B. ALCALIGENES FAECALIS SEPTICEMIA AND MENINGITIS IN THE NEWBORN*

Report of an unusual Case

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Septicemia in a newborn poses difficult diagnostic and therapeutic problems, especially when the classical features are not present. The causative organisms may be of a high or low virulence and at times even non-pathogenic organisms may become pathogenic. One such organism is *B. alcaligenes faecalis*. This organism was first isolated by Petrusky in 1896. It is a Gram-negative, motile organism and is a common saprophyte of the human intestinal tract but may invade the blood stream and cause septicaemia (Doxiadis et al. 1960), meningitis (Bischoff et al. 1948), pneumonitis (Sherman et al. 1960), endocarditis (Cole and Marshall 1952) etc. Recently we encountered a case with unusual features of septicemia and meningitis due to *B. alcaligenes faecalis*.

Report of a Case

A 22-year-old, primigravida delivered normally a full-term male baby weighing 2.620 Kg. on 2.9.66. The baby was mildly asphyxiated at birth due to a nuchal cord and was well after mild resuscitative measures. The Apgar score at one minute was 6/10. Physical examination revealed no obvious congenital abnormality.

The baby did well for the first 10 days. On 13.9.66 mild icterus was noted. There was no other normality at this stage. On 16.9.66 the baby vomited twice. Examination revealed an active and alert baby with moderate pallor, liver 1.5 cm. below the costal margin, soft; the spleen was just palpable. The reflexes were normal. Blood was sent for S.T.S. and culture. Hemoglobin was 12 Gm. % with normocytic and a normochromic peripheral blood picture. No normoblasts were seen and platelets were adequate.

On 20.9.66, the child had a rectal temperature of 101°F, was not accepting feeds and had passed one stool streaked with blood. Examination was essentially normal and he was treated symptomatically. A significant finding at this stage was extremely prolonged bleeding at the site of the needle prick. Repeat investigations revealed a hemoglobin level of 10.5 Gm. %, total leucocyte count 9,500/ cumm., polymorphs 80%, lymphocytes 20%, microcytic hypochromic smear with adequate platelets, no immature cells. Blood group was B, Rh+ve, serum bilirubin 4.8 mg. %. On 27.9.66 hemoglobin fell

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BERRY—B. ALCALIGINES Faecalis Septicemia and Meningitis in the Newborn

To 8 Gm. %, occult blood in the stools was negative twice and the child did not bleed externally except when he was pricked. By this time the blood culture report was received and it revealed *B. alcaligenes faecalis* sensitive to streptomycin and Aureomycin. The child was put on Terramycin orally, in the dose of 100 mg/kg/day. The bleeding tendency continued but investigations for bleeding diathesis were deferred to a later date.

On 4.10.66 the blood S.T.S. report was received which showed the baby's S.T.S. to be negative and that of the mother positive in 1/128. Skeletal survey showed no evidence of periostitis or osteochondritis. However, the child was given the benefit of the doubt and was put on crystalline penicillin 500,000 units 12 hourly. Fundus examination showed no evidence of chorioretinitis either in the baby or the mother. The urine was negative for cytomegalic inclusion bodies. On 7.10.66 the infant had 3 vomits and minor fits involving the left half of the face and left arm, which lasted for a few seconds. The anterior fontanelle was tense for the first time now and reflexes were depressed. The heart rate was 140 per minute, regular, with a soft systolic murmur, grade 2/6. Respiration was normal. Lumbar tap revealed xanthochromic fluid under tension with proteins 80 mg %, sugar 40 mg %, chlorides 600 mg %, cells 150/cumm, all lymphocytes. A subdural tap yielded 1 ml. of haemorrhagic fluid on the right side. Haemoglobin was 5 Gm%. The child was given 40 ml. of whole blood and 2 mg. of vitamin K on 2 subsequent days. Phenobarbital was added to control convulsions. Following this treatment, the baby showed some improvement, convulsions decreased in severity and duration, but the child was taken home against medical advice.

**Comment**

A newborn presenting with jaundice on the 10th day of life with no other clinical finding makes the pediatrician explore many diagnostic possibilities such as septicemia, syphilis, etc. When anaemia is added to it, the problem becomes more difficult and possibilities like hemolytic anaemia and acute leukemia etc. are also to be considered. This child was investigated for all these and no conclusion could be drawn. The diagnosis of septicemia was suggested by the blood culture report. However, even at this stage there were no classical signs suggestive of septicemia and meningitis. Another odd feature about this child was an extensive bleeding tendency due to septicemia.

The organisms commonly responsible for septicemia in the newborn are *E. coli, Staphylococcus pyogenes, Pseudomonas pyocyaneus*, etc. *Alcaligenes faecalis* though a non-pathogen, invades the bloodstream and cerebrospinal fluid occasionally and causes septicaemia and meningitis. Gatwoods (1931) reported *B. alcaligenes faecalis* meningitis for the first time. Since then, there have been several reports of meningitis and septicemia due to this organism. Khetrapal (1964) reported 4 cases of *Alcaligenes faecalis* septicemia in the newborn and suggested that in all suspected cases of septicemia, after blood culture has been taken, broad-spectrum antibiotics should be started till the culture report warrants otherwise. Antibiotics were not administered in our case till the culture...