Early versus Late surgical treatment for Obstetric Brachial Plexus Palsy

(Assiut University Hospitals Experience)

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Introduction

To investigate the proper age limit for surgery in OBPP

Patients and Methods

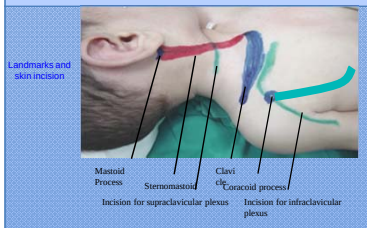
1998-2007, 150 patients

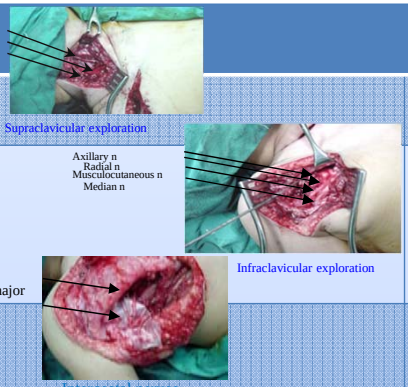
- Upper C5,6 (22%)
- Upper middle C5,6,7 (24%)
- Lower C8,T1 (2%)
- Total C5-8,T1 (52%)

Assessment using Toronto scale, Clarke and Curtis (1995)

Poor	Fair	Good	Full
≤grade4	Grade 5	Grade 6	Grade 7
Unsatisfactory		Satisfactory	

Surgical approach





Surgical Strategy of repair

- Ruptured roots

reconstruct the plexus anatomically.

- One root avulsed and C7 ruptured

C7 to avulsed root

- Two roots are avulsed

the remaining 3 roots to cords or trunks

- Three roots are avulsed

one root to LC and the other to PC, and ICN to MC

- Four roots avulsed

single available root to LC via a graft, ICN to MC, and CN-C7 to PC via a graft

- Five roots avulsed

same as above + SAN to Mc via a graft,
or, two additional ICN to Mc

Results

1- Reconstructive procedure

A- Neurolysis was best for restoration of wrist and fingers flexion, (85.7%), and elbow function, flexion and extension, (75% for each).

B- Grafting

Shoulder abduction: 60%

Shoulder external rotation: 50%

- Rt., Total, 8 months old
- C5-T1 rupture
- 33 months postoperative;
- C5-G-SSN. PDUT/ C6-ADUT/C7-MT/ C8.T1-G-LT
- Good elbow flexion
- Full shoulder abd, ext rot, elbow extension

C-Neurotization

Spinal Accessory

Shoulder external rotation: 55.6%

Intercostal

Elbow flexion 75%

Contralateral C7

- **LT. 60M TOTAL**
- **C5,6-R**
- **C7-T1-A**
- **C5,6-G-Post Cord**
- **CNC7-ULNG-Median**
- **ICN2,3,4,5-Lat Cord**
- **40mFU**

2-Regional functional recovery

A- Shoulder Function

Abd 58.2% (n=25)

Ext Rot 49.2%(n=21)

B- Elbow Function

Flexion 72% (n=31)

Extension 62.5% (n=25)

C- Wrist and finger

Flexion 68.8%

Extension 48.6%

3- Lesion distribution

A- Upper trunk (C5,6)

Shoulder Abd 60%

Shoulder External Rottion 80%

Elbow flexion 100%

Elbow Extension 60%

- Lt., Upper, 8months old
- C5,6 rupture
- C5-2G-ADUT/C6-4G-PDUT/SAN-SSN
- 36 months postoperative;
- Full function shoulder and elbow

B- Upper Middle (C5,6,7)

Shoulder Abd 57.9%

Shoulder Ext Rot 72.7%

Elbow flexion 78.9%

Elbow ext 52.6%

Wrist and finger ext 47.4%

- Rt. 7m upper middle
- C5 r
- C6,7 A
- C5-G-PDUT,MT
- SAN-SSN
- ICN3,4,5-MC
- 18m FU

C- Total C5-8,T1)

Shoulder Abd 60%

Shoulder Ext Rot 53.5%

Elbow flexion 60%

Elbow ext 53.5%

Wrist and finger flex 66.7%

Wrist and finger ext 46.7%

- Bilat. Rt. Total 16m
- C5-7 R
- C8.T1 A
- C5-G-Median,
- C6-G-Radial,Axillary
- SAN-SSN
- ICN3,4,5-MC
- 45 m FU

Conclusion

The earlier the surgery the better the final outcome , however delaying surgery to the age of 5-6 months does not seem to have a detrimental effect on the quality of functional recovery, and at the same time reduces the risks associated with prolonged anesthesia.