

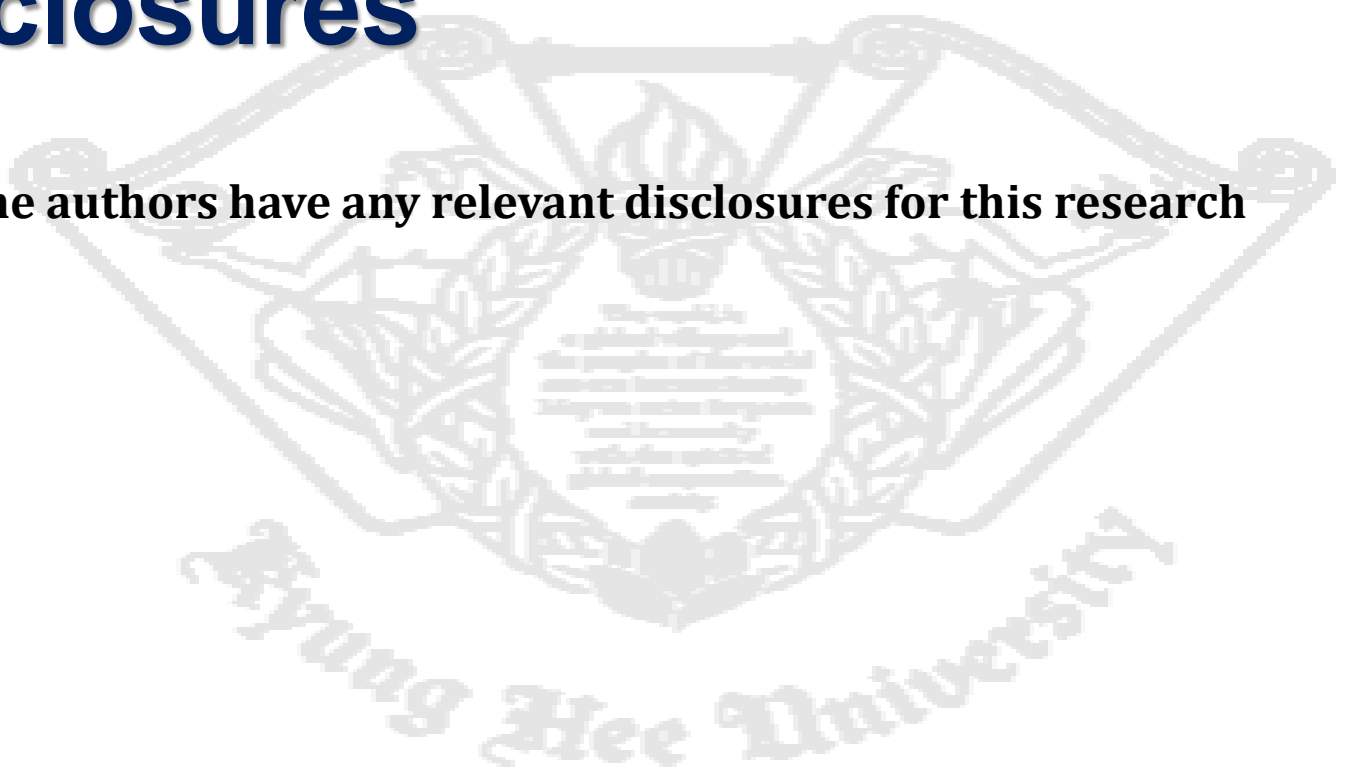
Arthroscopic Treatment of Meniscal Cysts and Clinical Follow up

