



PARTIAL ACL TEARS IN ATHLETES. INCIDENCE AND CHARACTERISTICS

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Faculty Disclosure Information

Nothing to disclosure



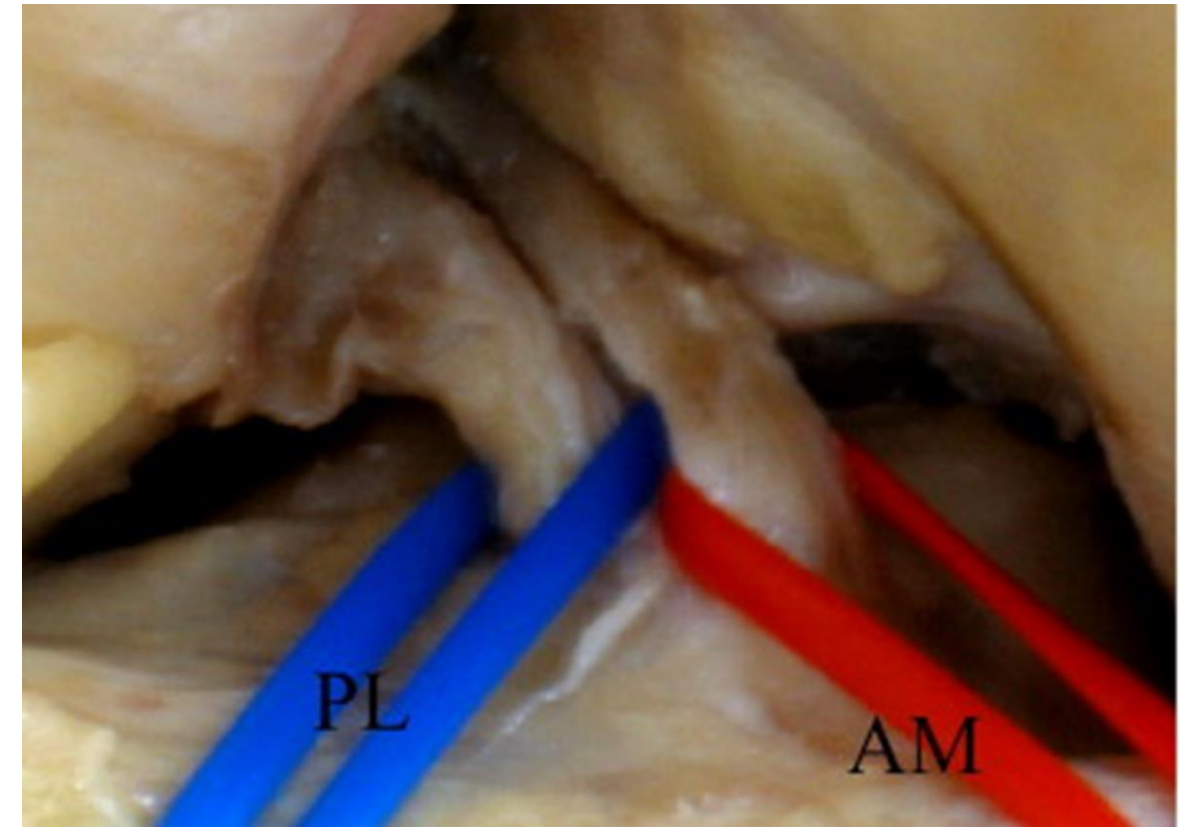
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INTRODUCTION

- Partial tears of the ACL are not rare injuries.
- There is not a universally accepted definition for these injuries, so the prognosis of a partial ACL tear is controversial and is dependent on the extent of the partial tear and associated meniscal, ligamentous, and osteochondral injuries.
- Unfortunately, findings in both clinical examination and MRI are unclear, so eventually arthroscopic evaluation is necessary for the final confirmation.



