

OBSTETRICAL PALSIES

by

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Maternal injuries in difficult labour may be various types from minor to serious one. Although proper emphasis has not been paid in the literature on the subject of nerve palsy, it is by no means rare in developing countries. Nerve palsy and fistula formation are usually late sequelae of difficult and neglected labour and constitute an important source of postnatal debility.

Materials and Methods

Maternity Ward of Sokoto General Hospital (Nigeria) had 4,000 deliveries in August, 1976 to July, 1977, out of which 500 were unbooked cases. Of all the unbooked cases, 100 cases were admitted for dystocia and 75 per cent required operative delivery. Ten cases developed nerve palsies and fistulae.

Age and Parity: Age: There were 4 cases between 14 to 19 years and 6 cases between 20 to 25 years.

Parity: There were 6 primiparas and 4 multiparas.

Height: It was 60" to 64" in 7 cases and 54" to 59" in 3 cases. There was no relation of short stature to dystocia.

History of Labour: All the patients were in prolonged labour before admission. Three cases were admitted with 3½ days in labour, 4 admitted with 2½ days in labour and 3 were admitted with 2 days in labour.

General Condition of the Patients: All the cases were exhausted dehydrated and acedotic. Pyrexia (100°F to 102°F) was present in 6 cases. Four cases had gross infection and anaemia. Shock was present in 2 cases.

Abdominal Examination: There was distension of bladder and intestines in all the cases. Condition of uterus was variable. There was hypotonic uterine contraction in 3 cases. Bandle's ring was seen in 6 cases. Signs of threatened rupture was observed in 1 case. F.H.S. was absent in 7 cases and very slow (70 to 90/mt.) in 3 cases.

Vaginal Examination: Cervix was fully dilated in all cases. The head was inside the pelvic cavity in all the cases with persistent occipito-posterior in 3, deep transverse arrest in 4, impacted mento-posterior in 2 and occipito-anterior in 1 case.

Pelvis: Clinical assessment showed pelvic abnormality in 5 (funnel pelvis).

Management: All the cases were resuscitated with Pethedine and I.V. fluid. Blood transfusion was given in 4 cases. Intravenous antibiotic was given to all cases. One case delivered spontaneously. Two cases were delivered by midforceps, craniotomy was done in 6 cases and then extracted by forceps. One case was delivered by lower segment caesarean section. General anaesthesia was given in 1 case and the rest were delivered under local anaesthesia supplemented with I.V. Pethedine and Valium. The weight of the 5 babies was between 8-10 lb. and the

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other 5 weighed between 6 lb. to 7 lb. and 12 oz.

Onset of Signs and Symptoms: Weakness of lower limb was detected after 2nd day of delivery. Two patients complained of sciatica on 7th puerperal day.

There was involvement of right side in 3 cases, left side in 6 cases and both the sides in 1 case.

Neurological Findings: Unilateral weakness of leg or thigh occurred in 3 cases, unilateral weakness of leg in 6 cases and bilateral weakness of legs and thighs in 1 case.

Motor Involvement as tabulated below:

	Weakness	Wasting
Extensor muscles of ankle and toes	6	4
Extensor muscle of ankle and toes and calf muscles	4	1
Quadriceps femoris	2	1
Hamstring muscles	3	1
Gluteal muscles	3	2

Jerk	Lost	Diminished
Ankle jerk	4 cases	1 case
Knee jerk	1 case	1 case

Sensory Involvement

Loss of sensation—Over dorsum of foot—3 cases.

Loss of sensation—Over lateral side of leg and dorsum of foot—3 cases, Sciatica—2 cases

Laboratory Investigation: No abnormality in G.T.T. was found in any case.

Associated Condition: Vesico-vaginal fistulae developed in 8 cases, vesico-vaginal and recto-vaginal fistulae in 2 cases and temporary puerperal psychosis in 3 cases.

Treatment

- (1) Rest in bed for 2 weeks.
- (2) Plaster back splint to prevent foot drop.
- (3) Analgesics, Aspirin 600 mg. t.d.s. for one week.
- (4) Physiotherapy after 2 weeks.
- (5) Use of an improvised device to lift the toes during walking.

Results

All the patients could walk without any support at the time of discharge. Some residual paralysis was noted. Five cases could be followed up. Improvement was observed uniformly but complete recovery was not seen in any case.

Discussion

Several theories have been advocated to explain the nerve paralysis.

(a) Pressure of the foetal head over the nerves in pelvis.

(b) Overstretching of nerve trunks in pelvis and also sciatic nerve over the buttock.

(c) Prolapse of intervertebral disc.

Pressure Theory: Prolonged pressure of the foetal head over the lumbo-sacral nerve trunk can account for the weakness of the muscles of the leg. Apparently all the muscles supplied by the lumbo-sacral trunk should be involved. But it is not so. Fifth lumbar nerve is the largest nerve root of sciatic nerve. Along with 4th lumbar nerve it lies close to the bone. For this reason, both are more liable to pressure injury than other nerves in the pelvis. Lateral popliteal nerve is formed by L4 and L5 and supplies the extensor and abductor muscles of foot. Hence it is more likely to be involved than medial popliteal nerve which forms the posterior tibial nerve supplying the calf muscles. This explains

the presence of normal ankle jerk although there is foot drop. But in case of severe injury, there will be total paralysis of sciatic nerve.

Femoral nerve arises from 2nd, 3rd and 4th lumbar nerves and passes along the lateral border of psoas muscles and then under the inguinal ligament to the thigh. This nerve may be pressed by the foetal head and abdominal retractor blade. Since the course of femoral nerve is just outside the true pelvis chances of involvement are less.

(b) *Stretching of Nerve Trunk:* Lumbo-sacral nerve trunk may be stretched by backward rotation of sacrum during lithotomy position. It is overstretched in forceps delivery, especially if pull is more than usual. The nerve sheath or axon or both may be damaged. One of the cases of bilateral weakness of the legs may be thus explained. She had weakness of gluteal, hamstring and leg muscles on both sides.

(c) *Prolapse of Intervertebral Disc:* Some authorities think that this theory can account for all cases. X-ray study of all the cases did not show any changes in the intervertebral spaces. Lasegue's sign was positive in only 1 case. Combined involvement of femoral and sciatic nerve is difficult to explain unless one postulates multiple prolapse of discs which is not common. In case of prolapsed

disc, backache and pain along nerve are important features. But out of 10 cases, only 2 had sciatica which developed on 7th puerperal day and passed away spontaneously in 7 days. Improvement with ordinary treatment is a point against prolapse theory. All these cases of nerve palsy developed fistulae which is the effect of prolonged pressure. The lumbosacral nerve trunk had to bear the severe pressure. Therefore, pressure is an important factor in etiology of nerve palsy and fistulae in most of these cases.

Summary

Sciatica with or without femoral neuropathy following dystocia occurred in 10 cases. Vesico-vaginal fistula developed in 8 cases and combined V.V.F. and R.V.F. developed in 2 cases. Involvement of left limb was more frequent than the right one. Pressure of the head over the nerve played an important part in the etiology of the neuropathy.

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