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Disclosures

None of the authors have any relevant disclosures for this research

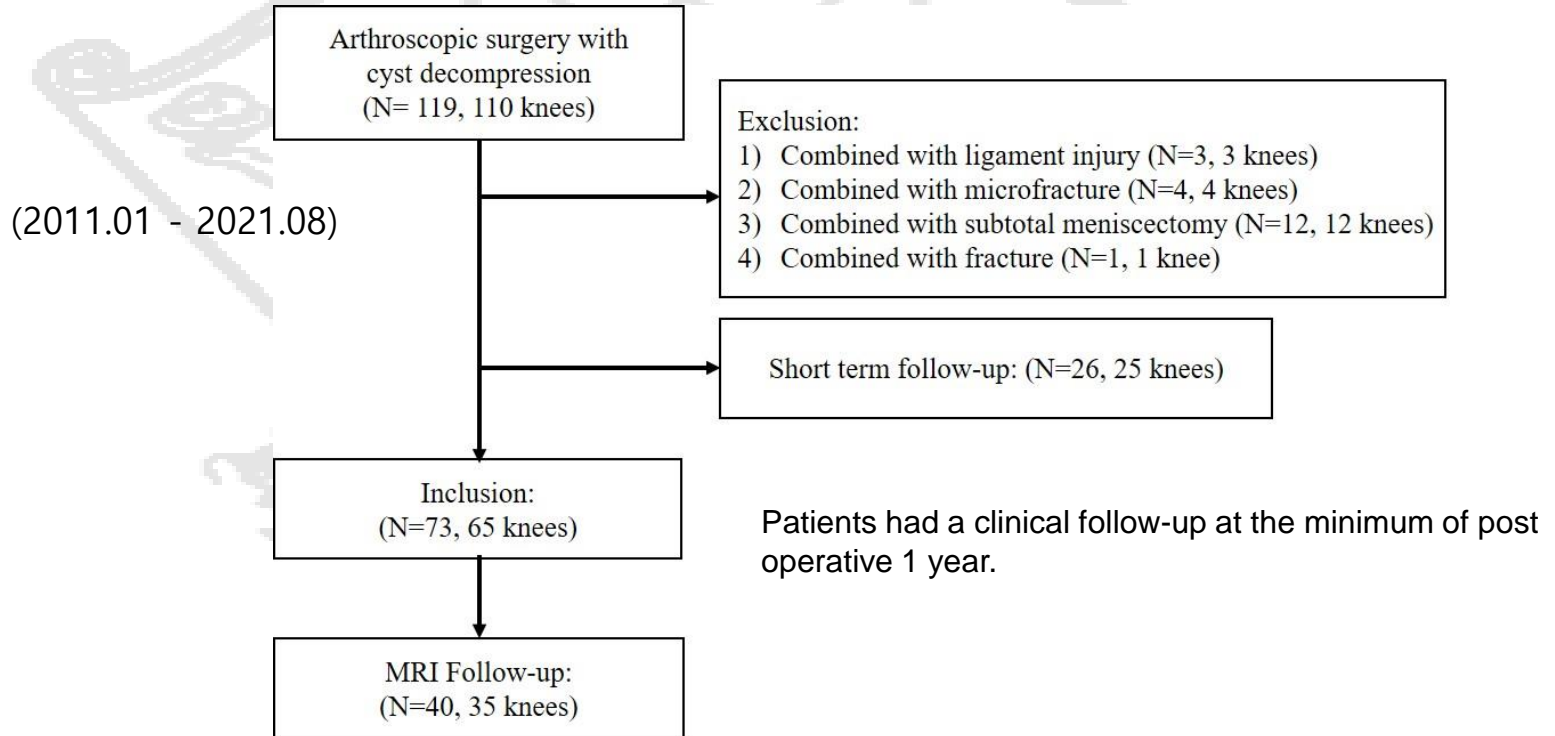


Purpose

➤ The purpose of this study was to

- 1) Investigate the **location and size** of meniscal cysts with the patients who had arthroscopic surgery of the meniscal tears
- 2) **Review the clinical outcomes** of arthroscopic treatment and compare size of meniscal cysts before and after surgery.

Evaluation



Evaluation

➤ Check points :

- ✓ The **size, location, and tear patterns** of meniscal cysts at preoperative MRI and arthroscopy
- ✓ The size was measured at the slice at coronal view and sagittal view on preoperative MRI
- ✓ **Clinical scores** (Preop vs Postop / Meniscectomy vs Repair / MM vs LM)
- ✓ The removal of meniscal cyst (Localization, size)

➤ Surgical method:

- 1) Arthroscopic **partial meniscectomy** with cyst decompression
 - 2) Arthroscopic **repair** with cyst decompression (Modified all-inside technique, Modified outside-in technique)
- If the size of the meniscal detachment from peripheral capsule is **more than 1 cm**, the meniscus should be repaired to prevent instability.
- Statistical analysis : SPSS statistical software (version 25.0)

Demographics

Meniscal cysts (N = 73, 65 knees)			
Patients (N)	63	F/U MRI (N)	40
Age (yr)	38.3 [range, 11 - 65]	F/U periods of MRI (mo)	17.2 [range, 6.0 – 65.8]
Male (N)	41	MM cysts (N)	38
Female (N)	22	LM cysts (N)	35
BMI (kg/m ²)	24.9 [range, 19.2 – 29.8]	Meniscectomy (N)	51
Duration of symptoms (mo)	20.6 [range, 3 - 120]	Repair (N)	13
Last follow-up (mo)	34.1 [range, 12.0 – 114.4]	Cyst decompression only	1