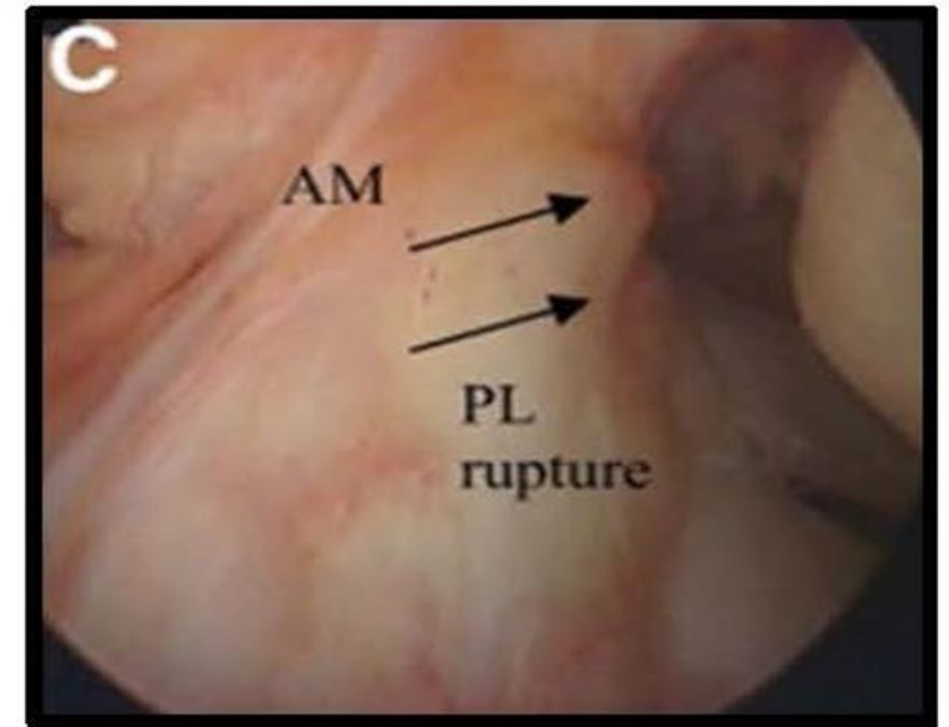
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OBJECTIVES

- ACL resist the motions of anterior-posterior translation (AM bundle) and limits anterior tibial translation and knee rotation (PM bundle), so its role is crucial in the most sport activities.
- **The purpose of this study is to identify the incidence and the characteristics of partial ACL tears and their associated knee lesions in athletes.**



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METHOD

- In a prospective clinical study all the arthroscopic knee procedures, during the years 2009-2023, were recorded in a multivariate protocol.
- **As partial ACL tear we define the isolated rupture of either the anteromedial (AM) or posterolateral (PL) bundle in “probe test”.**
- Associated lesions such as meniscus, chondral or other ligament injuries and other factors as age, gender, sports activity and clinical outcome were also recorded.
- Statistical analysis is performed.



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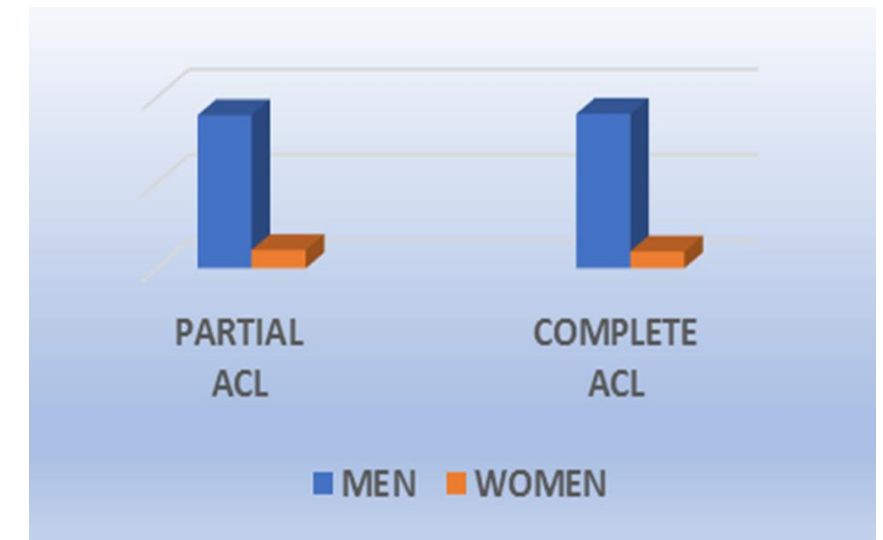
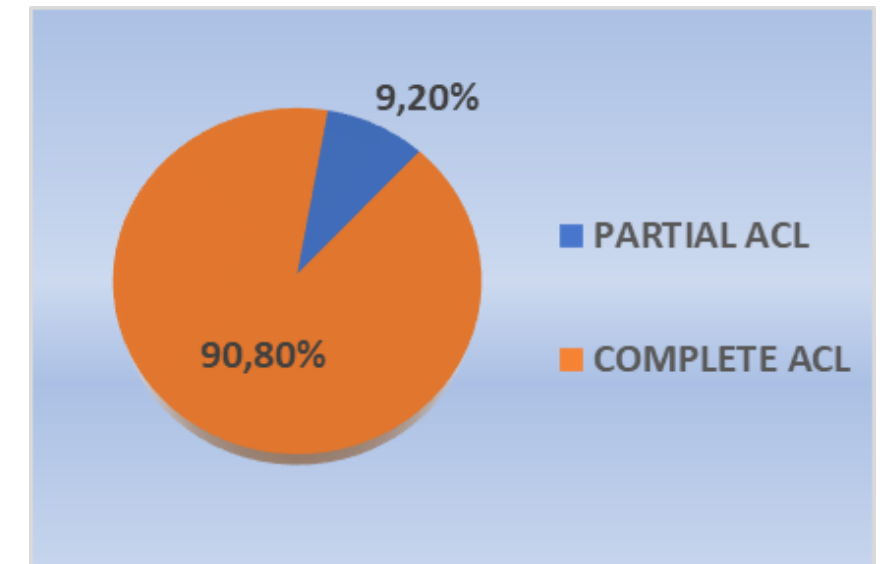


