ISAKOS

International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine

11th Biennial ISAKOS Congress • June 4-8, 2017 • Shanghai, China

Paper #221

Clinical Outcome and Return to Play Following Endoscopic Shelf Acetabuloplasty for Treating Hypermobile Athlete with Hip Dysplasia

Shiho Kanezaki, MD, PhD, JAPAN
Hajime Utsunomiya, MD, PhD, UNITED STATES
Cecilia Pascual-Garrido, MD, UNITED STATES
Hirotaka Nakashima, MD, JAPAN
Akihisa Hatakeyama, MD, JAPAN
Yoichi Murata, MD, JAPAN
Akinori Sakai, JAPAN
Soshi Uchida, MD, PhD, JAPAN

Wakamatsu hospital of UOEH
Kitakyushu, Fukuoka, JAPAN

Summary:
Shelf acetabuloplasty for hypermobile athlete

Abstract:
Background and purpose
Hypermobile athletes including gymnasts and classic ballet dancers are normally exposed to extreme ranges of motion. These extreme ranges of motion may cause impingement even in the presence of a dysplastic hip. It is well known that most of these patients present intra-articular pathologies including: hyperthrophic labrum, labrum and ligamentus teres tears and chondral lesions that can be treated with hip arthroscopy. However, most studies have shown that hip arthroscopy alone is not enough for treating patients with hip dysplasia because acetabular shallowness still remains. Thus, we developed an entirely endoscopic shelf acetabuloplasty, which is less invasive and convenient for treating athletes with hip dysplasia.
The purpose of this study was to report clinical outcomes and return to play following endoscopic shelf acetabuloplasty for treating hypermobile athlete with hip dysplasia.
Materials and Methods
This retrospective study included 12 hips in 11 symptomatic hypermobile athletes with clinical diagnosis of hip dysplasia (center edge (CE) angle< 25 degree) and concomitant FAI Cam lesion. Between April 2012 and June 2016, all patients underwent arthroscopic labral repair, Cam osteoplasty and endoscopic shelf acetabuloplasty. Endoscopic shelf acetabuloplasty was performed and indicated as previously described by senior author. Patients with Tonnis grade 2 or 3 and follow up less than one year were excluded. The study included 12 hips in 11 symptomatic hypermobile athletes (5 ballerinas; 4 rhythmic gymnastics; 1 dancers and 1 Baton Twirling). Two were professional, 6 competitive and 3 recreational athletes. There were all females with a mean age of 26.8 (range, 14-45) years at the time of surgery. Modified Harris hip score (mHHS) and non-arthritic hip score (NAHS) were utilized to evaluate clinical hip function preoperatively and last time of follow up. Anteroposterior pelvis was used to evaluate presence of osteoarthritis by using Tönnis grade. In addition, CE (center to edge) angle, Sharp (acetabular angle) and VCA (vertical center anterior) angle was also determined preoperative and last time follow up.
Results
The mean follow-up period was 25.3 months (range, 12 -40 months). Overall, patients statistically showed clinical improvement. The mean preoperative mHHS was 62.7 (range, 49.5-73.7) versus 98.4 (range, 96.8-100) postoperatively (p = 0.004, Wilcoxon signed-rank test). In addition the NAHS improved from 47.6 (range, 34-63) preoperatively to 74.5 (range, 72-80) postoperatively (p = 0.005, Wilcoxon signed-rank test). Radiographic values confirmed correction of the dysplasia. The mean CE angle was improved from 13.8±6.2 (range, 2-22) to 28.9±2.4 degree (range, 27-33) (p< 0.05, Wilcoxon signed-rank test), the Sharp angle improved from to 47.6±4.3 (range, 40-56) to 41.5±3.7 (range, 34-44) (p< 0.05, Wilcoxon signed-rank test) , and VCA was improved from 14.4±9.4 (range, 11-22)

to 36.0±6.7degree (range, 25-46) ($p< 0.05$, Wilcoxon signed-rank test). In addition, 9 hips maintained Tönnis grade 0 and 3 hips grade 1. Nine patients returned to same level of activity compared to preoperatively and 1 patient returned to a lower level. There was one patient who could not return to sports because of persistent knee pain unrelated to arthroscopic complication.

Conclusion

According to our results, endoscopic shelf acetabuloplasty could provide favorable clinical outcomes and return to play in hypermobile athletes with hip dysplasia. Prospective randomized study should be follow to determine the precise efficacy of this proposed technique.