was the main
pathogen in our study. All the pathogens were sensitive to amphotericin B. Only one Candida glabrata was resistant to fluconazole. Thirty-four cases of bacterial sepsis were included. The clinical characteristics and laboratory examination results were compared. The platelet count was $61 \times 10^9/L$ in fungal group, while the platelet count was $178 \times 10^9/L$ in bacterial group. There was statistical difference between the fungal group and bacterial group ($P=0.004$). The rate of thrombocytopenia was 80.0% in fungal group, while it was 29.4% in bacterial group. It was much higher in fungal group than in bacterial group ($P=0.001$). The rate of PICC placement was 86.7% in fungal group, while it was 55.7% in bacterial group. It was much higher in fungal group than in bacterial group ($P=0.037$). Receiver operating characteristic (ROC) curve analysis showed that the cut-off value of the platelet count for the diagnosis of neonatal fungal sepsis was $145 \times 10^9/L$ (sensitivity 61.8%, specificity 92.9%). All the patients were cured after standardized antifungal therapy. The indicators of liver and renal function were also measured before and after antifungal therapy. No significant difference was observed before and after treatment.

CONCLUSION: The clinical characteristics of neonatal fungal sepsis was nonspecific. Candida glabrata was the main pathogen in our NICU. It can be cured as the result of standardized treatment. Decreased platelet count and PICC placement may indicate the possibility of fungal sepsis in neonates.

Reference: