

ACL Muroid Degeneration

Arthroscopic management of a 30 patients' serie



François Kelberine, Henri Peuchot**,*

** Polyclinique des Alpes du Sud - Gap
** Hopital Sainte Marguerite - Marseille*

France

Disclosure

Francois Kelberine

- Consultant

- Paid presenter

for Fournitures Hospitalières

Henri Peuchot no disclosure

Prevalence MRI 1 to 5,3%

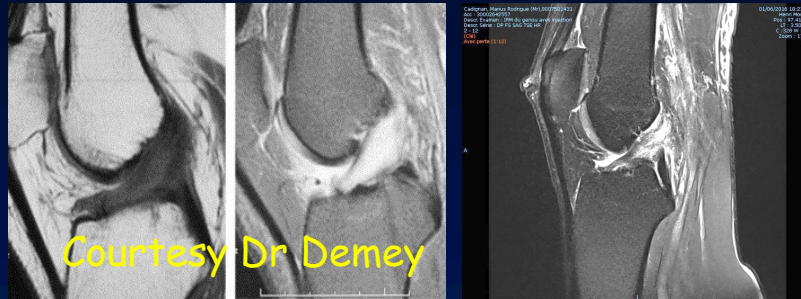
✓ Underestimated

Bergin Am J Roentgenol 2004
Salvati J Sports Med Phys Fitness 2008
Hotchen J Knee Surg 2019

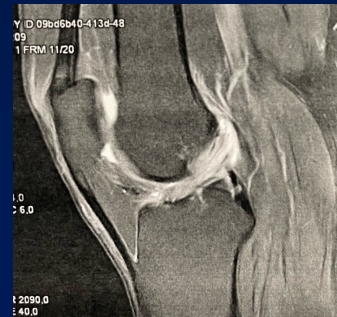
✓ Misdiagnosed

✓ ≠ ACL cyst

✓ ACL tear



✓ Non always symptomatic



Clinical features

ACL volume leads to impingement with roof of the notch and PCL

- ✓ Progressive onset
- ✓ No trauma (despite sometimes revealing)
- ✓ Swelling +
- ✓ Painful stiffness in both extension and flexion
- ✓ Functional impairment
- ✓ No laxity

MR Imaging

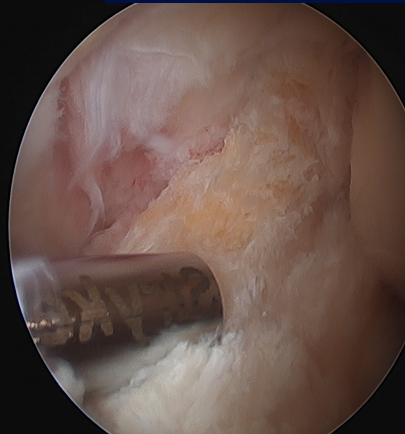
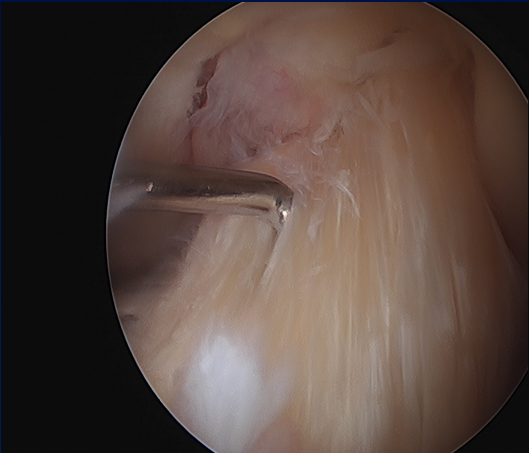
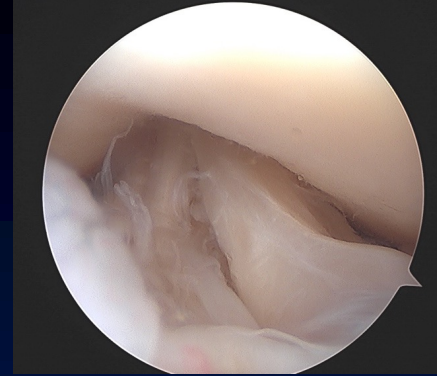
- ✓ Bulky ACL
- ✓ White in T2
- ✓ No ACL disruption
- ✓ Celery stalk like



Papadopoulou *Radiology* 2007
Melloni *Skeletal Radiol* 2004

Arthroscopic Arthrolysis

- ✓ Swollen ACL impinging in extension
- ✓ w/o synovial membrane
- ✓ Soft @ probe
- ✓ Yellow degeneration (biopsy)

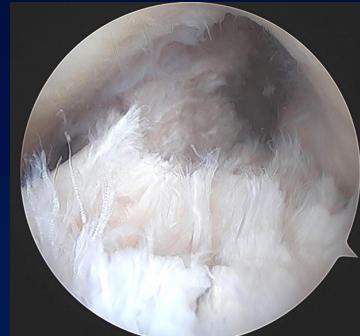


Arthroscopic Arthrolysis

- ✓ Debulking AM+/-PL bundles
- ✓ Shaver or radiofrequency device
- ✓ The whole pathologic tissue to healthy fibers
- ✓ = partial in 70% cases



Vivekanantha
KSSTA 2023



✓ Notch plasty no more useful

Linz OTSR 2010
Motman KSSTA 2009
Lee J Clin Med 2021

Post arthrolysis regimen

- ✓ Mechanical testing per op
- ✓ No place for ACL-R at the same time
- ✓ Self rehab
- ✓ Warn patient / risk of instability

