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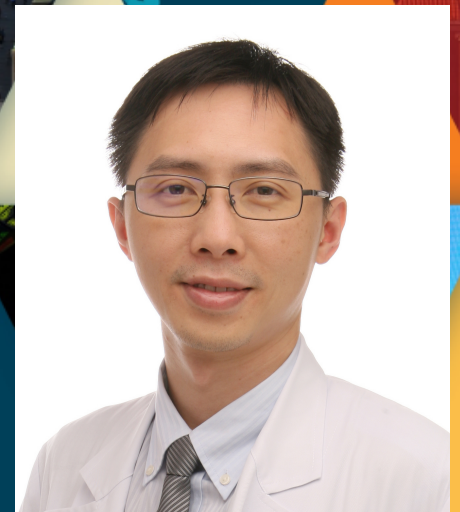


臺北榮民總醫院
Taipei Veterans General Hospital

Delayed Anterior Cruciate Ligament Reconstruction for More Than 1 Year in Middle-aged Patients is Associated with Elevated Risk of Medial Meniscal Injury

Kun-Hui Chen, MD

Taipei Veterans General Hospital
Taiwan



Faculty Disclosure Information

Nothing to disclosure



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Study Aim

- Compare **knee-associated injuries of the meniscus and cartilage** between patients **aged 40 to 60** who underwent **early** anterior cruciate ligament reconstruction (ACLR) versus **delayed** ACLR, stratified by a cut point of **1 year after injury**



Materials & Methods

- Retrospective, single center, cohort study, 2013-2022
- **123** patients(**40-60** years old):
72 early surgery (< 12 months); **51** delayed surgery (\geq 12 months)

Materials & Methods

From 2013 through 2022

Patients whose age were between 40 and 60 years at the time of injury and a history of primary ACL reconstruction.

(N=172)

Patients included in this study
(N=123)

Excluded (N=49)

- ACL **re-tear** (N=5)
- Presence of **PCL** tear (N=6)
- Presence of previous knee surgery or injury (N=4)
- Missing data or images(N=14)
- Inability to recall the original timing and mechanism of the injury(N=20)



Materials & Methods

- Primary outcome
 - Meniscal tears(locations and types) and chondral injuries(locations)
 - Meniscal tears:
flap, longitudinal, bucket handle, root, radial, horizontal, or discoid
 - Chondral injuries: medial; lateral; patellofemoral compartment



Results – Patient Demographics

- Mean age: 46.50 y/o
- Gender: 36 females (29.3%), 87 males (70.7%)
- BMI: 25.42 kg/m²
- Time to surgery: 16.96 months
 - Early: **3.15** months
 - Delayed: **36.45** months
- Similar patient demographics between the two groups



Results – Surgical Outcomes

- Length of stay: **3.07** days
- 30-day complications: 0
- 90-day complications: **0.8%**
 - Surgical site complication
- 1-year re-operation: 0
- 1-year follow-up

Results

	Overall (N=123)	Early ACLR(<12 m) (N=72)	Delayed ACLR(≥12m) (N=51)	P-value
Medial Meniscal tear	66(53.7%)	29(40.3%)	37(72.5%)	<0.01
Flap tear	5(4.1%)	3(4.2%)	2(3.9%)	0.946
Longitudinal tear	11(8.9%)	6(8.3%)	5(9.8%)	0.778
BHT	22(17.9%)	9(12.5%)	13(25.5%)	0.064
Root tear	4(3.3%)	2(2.8%)	2(3.9%)	0.715
Radial tear	7(5.7%)	1(1.4%)	6(11.8%)	0.014
Horizontal tear	18(14.6%)	8(11.1%)	10(19.6%)	0.189
Discoid tear	0	0	0	-

Results



	Overall (N=123)	Early ACLR(<12 m) (N=72)	Delayed ACLR(≥12m) (N=51)	P-value
Lateral Meniscal Tears	62(50.4%)	36(50%)	26(51.0%)	0.915
Flap tear	1(0.8%)	1(1.4%)	0(0%)	0.398
Longitudinal tear	13(10.6%)	7(9.7%)	6(11.8%)	0.717
BHT	20(16.3%)	9(12.5%)	11(21.5%)	0.179
Root tear	6(4.9%)	4(5.6%)	2(3.9%)	0.679
Radial tear	9(7.3%)	6(8.3%)	3(5.9%)	0.607
Horizontal tear	17(13.8%)	13(18.1%)	4(7.8%)	0.106
Discoid tear	0	0	0	-
Chondral injury (%)	30(24.4%)	16(13.0%)	14(27.5%)	0.506
Lateral compartment	11(8.9%)	4(5.6%)	7(13.7%)	0.118
Medial compartment	22(17.9%)	15(20.8%)	7(13.7%)	0.311
PF Compartment	14(11.4%)	5(6.9%)	9(17.6%)	0.066



Discussion – Main Findings

1. Delayed ACL reconstruction, **higher incidence of medial meniscal tears**
2. Types of medial meniscal tears
 1. **Radial tear**: Delayed group > Early group
 2. **BHT**: the highest proportion of medial meniscal tears
3. Low complication rates



Conclusions

- Delayed (>12 months) ACL reconstruction is associated with higher risk of developing medial meniscus tears (Early: 40.3%, Delayed: 72.5%)
- Radial tear: Delayed > Early
- The highest: **BHT** 、 **horizontal**
- This study provides data from our hospital as a reference for patients and surgeons regarding the timing of surgery

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