

Hospital Acquired Blood Stream Infections: Epidemiology, Risk Factors, & Outcome

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DESCRIPTION

The presence of viable infectious microorganism in the bloodstream resulting in clinical illness is defined as Bloodstream infections (BSIs). For mortality and morbidity worldwide they are the leading cause. From the patient with clinical signs of infection generally significant growth of a microorganism in blood obtained thus the term bloodstream infection and bacteremia are synonymously used. Prompt and rational antimicrobial treatment are required in clinical practice, or life threatening septicaemia may result, range from self-limiting infections bacteremia. Emergence of antimicrobial resistance, and paucity of good diagnostic facilities are major denominators for surge in BSI associated morbidity and mortality, changing epidemiology, lack of standard antimicrobial guidelines in locality, only happens in the developing countries.

In extreme ages of life due to presence of comorbid conditions increased rates have been observed due to poor immune competency. Due to unavailability of susceptibility pattern of the local isolates and the lack of standard therapeutic guidelines, world is often empirical, primarily resulting in low rate of developing treatment of bloodstream infections.

DISCUSSION

Age distribution, Gender distribution, Source of sepsis, organisms causing sepsis, q Sofa score, Vasopressor requirement, Mechanical ventilation requirement, CRP positivity and outcome of the patients were compared. In most patients, it remains a very difficult task to recognize adrenal insufficiency in a patient in the intensive medical care unit. Significant clues to the diagnosis are hemodynamic instability despite adequate fluid resuscitation (most often associated with a hyperdynamic circulation and decreased systemic vascular resistance) and

ongoing evidence of inflammation without any source that does not respond to empirical treatment. Many factors further complicate the testing of the hypothalamic- pituitary-adrenal axis in patients with critical illness. Expected increase in cortisol levels varies with the type and severity of illness, making it very difficult to define normal ranges. Changes in levels of corticosteroid-binding globulin makes it more complicated in the estimation of free cortisol levels. Even if levels of free circulating cortisol could be measured accurately, the fact that tissue resistance to corticosteroids varies with respect to different tissues implies that the optimal levels of circulating corticosteroids can vary according to the patient's condition. In spite of the relationship between cortisol levels and the severity of illness, it is hard to ascertain usefully what should be an appropriate response in a critically ill patient. It would be of much use to identify a minimal threshold level below which adrenal insufficiency is likely and a maximal threshold level above which insufficiency is unlikely.

CONCLUSION

Blood infection is diagnosed by measuring cortisol levels and also response of cortisol to short synacthen test. Prior studies have shown the incidence of adrenal insufficiency in the ranges of 27% to 84%. Studies prior to 1989, have used high dose steroids and have reported increased mortality probably because of the immunosuppressive effects of corticosteroids. Studies after 1990's have used low to moderate doses of corticosteroids 73 and have found mixed results. There are very limited studies measuring the adrenal insufficiency in the Indian population. Chacko et al demonstrated 82% of adrenal insufficiency in his study of 49 patients. Visvanathan et al demonstrated reduced vasopressor requirement in corticosteroid supplemented patients.

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