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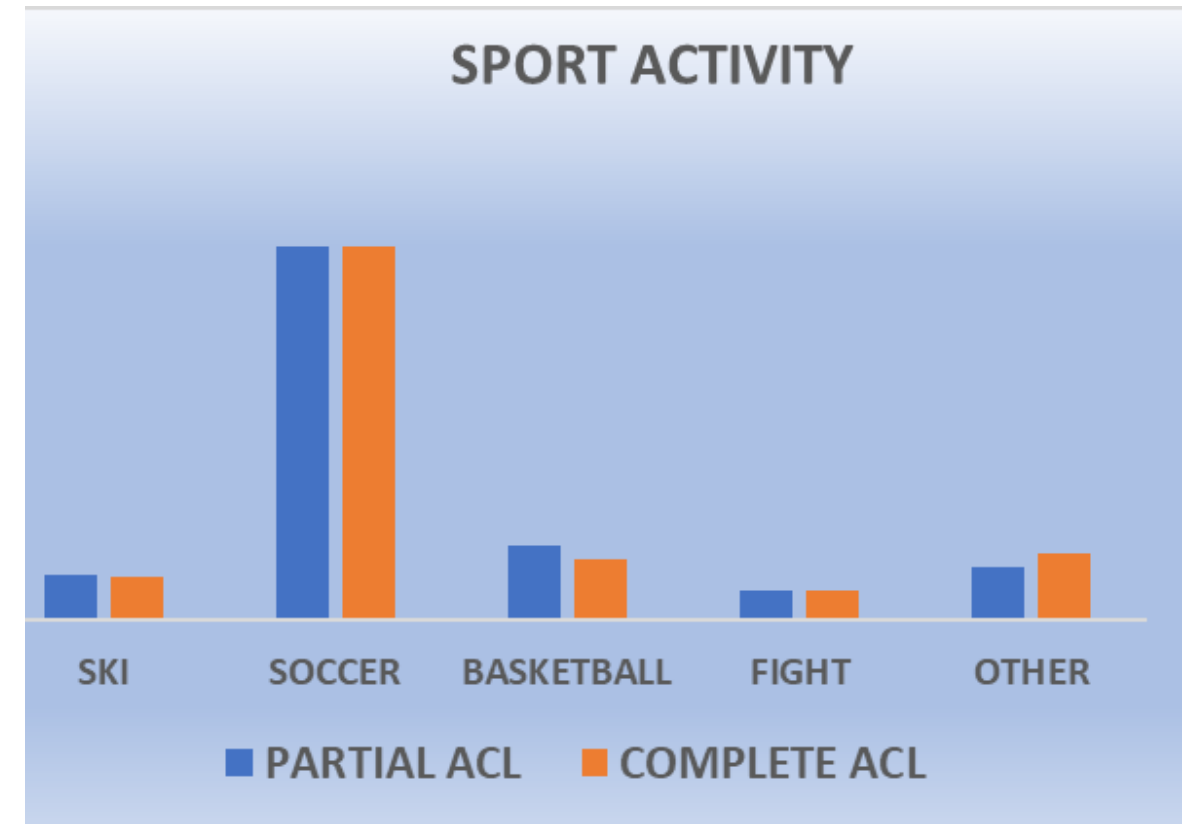
RESULTS