Results

- The incidence of meniscal cysts in our study: 5.86%

	(N=73, 65 knees)	MM cysts (N=38)	LM cysts (N=35)	P-value	
Size	< 20mm (Coronal view)	30	30		
	> 20mm (Coronal view)	8	5		
	< 20mm (Sagittal view)	29	26		
	> 20mm (Sagittal view)	9	9		
Location	Anterior horn	2	18	0.001	
	Midbody	6	14		
	Posterior horn	30	3		
Tear patterns	Horizontal tear	7	11		
	Horizontal and flap tear	20	7		0.004
	Horizontal and radial tear	8	16		0.012
	Horizontal and longitudinal tear	3	1		

Results

➤ Clinical scores (Preop & Postop state)

		Pre	Post
Tegner score	All (63 knees)	2.75 ± 1.03 ^α	4.09 ± 1.38 ^α
	MM (34 knees)	2.92 ± 1.11 ^α	3.94 ± 1.45 ^α
	LM (29 knees)	2.58 ± 0.92 ^α	4.26 ± 1.24 ^α
Lysholm score	All (63 knees)	69.14 ± 14.46 ^α	88.69 ± 7.97 ^α
	MM (34 knees)	67.78 ± 13.99 ^α	87.94 ± 8.01 ^α
	LM (29 knees)	71.03 ± 14.70 ^α	89.81 ± 7.68 ^α
HSS score	All (63 knees)	81.57 ± 9.47 ^α	95.45 ± 4.73 ^α
	MM (34 knees)	80.86 ± 10.21 ^α	94.67 ± 5.22 ^α
	LM (29 knees)	82.58 ± 8.33 ^α	96.26 ± 3.83 ^α

Results

➤ Clinical scores (Meniscectomy vs Repair)

	(N = Knees)	Pre	Post
Tegner score	Meniscectomy (N=51)	2.94 ± 0.91 ^α	4.72 ± 1.62 ^α
	Repair (N=13)	2.92 ± 1.04 ^α	4.77 ± 1.16 ^α
Lysholm score	Meniscectomy (N=51)	69.15 ± 13.02 ^α	88.13 ± 5.86 ^α
	Repair (N=13)	70.84 ± 14.63 ^α	88.92 ± 7.68 ^α
HSS score	Meniscectomy (N=51)	81.10 ± 10.47 ^α	92.92 ± 5.64 ^α
	Repair (N=13)	84.53 ± 7.23 ^α	93.15 ± 2.08 ^α

- The clinical outcomes between the group of arthroscopic meniscectomy and that of arthroscopic repair were not exhibited statistical differences.

Results

➤ The average size of all meniscal cysts at preop MRI

	Coronal	Sagittal
MM cysts (N=38)	13.79 ± 8.87 mm	13.79 ± 9.17 mm
LM cysts (N=35)	13.03 ± 9.09 mm	13.21 ± 9.38 mm
Total cysts (N=73)	13.43 ± 8.93 mm	13.51 ± 9.22 mm

	Complete removal	Reduced size	P-value
MM cysts (N=18)	13	5	0.250
LM cysts (N=22)	19	3	
Total cysts (N=40)	32	8	-

➤ The average size of reduced meniscal cysts (N=8) after arthroscopic surgery:

	Coronal	Sagittal
Preop size	22.38 ± 12.32 mm	21.48 ± 10.88 mm
Postop size	5.95 ± 3.07 mm	5.61 ± 3.87 mm

	Complete removal	Reduced size	P-value
Large cyst (>20mm)	12	7	0.017
cyst (<20mm)	20	1	

Results

- The location of large cyst

	MM cysts	LM cysts
Large cyst (>20mm)	12	12
cyst (<20mm)	26	23
Total (N=73)	38	35

- How to treat meniscal cysts?

	MM cysts (N=38)	LM cysts (N=35)	P-value
Meniscectomy (N=60)	37	23	0.001
Repair (N=13)	1	12	
Total (N = 73)	38	35	-

Conclusion

- In our retrospective study, the meniscal cysts with meniscal tears in MM were significantly located mainly at the **posterior horn** of the MM
- Meanwhile, the meniscal cysts with lateral meniscal tears were located at the **anterior horn area** or **midbody lesion** of LM
- There were **no statistically differences of size** between the number of meniscal cysts in MM and that of meniscal cysts in LM
- There were **no significant differences in clinical outcome** between the groups of arthroscopic meniscectomy and that of arthroscopic repair