GROUP B STREPTOCOCCAL BACTEREMIA IN AN ADULT: A CASE REPORT FROM INDIA

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Abstract. The incidence of group B streptococcal bacteremia in adults has increased in recent years, particularly in patients with severe underlying diseases. However, group B still remains an unusual pathogen in adults in developing countries. We report a case of group B streptococcal bacteremia in a non-pregnant adult, the only case reported in our hospital. The organism was only isolated from the blood and responded to specific therapy.

Group B *Streptococcus* (GBS) is a Gram positive, β-hemolytic, micro-organism, recognized as a cause of local and systemic infection during pregnancy, labor and the neonatal period (Baker and Edwards,1990). Recently, there has been an increasing awareness of the importance of invasive group B streptococcal infections in non- pregnant adults. Reports of invasive group B streptococcal infections have included wound infections, cellulitis, osteomyelitis, septic arthritis, urinary tract infections, meningitis and pneumonia (Farley *et al*, 1993). Bacteremia due to GBS is a well known entity in neonates. However, it is an infrequent cause of septicemia in adults in many developing countries.

We report a case of GBS bacteremia in a non pregnant adult. An association was made due to the organisms isolation from blood and response to specific therapy. An immunocompetent 28 years-old; non-pregnant female with a past history of subcorneal pustular dermatosis presented with acute exacerbation of skin lesions of 15 days duration. A detailed history revealed that she was a known case of subcorneal pustular dermatosis in remission on low dose (10 mg/day) corticosteroid therapy for the past one year. On admission, the patient temperature was 37°C, blood pressure 110/70 mmHg and pulse rate 80/minute. Systemic examination was non contributory. Her initial laboratory tests showed a hemoglobin level of 10 g/dl, white blood cell count of 5,600/mm^3 and platelet count of 1.23 lakhs/mm^3. Liver and renal functions were within normal limits. A provisional diagnosis of acute exacerbation of pustular dermatosis was made.Therapy with oral dapsone and prednisone was initiated.The patient improved gradually; the skin lesion started to subside. Unfortunately, on the 25th hospital day, she had another episode of exacerbation of skin lesions along with high grade fever. Samples of blood, urine and pus(taken from the skin lesions) were sent for aerobic bacterial culture. Cultures of blood and pus revealed no growth but urine culture showed growth of *Klebsiella pneumoniae* which was susceptible to ciprofloxacin.Treatment with oral ciprofloxacin was begun and continued for 10 days. The patient became afebrile after 4 days of antibiotic treatment.

On the 46th hospital day , the patient once again had an episode of exacerbation of pustular dermatosis with spikes of fever. On examination, the patient was febrile, with a temperature of 38.9°C. There was no evidence of shock or hypotension. Her laboratory parameters revealed a leukocytic count of 10,300/mm^3, (78% polymorphs, 11% lymphocytes, 1% monocytes) and hemoglobin level of 9 g/dl. Liver and renal function tests were within normal limits. Samples of urine, pus and blood were sent for aerobic bacterial culture. GBS was isolated from blood after 24 hours of aerobic incubation. It was identified by its biochemical reactions and confirmed by serogrouping (Meritec Strep, Meridian Diagnostics, Italy, Europe). In a standard Kirby-Bauer sensitivity test, the organism was sensitive to ampicillin, vancomycin and ciprofloxacin. Thereafter, antimicrobial therapy with ampicillin was started and continued for another 2 weeks. The patient improved gradually, became afebrile and

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follow up blood cultures taken later were sterile. The skin lesions went into remission. The patient was discharged with advice to come for follow-up in the Dermatology Clinic.

Invasive group B streptococcal infections should no longer be considered an exclusive peripartum event. There is an increasing evidence of GBS in adults. One explanation for this is the improved survival of adults with chronic underlying disease, who are at the greatest risk of GBS infection (Wessels and Kasper, 1993). Since the recognition of GBS as a cause of human disease, GBS bacteremia in adults has not been widely reported except for some reviews from the West (Lerner *et al*, 1977; Gallagher and Watanakunakorn, 1985; Schwartz *et al*, 1991;Colford *et al*, 1995; Munoz *et al*, 1997; Cooper and Morganilli, 1998).

We reviewed the medical literature from 1966 for GBS bacteremia in adults from the Asian subcontinent. The search uncovered only one previous study from Taiwan (Liu *et al*, 1997). In addition, GBS meningitis in an adult has been reported from Thailand (Chotnongkol *et al*, 1993). The All India Institute of Medical Sciences is a 1,500 bed teaching hospital which serves as both community hospital and tertiary care center. This is the first case of GBS bacteremia in a non-pregnant adult reported from a person in our hospital. Group B streptococcal bacteremia appears to be a disease of patients with serious underlying medical conditions (*eg* diabetes mellitus, malignancy and liver disease) and may be hospital acquired. The episode of bacteremia appeared to be nosocomially acquired as the patient had been hospitalized for 46 days before collection of the specimen from which GBS was isolated. The probable source of bacteremia could not be identified.

Long term steroid therapy in the setting of GBS bacteremia has been reported (Lipsky *et al*, 1975). In the present case, the patient had been receiving prednisone both prior to and during the entire course of hospital stay. The case reported here illustrates that the importance of GBS as a cause of serious infection among adults should be more widely appreciated. Prospective surveillance of GBS infection is needed to ascertain the true incidence of GBS bacteremia and to identify the best methods of disease prevention.

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