- 851 ACL ruptures in athletes
- 78 ruptures were partial ACL tears (9.2%)
- There is no difference among males and females between partial and complete ACL ruptures (90% vs 10%).



RESULTS

- Soccer (65.3%), basketball (10.8%) and ski (7.5%) are the most common sport activities associated with an ACL injury in our study.
- There is no difference according to sport activity between partial and complete ACL tears.



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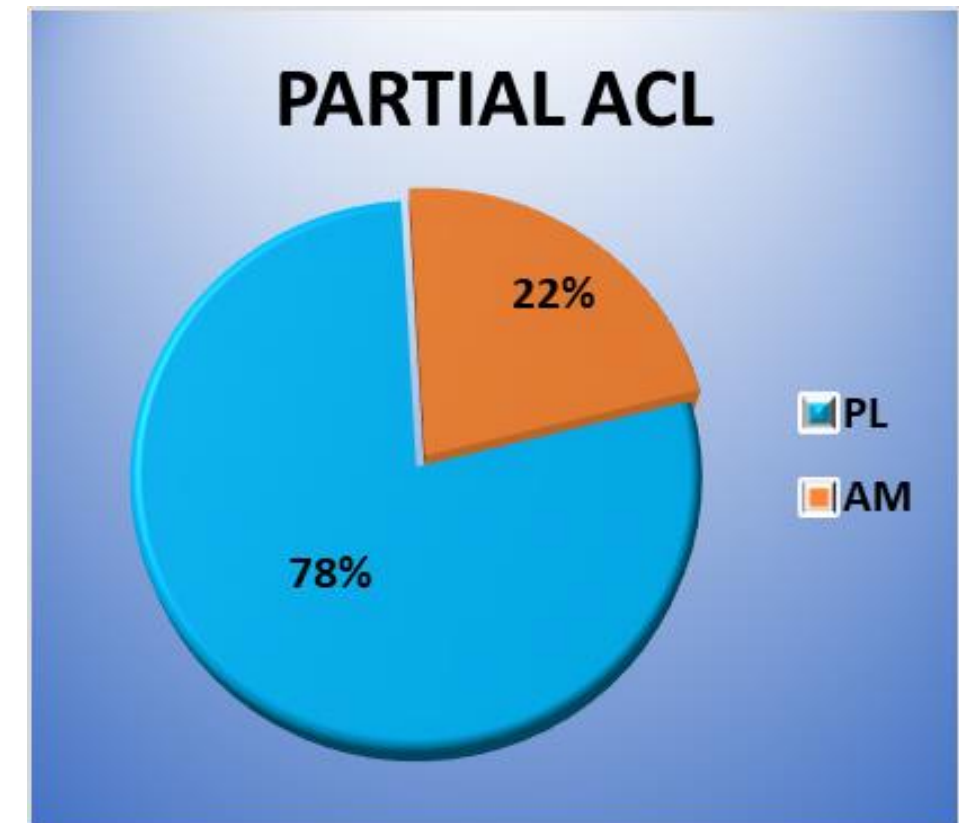
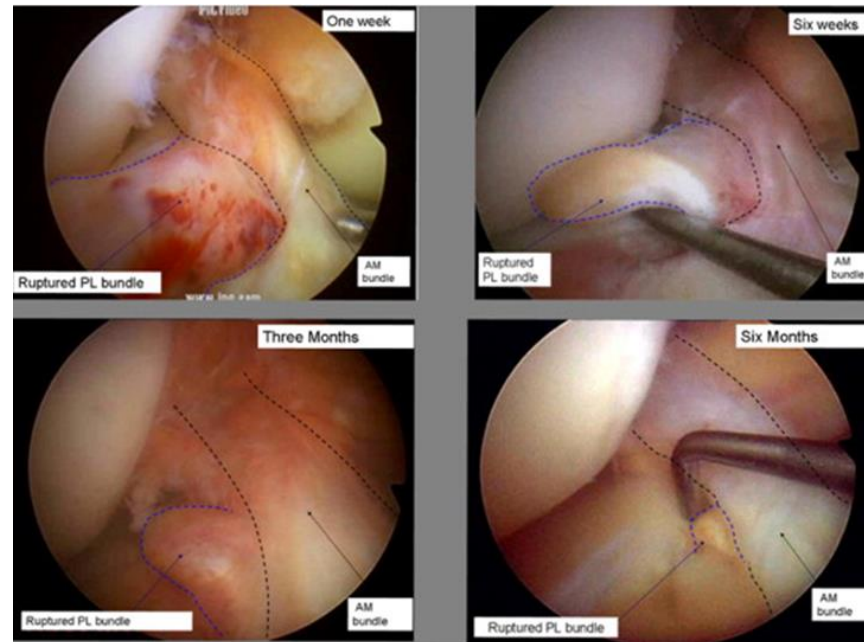


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RESULTS

- The posterolateral bundle (PL) is more commonly injured than anteromedial bundle (78% vs 22%).



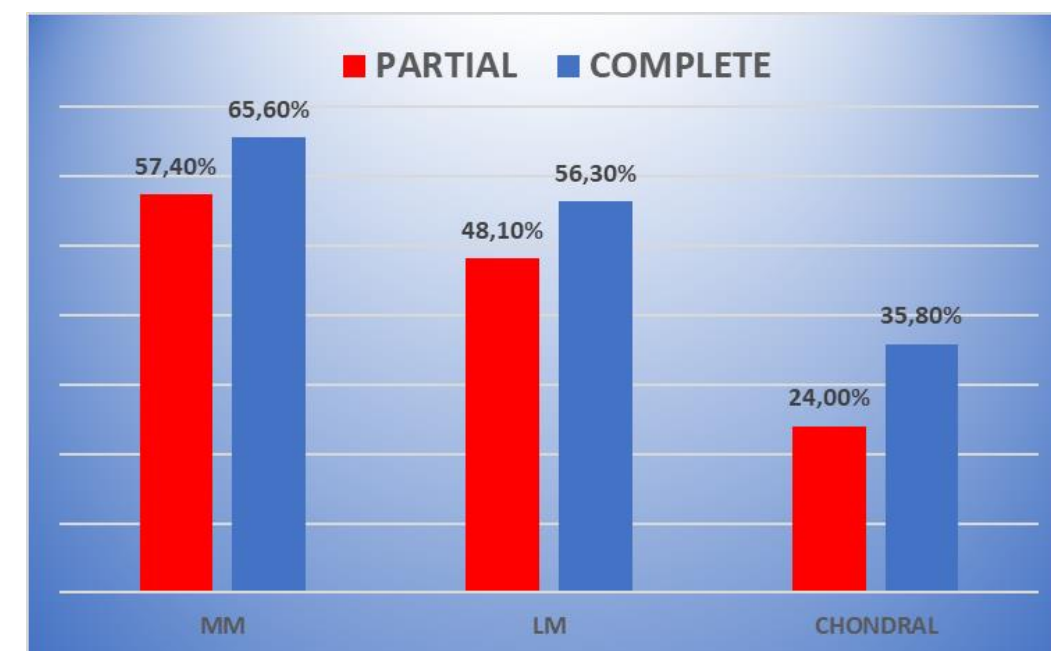
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RESULTS

