

## **Bilateral Hip Reconstruction improve Hip Stability ,Pelvic Balance and Ambulatory function in Children with Cerebral Palsy.**

*Dr. Verasak Thamkunanon*

Orthopaedic surgeon

Queen Sirikit National Institute of Child Health

Thailand

### ***Abstract***

Background : Hip displacement is one of the most common problem in children with cerebral palsy especially in non ambulate patients. This problem would deteriorate gradually ambulatory function of the patients lead to hip contracture, pelvic tilt,scoliosis and pain finally. Bilateral hip reconstruction that consist of proximal femur and pelvic osteotomy not only correct the hip joint displacement but also help the muscle around the hip function easier and better , help balance the pelvis and improve over all of ambulatory function.

Purpose: 1.Present the results of treatment with bilateral hip reconstruction in 49 cerebral palsy patients with hip displacement in the aspect of ambulatory function and hip radiography. 2. Study the predictors influence the outcome including age at surgery , GMFCS level, PreOperative Migration percentage and pelvic tile.

Method: Reviewed the surgical outcomes of 98 hip reconstructions in 49 patients who had completely been followed up at 24 months after operation. Pre and Post operative ambulatory function were assessed by ambulatory score sheet including sitting ,standing and walking function. Radiological outcome were assessed on migration percentage ,acetabular index and pelvic tilt in pre and post operation. Preoperative Migration percentage , GMFCS level , age at surgery and degree of pelvic tilt were assessed by regression analysis on the surgical outcome.

Result: 39 patients(79.6%) in total of 49 patients had been satisfied with normal migration percentage hips (MP< 30%) after 2 years of operation. 80% of cases who have pelvic tilt could be corrected into normal balance pelvis. Four patients (8%) had loss of correction but only 2 cases had re-operation due to pain and hip contracture. After 2 years of operation ,35 cases(71.4%) had improvement in siting ability, 25 cases(51%) had improvement in standing ability and 6 cases (12.2%) in walking ability. PreOperative Migration Percentage was a significant risk factor to postoperative outcome.

Conclude: 1.Bilateral hip reconstruction could correct hip displacement and balance the pelvis effectively (80% of cases at 24 months). 2. 43 in 49 cases had been improved in ambulatory function. 3. PreOperative Migration Percentage was a significant risk factor to postoperative outcome.

Keyword: Cerebral Palsy, Bilateral Hip Reconstruction , Ambulatory function.