The discoid meniscus is a common anatomic abnormality of the knee that causes pain, snapping, popping, and decreased range of motion. The preferred treatment modality includes arthroscopic partial meniscectomy in conjunction with repair, if indicated. Recent studies have demonstrated good short-term outcomes of this procedure, but there is a paucity of long-term data derived from modern, validated knee-specific outcome tests that evaluate the efficacy of this procedure. 2, 3

We hypothesized that arthroscopic sueration of a symptomatic discoid meniscus would yield good to excellent outcomes at 10- or more years. Children would have normal physical examination findings as defined by IKDC.

Purpose

Examine the long-term clinical outcomes of arthroscopic partial meniscectomy for the treatment of discoid lateral meniscus in children.

METHODS

Retrospectively reviewed radiographic and medical records of all patients who underwent arthroscopic sueration for symptomatic discoid meniscus by two surgeons at a tertiary medical center between 1997 and 2005. Identified 34 consecutive patients (36 knees) Mean age at the time of surgery of 10.6 years (range, 3-20 years).

23 females, 11 males

Left knee in 9 patients, right knee in 23 patients, bilaterally in 2 patients.

Data collected: sex, age at time of surgery, laterality, discoid type, presence of meniscal instability, location of instability (if applicable), presence of a tear and length of clinical follow-up.

Patients completed 5 outcomes questionnaires and were given the opportunity to receive a knee exam by one of the two treating surgeons.

RESULTS

A total of 12 patients completed the outcomes questionnaires, which revealed average IKDC, Kujala, and Lysholm scores of 82.87, 86.625 and 83.73, respectively. Additionally, average Marx extensor and Tegner scores were 5.36 and 5.13, respectively.

Lysholm scores: 41.7% excellent, 16.7% good, 25.0% fair, and 16.7% poor.

Four of the 5 patients receiving a knee examination received an IKDC Knee Examination score of A (normal), and one patient received a score of B (nearly normal)

20.6% (7 of 34) of eligible patients underwent a subsequent surgical procedure on the affected knee.

There were no statistically significant correlations between discoid type, meniscal stability, location of stability, or age at surgery and outcome scores.

Table 1. Of the 34 eligible patients, 22 patients were contacted for follow up, and 21 agreed to participate. The average length of follow-up was 9.4 years, ranging from 1 month to 16.6 years. Seventeen patients (19 knees) had clinical follow-up greater than 2 years, and data for these patients is presented. For these 17 patients, the mean length of clinical follow-up was 11.0 years (range, 3.4 to 16.6). Arthroscopic assessment of discoid meniscus morphology revealed 9 complete discoid menisci, 7 incomplete discoid menisci and 3 complete (Wrisberg type) menisci. Meniscal stability assessment revealed 15 unstable menisci and 4 stable menisci, with 9 menisci demonstrating anterior instability, 4 menisci demonstrating posterior instability and 2 menisci demonstrating both anterior and posterior instability.

CONCLUSIONS

At an average follow-up of nearly 14 years, our data suggests that clinical outcome scores decline over time.

Compared to our previous study with 2-year follow-up, there is an increased rate of knee pain, mechanical symptoms, and functional limitations.

Despite excellent post-operative IKDC examination scores, approximately 40% of our patient cohort demonstrated relatively low Lysholm scores (fair and poor).

The optimal treatment protocol for these patients has not yet been fully revealed.

Further refinement of arthroscopic techniques coupled with larger-scale follow-up studies may be warranted to improve patient outcomes.

REFERENCES