- 30.8% of partial versus 17.7% of complete ACL ruptures are isolated injuries ($p < 0.001$)
- In complete (not isolated) ACL ruptures is more likely to find a meniscus or/and a chondral lesion



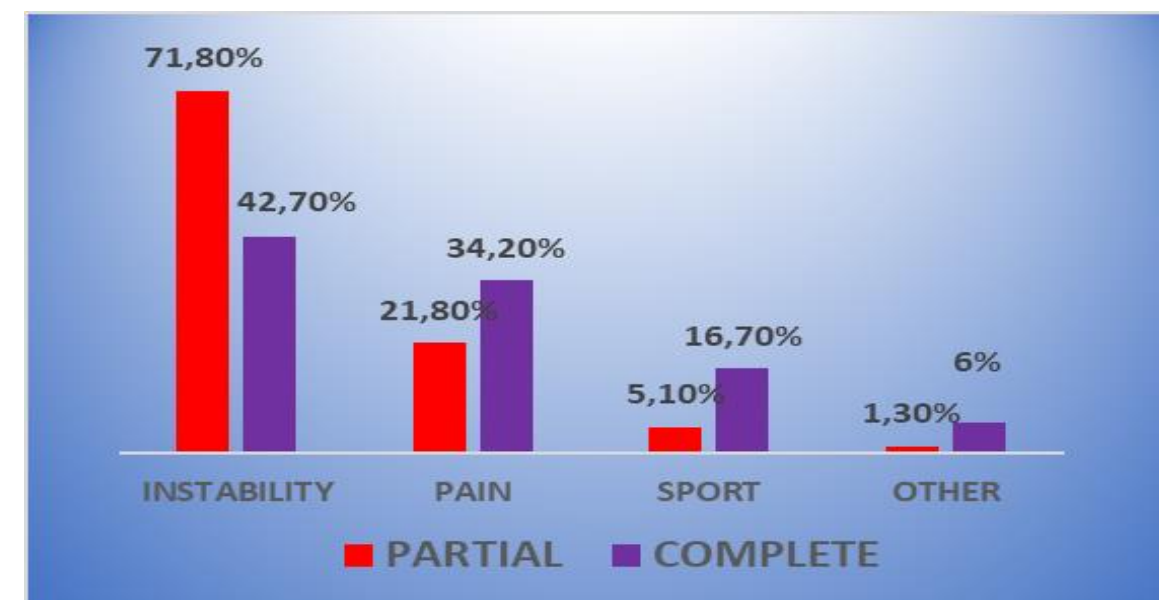
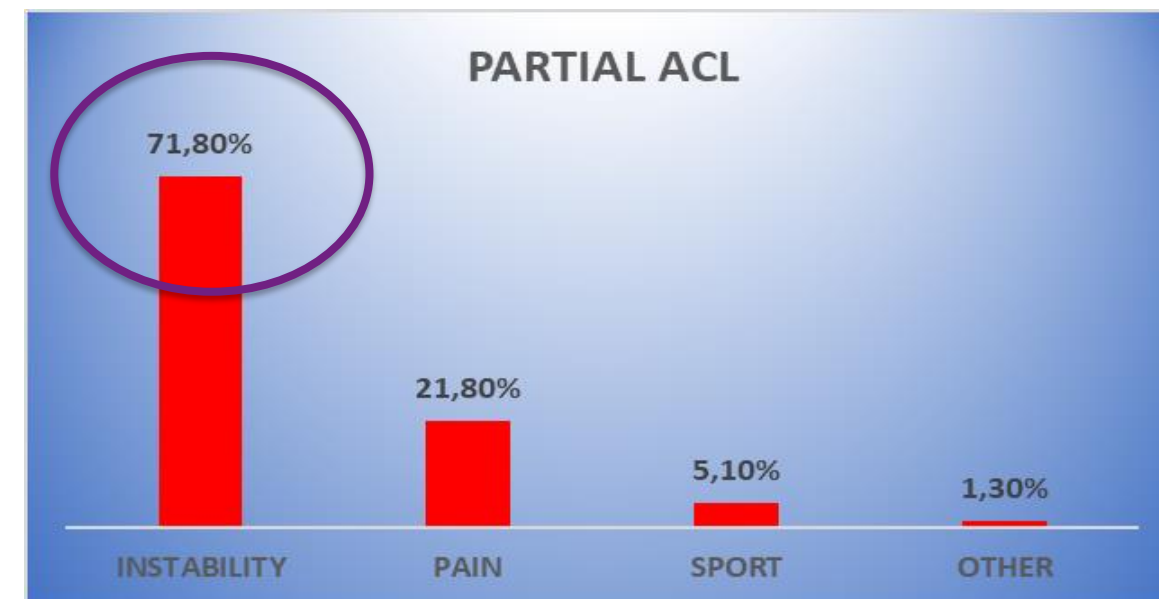
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RESULTS

