



## BILATERAL ERB'S PALSY: A RARE CASE REPORT

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## KEYWORDS :

## INTRODUCTION:

Brachial plexus is the mixing of ventral rami of spinal nerves in the lower neck and upper thoracic regions. The constituent nerve roots are C5 through T1 where C5 means fifth cervical spinal nerve and T1 means first thoracic spinal nerve. (1) The ventral rami of C5 and C6 join to form the upper trunk. Due to excessive manipulation or shoulder dystocia during parturition injury to the upper trunk may result. This may lead to paralysis of nerves supplied by the upper trunk. This characteristically is called Erb's palsy or Erb-Duchenne palsy. The incidence of Erb's palsy is about 0.1% of births. (2) Most of the cases are self-limiting with the reported spontaneous remission being 66-92%. (3)

## CASE REPORT:

We describe a male baby of 37 weeks who was delivered vaginally at home in a village and was admitted to the newborn unit of a medical college. On examination the baby was having bruise marks over the cheeks and neck. These marks as well as the history by the relatives suggested that there was some complication during birth and quite a lot of manipulation was done for the delivery. The weight of the baby was 3KGs. The baby was alert and was having good cry but had put both of his upper limbs in a position similar to Erb's palsy [Figure 1]. In both the upper limbs the arms were medially rotated, the forearms were extended and pronated. Both the wrists were in flexion. On further observation, the baby was moving both the lower limbs, but was not moving the upper limbs. The baby was stable and was referred to a neurologist. The advised nerve conduction test was refused by the parents. The baby was discharged after one week. We lost the baby to follow up.

## DISCUSSION:

Brachial plexus paralyses are common during obstetrical complications. The upper trunk of brachial plexus has an Erb's point where classically six nerves meet. These six nerves are ventral rami of fifth and sixth cervical spinal nerves, anterior and posterior divisions of the upper trunk and suprascapular and subclavius nerves. During traumatic delivery due to traction on the spinal nerve roots of the upper trunk namely fifth and sixth cervical nerves there occurs paralysis of the nerves contributed by the upper trunk. This condition is called Erb's palsy. The palsy denotes partial paralysis. Classically the palsy results in policeman's tip deformity wherein the arm hangs by the side and is medially rotated. The forearm is pronated and extended with flexion at wrist.

Traumatic deliveries are known to result in brachial plexus injuries. (2) Different types of brachial plexus injuries have been described in literature. It has been suggested that abnormal birth and shoulder dystocia are important factors that may lead to neonatal Erb's palsy. (4) Though obstetrical causes are known to result in Erb's palsy non obstetrical causes have also been documented. Louis et al in 2010 described a female neonate, who had undergone posterolateral thoracotomy on day 3 of life for the treatment of esophageal atresia and developed weakness in the right upper limb on day 21. (5)

Simultaneous Erb's palsy with Klumpke's palsy have been described in an adult who attempted suicide by hanging. (3) In this case due to stretching of the neck the nerve roots got stretched which might have resulted in upper trunk injury and while he was trying hold on to the

rope from which he was hanging his upper limb was outstretched in an abduction position and could have damaged his lower trunk thereby resulting in Klumpke's palsy also.

Graham et al in 1997 analysed 14,358 births retrospectively and came to the conclusion that the incidence of Erb's palsy had no significant correlation with vaginal birth and increased fetal weight. This study also found that babies with normal weight and with caesarean deliveries are also almost equally susceptible to suffer from Erb's palsy. (2)

Passive exercises for strengthening shoulder, elbow and digits are done as conservative management to increase the range motion. Surgical techniques like nerve grafting and nerve transfers have also been tried. (6)

Unilateral Erb's palsy is seen and recovery is common, but bilateral Erb's palsy has rarely been reported earlier. Hence information of this type of variant is important for the pediatricians and neurologists who might find these type of cases in their clinical practices.



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