The Fate of the Contralateral Hip in Patients Undergoing a Periaceabular Osteotomy: Are there Risk Factors for Disease Progression?

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**Introduction:** The purpose of the current study was to determine (1) the rate of initial and subsequent symptom development in the contralateral hip of patients with symptomatic ipsilateral DDH undergoing a PAO and 2) to identify predictors of the development of symptomatic contralateral hip pain.

**Methods:** The contralateral hip of 207 consecutive patients presenting for primary surgical treatment of DDH were included prospectively. At baseline clinical presentation and follow-up time points, patients completed outcome questionnaires, including the presence of symptoms in the contralateral hip. Radiographically, Lateral center to edge (LCEA), acetabular inclination (AI) and alpha-angle on the non-operative hip were investigated.

**Results:** The mean age was 26.8 years. There were 177 females (85%). The mean follow up was 3.1 years (range 2-8 years). The mean LCEA of the contralateral hip was 14.30 (range 0-260), the AI was 13.50 (range -5-260) and the mean alpha angle was 51.60 (range 31.4-1020). Fifty-nine patients (28.5%) presented with symptoms in the contralateral hip at index PAO. At final follow-up, a total of fifty-two patients (25%) underwent a contralateral PAO. These included 23 patients (44%) with contralateral hip symptoms and 29 patients (18%) who were asymptomatic at index PAO. The subgroup of patients who ended with contralateral surgery were younger (24 vs 29 years old) (p=0.004) and had lower LCEAs (16.710 vs 11.870, p=0.001). Risk factors for disease progression included: hip pain at index PAO (p=0.007), positive FADER test (p=0.001) and LCEA <150 (p=0.001).

**Conclusions:** Patients with contralateral hip pain, a positive FADER test and radiographic feature of severe dysplasia, were at highest risk of disease progression in the contralateral hip. Approximately 28.5% of patients undergoing a PAO, present with symptoms in the contralateral hip. Almost half of these patients (44%) will require a contralateral hip surgery in the following 2 years.