- Instability is the main reason for operation especially for the partial ACL group (71.8% vs 42.7%).
- There are statistical differences for the need of operation between the two groups ($p < 0.001$)



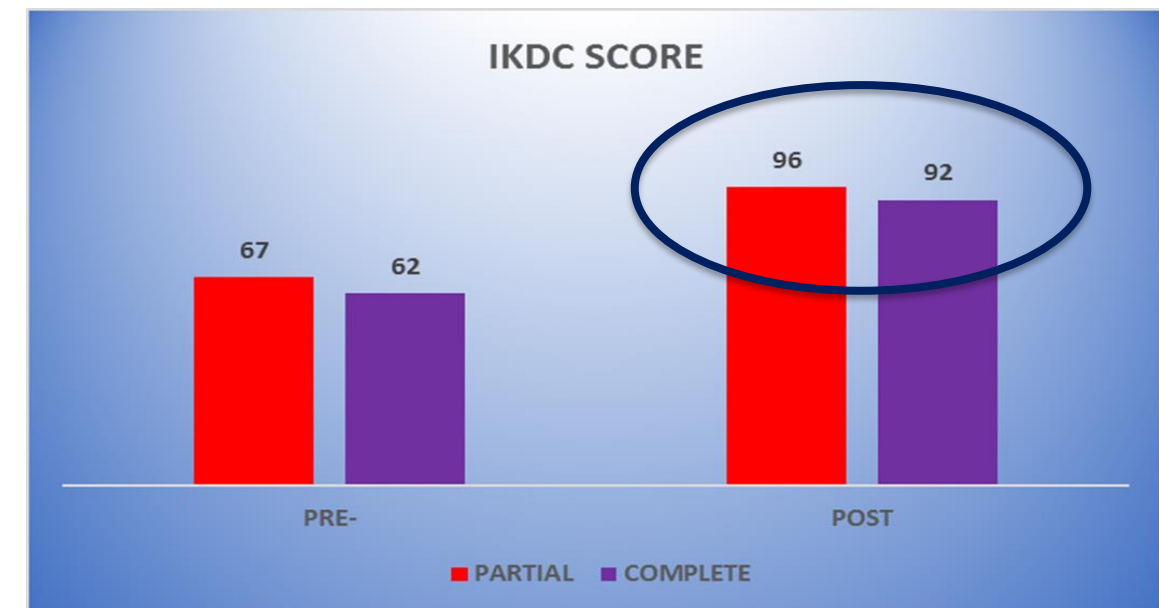
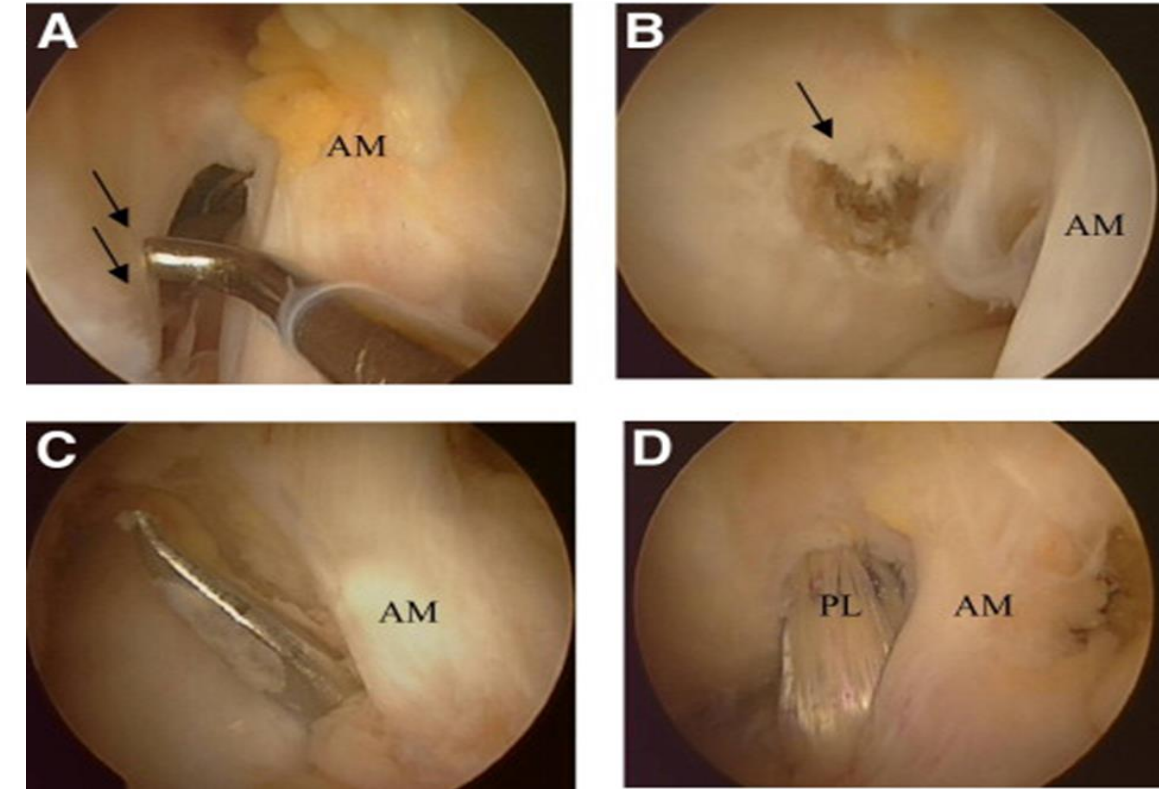
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RESULTS

- The ACL reconstruction with augmentation technique is the operative treatment of choice in all the partial ACL cases.
- The clinical outcome is better for the partial ACL reconstructed knees (96% vs 92% good or excellent results).





DISCUSSION AND CONCLUSIONS

Partial ACL tears in athletes:

- **Are relative common injuries**
- **Difficult identified** (mild mechanism of injury, no or limited clinical signs, unclear MRI findings)
- **Cause mainly rotational instability** (PL bundle rupture occur much more often than AM), concerning mainly “popular” sports (soccer, basketball, skiing) where pivot movements demand rotational stability
- **Are associated very often with other structural knee injuries** and this fact plays a significant role for the prognosis (if they don't be treated surgically)

Surgical treatment (with augmentation technique) :

- Excellent results
- Restores the anatomy and the proprioception



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“repair what is torn”

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