Title: Obstetrical brachial plexus palsy : About a cohort of 81 children

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Oral communication

The purpose of this study is to report natural history of spontaneous recovery of obstetrical brachial plexus palsy and to identify parameters that might improve the ability to predict recovery.

Materials and Methods:

Between July 2007 and December 2010, 81 children with 82 brachial plexus palsy were included in a cohort. The palsies were classified according to NARAKAS classification, Rehabilitation started at 01month. Each child was examined every month by the author during the first year and every three months in second year, and twice in third year and every year thereafter, the exact date of biceps recovery was noted, the Muscle power was assessed using classification of GILBERT.

Evaluation of the shoulder, elbow and the hand was performed according to the classification of GILBERT and RAIMONDIE , and functional score of MALLET

Shoulder Computerized tomography scan was performed to enfant which present incomplete recovery; they were recorded according to FRIEDMAN classification.

Result:

There was 29 boy and 56 girl with 47 right, 35 left paralysis and 01 bilateral palsy .the average birth weight was 4200 g. the mean follow up was 4 (range 2,5-5,5) years .

The 82 palsy were grouped according to NARAKAS classification and the natural history of neurological recovery of each group was studied separately as follow:
1/first group = ERB palsies: (62%).
In this group complete neurological recovery occurred in 58% of children ,the rest (42%) had residual palsies essentially a deficiency on active external rotation (87% of cases), one child (0.06%) had abduction deficiency .97% of this group recovered biceps in the first three months of life.

12 % presented shoulder contracture; they were classified type I –II of FRIEDMAN when Computerized tomography scan was performed.

2 / second group : C5C6C7 palsies (24%) :
16% of children in this group recovered completely, and 84% remaining deficiency on

active external rotation of shoulder (82%) , on active abduction(62%). only 28% of patients have recovered biceps in the first three months of life.

Shoulder's grading was as follows: grade V –IV(43,5%), grade III(28%) , grade II or less (17%) . elbow evaluation was : score= 4-5 (72%),score =3(17%),score =0-2(11%) ,the hand was graded V - IV (95%).

25% of cases showed deficiency on extensions of elbow (inferior to 30°) and shoulder contracture (58%) , shoulder Computerized tomography scan showed a posterior subluxation of humeral head (22%)(typeIII)and false glenoid 11% (type IV of Friedman classification)
3 / third group = total palsies and total palsies+CBH represented 12%:
22% of children recovered normal hand function .

Discussion:

  In our study, the rate of complete recovery of C5, C6 palsies is three times higher compared to C5, C6, C7 palsies.
  In Erb palsies, the residual deficit concerns mainly active external rotation of the shoulder.
C5,C6,C7 palsies which observed complete recovery had quickly joined the C5, C6 palsy in the first three months
Total palsy which regained hand function improvement observed this evolution , quickly during the first three months.

Conclusion:
In our study, we found that recovery of biceps at three months is a reliable criterion is easily tested.
Concerning C5, C6 and C5C6C7 palsy : the evolution of neurological recovery at the first three months of life is important for predicting prognosis, and can be taken as a criterion to decide to perform repair surgery or neurotisation of sub scapularis nerve in cases which remaining palsy concerned external rotation of shoulder only .