Background & Purpose

Discoid meniscus is a congenital variant, typically involving the lateral meniscus, that comprises a spectrum of meniscal shapes and degrees of instability. Asymptomatic or minimally symptomatic patients are typically treated nonoperatively with observation. Symptomatic patients are typically treated surgically with arthroscopic saucerization and meniscal repair as needed.

Purpose: To describe a large cohort of pediatric discoid meniscus patients in terms of their presentation, demographics, nonoperative and operative treatment types, surgical findings, treatment complications and risk of retear.

Methods

Study Design
• Retrospective medical record review at a single tertiary care pediatric hospital
  • Study Period: 1991-2016
Inclusion Criteria
• Age 18 years or younger when diagnosed with symptomatic discoid meniscus
• Diagnosis arthroscopically confirmed for cases treated surgically
• Diagnosis based on MRI for cases treated with nonoperative measures alone
Exclusion Criteria
• Underlying coexisting disease thought to impact radiologic or clinical outcomes, for example, spina bifida or achondroplasia

Results

Nonoperative treatment (N=85 knees): observation or physical therapy ± bracing
• 33/85 knees (39%) failed nonoperative treatment
  ➢ Median time to failure 6.9 months (IQR: 3.4, 13.6)

Arthroscopic saucerization (N=444 knees)

Other Concurrent Procedures
- Meniscus repair (discoid): 208 (47%)
- Meniscus repair (non-discoid): 2 (0.5%)
- Synovectomy / lysis of adhesions (LOA): 33 (7%)
- Plica excision: 33 (7%)
- Cartilage procedure: 33 (7%)
- Ligamentous reconstruction: 8 (2%)
- Lateral release: 7 (2%)
- Loose body removal: 3 (<1%)
- Other: 14 (3%)

Discussion & Conclusion

• Symptomatic patients present with knee pain and/or mechanical symptoms, which may interfere with function, depending on the patient’s age and activity level.
• Nonoperative treatment for symptomatic discoid meniscus often converts to operative treatment.
• The most commonly utilized classification system was proposed in 1978 by Watanabe et al, which classified discoid menisci based on arthroscopic appearance and stability. Most common is Type II, stable to arthroscopic probing and covering up to 80% of the tibial plateau.
• Discoid menisci are more predisposed to tearing compared to normal menisci, and instability may result secondary to the absence of normal meniscal-capular attachments. During surgery, meniscal tearing and instability should therefore be anticipated and may require meniscal repair in addition to saucerization.
• Meniscal retear may occur and requires repeat surgical intervention.