*Ventura Clin Orthop Surg 2108
Sweed Knee Surg Relat Res 2021*

*Ventura Clin Orthop Surg 2018
Sweed Knee Surg Relat Res 2021
Narvekar Arthroscopy 2004*

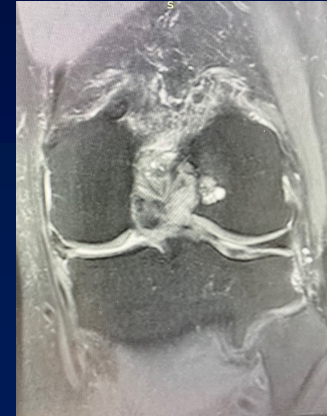
Material & Methods

- ✓ 28 patients 30 Knees (from 2013 to 2023)
- ✓ 20 males / 10 females
- ✓ Age 50 ± 9 y-o
- ✓ 12 had previous useless medical ttt due to unknown MD-ACL

@ surgery

- ✓ 23 Partial / 7 Total resections
- ✓ 1/3 meniscal tear
- ✓ 100% Biopsy = Mucoïd degeneration

Age	50,76 $\pm$ 9,3
Men / Women	19/6
BMI (kg/m ²)	26,6 $\pm$ 4,1
Tabacco	1 (4%)
Follow-up (months)	76 $\pm$ 30
Associated lesions	
Internal meniscus	13 (43%)
External meniscus	4 (13%)
Total	15 (50%)
Initial clinic	
Effusion	10 (33%)
Anterior pain	9 (30%)
Posterior pain	17 (57%)
Limited range of motion	20 (67%)



Functional results

FU 77 mths (minimum 1 y)

✓ Simple Knee Value Marot *KSSTA 2021* 80,45 ($\pm$ 12,91)

(simple evaluation correlated to existing knee PROMs)

✓ IKDC Irrgang *AJSM 2001* 81,32 ($\pm$ 9,38) Lintz 71 @ 6y

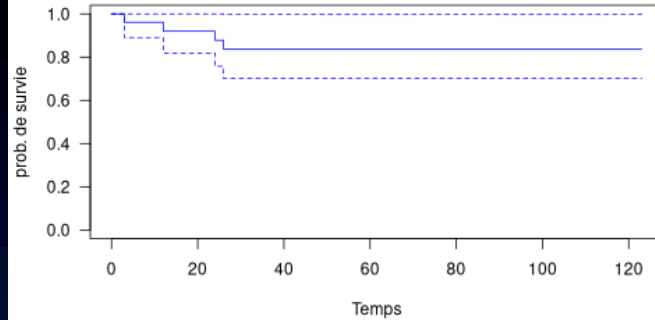
✓ Satisfaction rate 83,3%

Chudasama 73%
Haidar 71%

Survival K-M

73% w/o surgery

83% w/o ACL-R



Risk of Instability

4 ACL-R

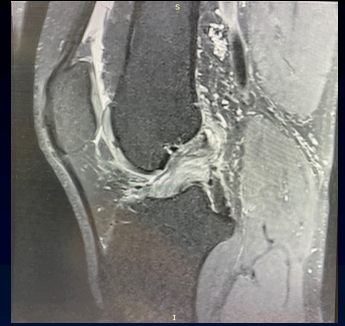
✓ 4 mth (trauma / trail)

✓ 12, 23, 26 mth

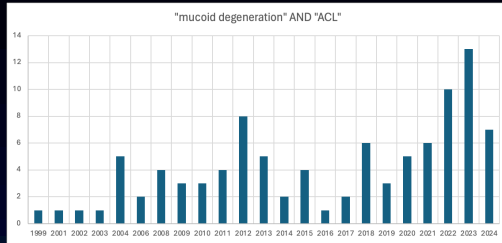
✓ Same rate / literature

Conclusions

- ✓ Underdiagnosed disabling knee disease
- ✓ Mid age, painful stiffness, swelling
- ✓ Arthroscopic management of ACL MD provides excellent functional results
- ✓ Low risk of instability which need a regular FU & warm patient



References



1. Narvekar A & Gajjar S. MD of ACL *Arthroscopy* 2004, 20, 141-146
2. Motman R & al. MD of ACL *KSSTA* 2009, 17, 737-740
3. Makino A & al. MD of ACL MRI: Clinics, arthroscopic and histological findings *KSSTA* 2010, 3, 408-411
4. Lintz F & al. MD of ACL A review of the literature and management guidelines. *KSSTA* 2011, 19, 1326-1333.
5. Cha & al. *Symptomatic MD of ACL KSSTA* 2013, 21, 658-651
6. Ventura D & al Outcome of Arthroscopic treatment of MD of the ACL *Clin Orthop Surg* 2018, 10, 307-314
7. Hotchen & al. MD of ACL characterization of natural history width notch index and PROM *J Knee Surg* 2019, 32, 577-583
8. Lee JW & al. Clinical outcomes of arthroscopic notchplasty and partial resection of MD of ACL. *J Clin Med* 2021, 16, 315
9. Sweed & al Management of MD of ACL a systematic review *Knee Surg Relat Res* 2021, 33, 26
10. Vivekanantha & al. Partial debridement of MD of ACL systematic review *KSSTA* 2023, 31, 4265-4275
11. Haidar I & al. Clinical. Outcomes of MD of ACL *Int Orthop* 2023, 12, 2961-2965
12. Choukimath SK & al. MD of ACL systematic approach for debulking *Arthroscopy Techniques* 2024 13, 103053