Case Reports

Paraplegia Secondary to Hematomyelia in a Neonate

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Association of spinal cord dysfunction in a neonate with disseminated intravascular coagulation (DIC) is rare(l). We report a newborn that developed paraplegia on the seventh day of life due to hematomyelia associated with DIC.

Case Report

A 2900 g full term female baby, born at home to a 25 year old second gravida was admitted to the hospital at the age of 60 h. The antenatal and intrapartum periods were apparently uneventful except that the mother had history of leaking per vaginum for 18 h. The delivery was conducted by an untrained birth attendant and the baby cried about 2-3 minutes after birth after physical stimulation.

The baby had history of poor feeding, irritability and excessive crying but had no fever or seizures. The child was sluggish and neonatal reflexes were depressed. Mild icterus was present over the face. Laboratory data showed hemoglobin 16.8 g/dl, WBC count 22,400/cu mm ($P_{78}L_{22}$) and 10% band cells. Blood sugar, urea, serum electrolytes, X-ray chest and CSF examination done at admission were normal. Blood culture was sterile. The baby was started on antibiotics (ampicillin and gentamicin) along with supportive management.

On the 5th day of life, the child showed deepening icterus and upper gastrointestinal hemorrhage. Liver was enlarged 3 cm below costal margin, spleen 1.5 cm below costal margin and a gall bladder lump was palpable. Investigations at this stage showed hemoglobin 14 g/dl, WBC count of 3000/ cu mm with 80% neutrophils, significant shift to the left and platelet count of 60,000/ cu mm. The total serum bilirubin was 10 mg/dl, with direct bilirubin 8 mg/dl, SGOT 400 IU/L, SGPT 340 IU/L and alkaline phosphatase 36 KA units/ml. Prothrombin time was significantly prolonged. A second blood culture grew *Klebsiella pneumoniae.* Antibiotics were changed to cefotaxime and amikacin according to the sensitivity pattern. Vitamin K and fresh blood transfusions were given.

The baby's condition continued to deteriorate. She developed petechiae and purpura all over the body and there was prolonged bleeding from venipuncture sites. On the seventh day, she developed sudden onset paraplegia. There was loss of spontaneous movements and reflexes in both lower limbs. The anus was patulous and bladder was distended with intermittent dribbling of urine. The baby had loss of pin prick sensation below the umbilicus. The examination of the head, cranial nerves and arms was normal.

The bleeding time, clotting time, prothrombin time and partial thromboplastin time were abnormally raised over controls.

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Fibrin degradation products were raised to 30 mg/ml in the blood and fibrinogen level was low (140 mg/dl). X-ray skull and ultrasound examination of head were normal. X-ray dorsolumbar spine showed no evidence of fracture, dislocation or any congenital anomaly. Computerized axial tomography of the brain was normal. However, scans of the lower dorsal and upper lumbar spine revealed multiple high density lesions within the cord from level of D_{11} to L_2 vertebrae consistent with intraspinal hemorrhages *(Fig. 1).* The infant expired on the 10th day of life.

Discussion

Association of spinal cord dysfunction in a neonate with DIC is very rare(l). Spennati *et al.(2)* in 1979 reported a newborn who became paraplegic on the 3rd day of life as a result of lumbar intraspinal hemorrhage. That patient died four days after birth with an intracranial hematoma and widespread thrombo-hemorrhagic lesions characteristic of DIC. Hershenson *et al.{3)* in 1982 reported a neonate of Kleb-siella septicemia and DIC who developed paraplegia on the tenth day of life. CT scan of spine and myelogram revealed an extra-arachnoid hematoma. There are no available reports of neonatal spinal cord dysfunction associated with other coagulopathies like vitamin K deficiency or hemophilia.

The diagnosis of DIC in our patient was made on clinical findings and confirmed by laboratory data and clearly, hematomyelia resulting from DIC is the likely cause of paraplegia in our patient. The other important causes of spinal cord dysfunction in a neonate are spinal dysraphism and birth trauma. Birth trauma usually causes cervico-thoracic cord dysfunction(4,5). Moreover, the normal vertex presentation, lack of identifiable birth trauma and delayed onset of symptoms virtually rules out this possibility.

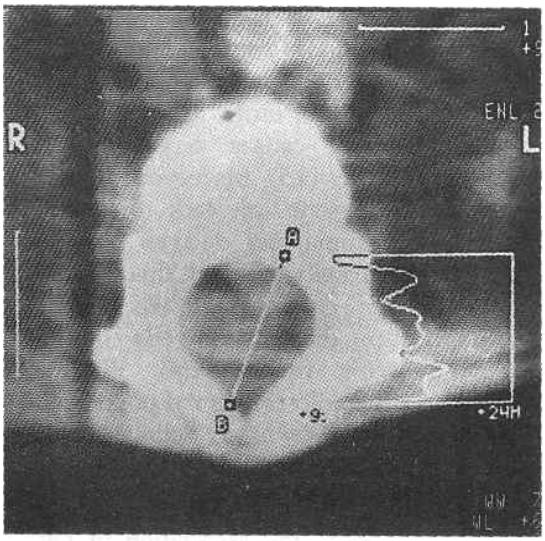

Fig. 1. Computerized axial scans of the spine at level of L1 vertebra showing multiple high density lesions within the spinal cord suggestive of intraspinal hemorrhages.

Other conditions like spinal dysraphism(6), diastematomyelia(7), intraspinal abscess or tumor(8), Werdnig Hoffman disease(9) congenital poliomyelitis(l0) and umbilical artery catheterization are all inconsistent with the clinical course and investigations in this patient.

In conclusion, the association of DIC and spinal cord dysfunction should be considered in the differential diagnosis of paraplegia in the neonatal period.

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