Tumor Excision and Hip Morphology Correction in Multiple Hereditary Exostoses (MHE) by Safe Surgical Dislocation

Dong Hoon Lee, MD, Harish Hosalkar MD, Dror Paley, MD
Paley Advanced Limb Lengthening Institute, West Palm Beach Florida
Center for Hip Preservation and Children’s Orthopaedics, San Diego

**Purpose:** Is the Ganz method of safe surgical hip dislocation (SSD) effective in addressing osteochondromas around the hip and correcting proximal femoral morphology in patients with MHE?

**Methods:** This is a retrospective bi-center review of 16 hips treated in 11 patients with MHE with a minimum follow-up of 18 months ranging up to 9 years (mean 55 months). All were treated by SSD and resection of all offending osteochondromas. Pre and post measurements of the ratio of the diameter of the femoral neck to that of the shaft (NSR) as an index of overgrowth of the femoral neck and amount of surgical excision were compared before and after surgery. Range of motion was compared before and after the surgery.

**Results:** The average age at the time of dislocation was 22 years (range 6-43 yrs). Five patients had a varus osteotomy of the proximal femur to treat a neck shaft angle of greater than 150°. Pain resolved in all cases. Hip flexion range improved from an average of 65° pre-op to 104° postop. There was also significant improvement in hip internal rotation and abduction. The NSR significantly improved on the AP view from 3.3 to 1.8 and on the Lateral view from 2.7 to 1.4. The NSA changed from 157 preop to 139 postop. The CE angle changed from a mean of 20 degrees preop to 30 degrees postop in those patients that underwent osteotomy. Shenton’s line was broken in six hips preop and was reduced in all cases postop. No patient suffered AVN of the hip, nonunion of the greater trochanter osteotomy or recurrence of osteochondromas. One hip suffered an undisplaced fracture of the femoral neck six weeks after surgery during physical therapy.

**Conclusion:** SSD is a safe and effective way to treat MHE of the hip by performing tumor excision and addressing morphology correction when necessary via varus intertrochanteric osteotomy.

**Significance:** Range of motion, subluxation, impingement and valgus neck shaft angle can now all be addressed in the MHE hip patient with one comprehensive surgery without much risk of AVN.