Management of Different Scenarios of PCL Injuries

PCL INLAY RECONSTRUCTIONS

AND CASE PRESENTATION

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PCL RECONSTRUCTION

✓ anatomical particularities (PCL tibial insertion)

↓↓ interest of many knee surgeons

✓ diagnosis (to investigate associate ligament injuries)

✓ mechanical stress to the graft tendon (“Killer turn”)


“during the maturation phase, the graft tendon ("new ligament") is more vulnerable to mechanical stress and the occurrence of graft elongation and fail ("creep phenomenon")

Rehorn MR, Schrorer AK, Blemker SS. The passive properties of muscle fibers are velocity dependent. J Biomech. 2014 Feb;47(3):687-93
Personal experience with PCL reconstruction

- **BTB + synthetic ligament** (⇒ mechanical stress to the graft)

- **Passage of the graft into the tibial tunnel** (difficulties → bone block)

- **Synthetic ligament fails** (6 months-FU) ⇒ **posterior instability returns**

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Piedade SR, Miranda JB e Buendia LA. Lesão do Ligamento Cruzado Posterior – Apresentação de 12 casos tratados cirurgicamente. 6º CONGRESSO DA SBCJ - Belo Horizonte/MG, 1995
✓ “killer turn”

✓ “learning curve”

✓ the need of changing the patient’s decubitus

- increasing the time of surgery;
- Is it a limiting factor for one-stage bicruciate reconstruction?
PCL TIBIAL INLAY RECONSTRUCTION

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approaching the posterior aspect of the knee joint

ventral decubitus
PCL TIBIAL INLAY RECONSTRUCTION

Preparing the tibial slot

- Tibial slot 2mm narrower than the bone block ("press-fit effect");
- Deeping the tibial slot (impactor);
- Pull-out (better control of graft tension)
Do we need to change the patient’s decubitus?

in the literature


Case presentation 1 - one-stage Bicruciate reconstruction

- male, 32 years old;
- motorcycle accident;
- left knee trauma.

Physical examination

- anterior and posterior instability of left knee;
Case presentation 1 – pre operative exam
Case presentation 1 – intra operative view
Case presentation 1 – intra operative

artroscopic view
Case presentation 1 – intra operative
male, 28 years old;

motorcycle accident;

right and left knee trauma.

Physical examination

anterior and posterior instability of left knee;

posterior instability of right knee;
Case presentation 2 – pre operative exam
Case presentation 2 – intra operative view

Gratf tensionning
Case presentation 2 – physical exam (after graft fixation)
Case presentation 3 – intra operative view
Conclusion

PCL inlay reconstruction

- safe and reproducible *(bicruciate injury)*
- biomechanical concepts
  - protecting the graft in early postoperative care

Respecting our “learning curve” and “keeping the feet on the ground”

It will help us to choose the best approach for each patient!