Long Term Minimum 15 Year Follow Up After Discoid Lateral Meniscus Preservation Surgery

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Introduction

- Discoid Meniscus = congenital variant usually of the lateral meniscus
- Historically treated with a total meniscectomy
- Current treatments now focus on rim preservation
- Purpose of Study:
  - Examine subjective long term outcomes of treating discoid menisci with rim preservation techniques

Normal Incomplete Complete

Methods

- 98 patients contacted via mailers and phone calls
- Questionnaire of patient reported outcomes and satisfaction completed
- Subjective Functional Outcomes
  - –IKDC Subjective Knee Evaluation Form
  - –Lysholm Score
  - –Marx Activity Rating Scale
  - –Tegner Activity Score
  - –WOMAC Osteoarthritis Index
- Patient and surgical characteristics and patient reported outcomes were summarized by mean and standard deviation, median and IQR or frequency and percent.

Tables

Table 1: Demographic Data

	Cohort (N=25)	
Patient characteristics	**Freq.**	**(SD or %)**
Sex (*% male*)	8	(32%)
Age at surgery (*years; mean ± SD*)	10.8	± 3.31
Age at Follow-up (*years; mean ± SD*)	29.6	± 3.64
Time of Follow-up (*years; mean ± SD*)	18.8	± 2.74
Diagnosis of Lateral Discoid Meniscus (30 knees)	30	(100%)
Knee Laterality of Surgeries		
Left	11	(44%)
Right	9	(36%)
Bilateral	5	(20%)
Surgical characteristics		
Presence of Lateral Meniscus Tear (n = 30 knees)	19	(63%)
Trauma mechanism of injury (n = 18)*	3	(17%)
Type of Initial Surgery (n = 30 knees)		
Saucerization	23	(74%)
Partial Meniscectomy	7	(26%)
Watanbe Classification (n = 25 knees)*		
I (Stable and complete discoid meniscus)	5	(20%)
II (Stable and partial discoid meniscus)	16	(64%)
III (Unstable discoid meniscus)	4	(16%)

SD = Standard Deviation, *lower numbers due to missing data

Table 2: Patient Reported Outcomes

Patient Reported Outcome Measures	**Mean, Median or Freq.**	**(SD, IQR, %)**	**P-value**
IKDC	77.4	± 17.2	
Function prior to knee injury (10=No limitations)	6	(3-10)	
Current function of knee	9	(7-10)	
Change in function (Current – Prior)	0	(-1 – 5)	.022
Lysholm Knee Scoring Scale	78.6	± 21	
Excellent (95-100)	7	(28%)	
Good (84-94)	5	(20%)	
Fair (65-83)	7	(28%)	
Poor (≤64)	6	(24%)	
Tegnar Activity Level before surgery	7	(6-9)	
WOMAC	0.32	± 0.42	
Marx Activity Rating Scale (out of 16)	8	(4-11)	
Running	3	(1-3)	
Cutting	2	(0-3)	
Decelerating	2	(0-3)	
Pivoting	2	(0-2)	
Additional Responses	**Freq.**	**(%)**	
Additional surgeries needed on ipsilateral side	11	(44%)	
Bilateral diagnosis of discoid menisci	12	(48%)	
Diagnosis confirmed via MRI (n = 12)	10	(83%)	
Surgical intervention on contralateral side (n=12)	9	(75%)	
Satisfied with results of surgeries at institution	17	(68%)	

IQR = Interquartile Range, SD = Standard Deviation

Results

- Of the 98 eligible patients, 25 completed the questionnaires: 17 females and 8 males.
- Mean age at initial surgery was 10.8 years (SD: 3.3) and at follow up was 29.6 years (SD: 3.6). The average follow-up time from initial surgery was 18.8 years (SD = 2.74).
- Other patient and surgical characteristics, including Watanbe classification are presented in Table 1.
- Patient reported outcomes are presented in Table 2.
- The Tegner Activity level median of 7 corresponds to competitive sports of high intensity or recreational level sports of soccer, hockey, squash and running.
- The Marx Activity Rating Scale medians corresponds to running 2-3x/week (score of 3) and performing cutting, decelerating and pivoting activities one time in a week (score of 2).

Conclusion

- Long term outcomes appear favorable.
- IKDC scores were higher than have been reported in patients with histories of knee surgery.
- WOMAC scores are low without suspicion of osteoarthritis.
- Nearly half of the patients were diagnosed with bilateral discoid menisci.
- 44% had further surgeries on ipsilateral knee.

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