

Platelet-rich plasma (PRP) to treat chronic upper patellar tendinopathies

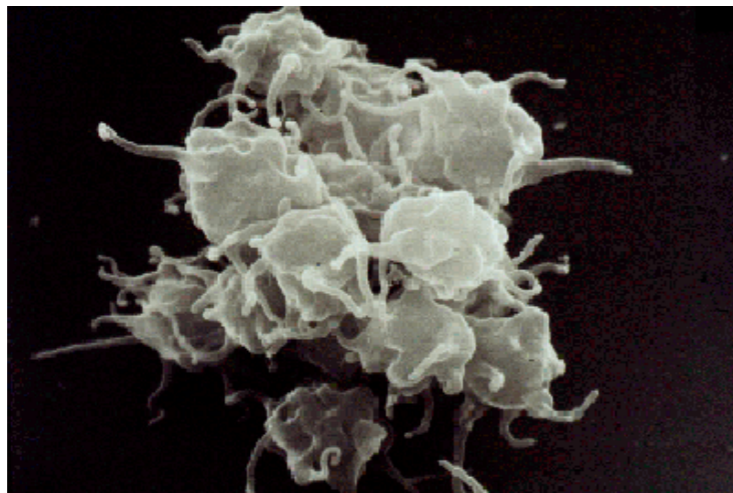
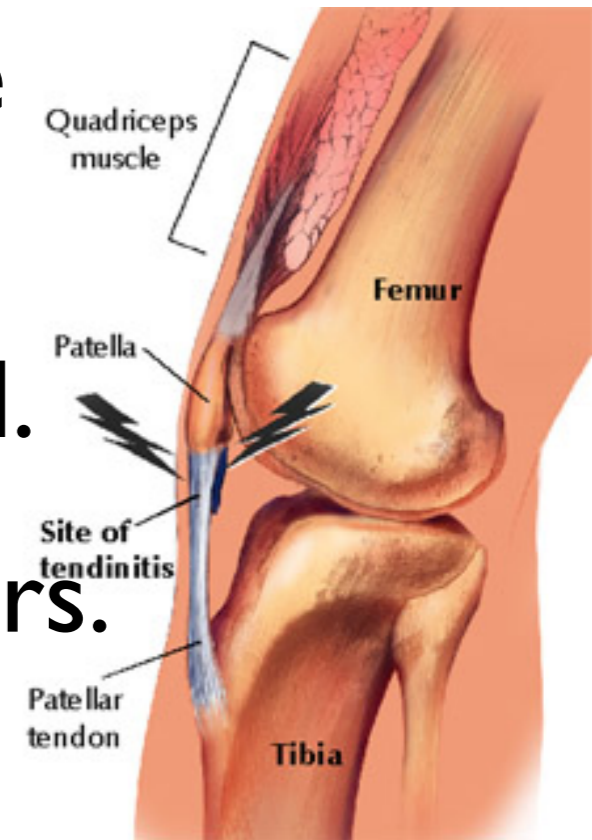
Kaux JF, Croisier JL, Bruyère O, Rodriguez C, Daniel C, Godon B, Simoni P, Alvarez V, Brabant G, Lapraille S, Lonneux V, Noël D, Collette J, Le Goff C, Gothot A, Crielaard JM

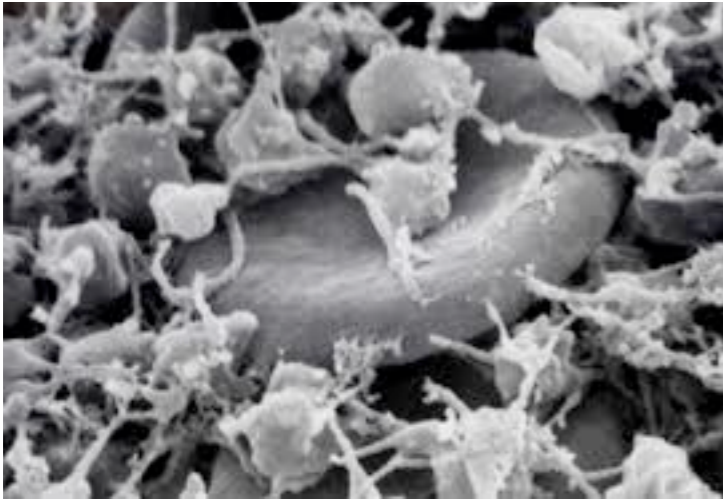
University and University Hospital of Liège, Belgium



Introduction

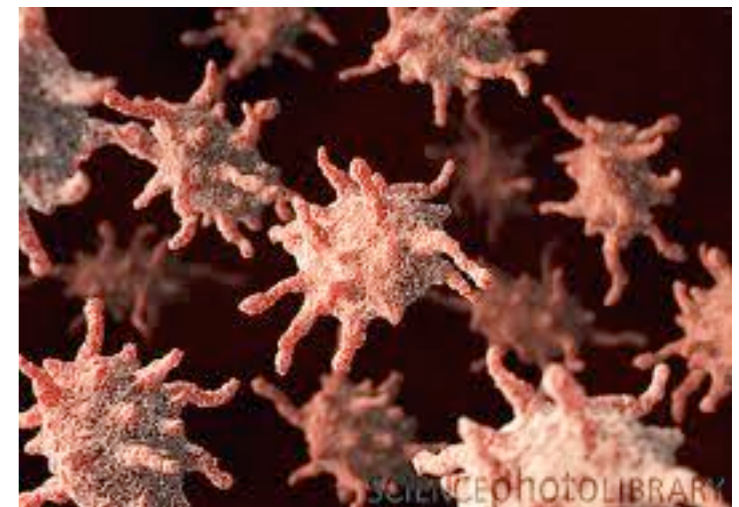
- Upper patellar tendinopathies remain often chronic and resistant to conservative treatment.
- New treatments are being developed.
- Platelets contain lots of growth factors.





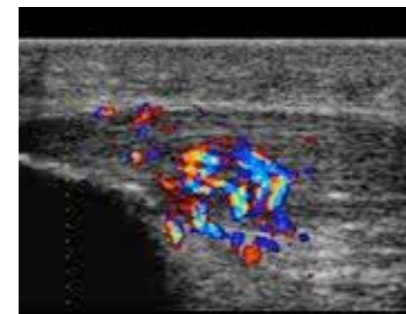
PRP

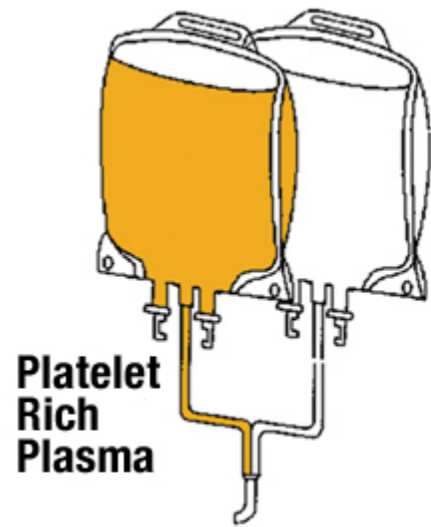
- In vitro and animal experiments have demonstrated that PRP can stimulate the tendon healing process.
- Clinical series are subject to controversy.



Methods

- 20 patients
- Assessments:
 - VAS
 - algometer
 - algofunctional scores (IKDC and VISA-P)
 - functional assessments (isokinetic and optojump)
 - imagery (US and MRI)
- Evaluations before infiltration, and 6 weeks and 3 months post-infiltration





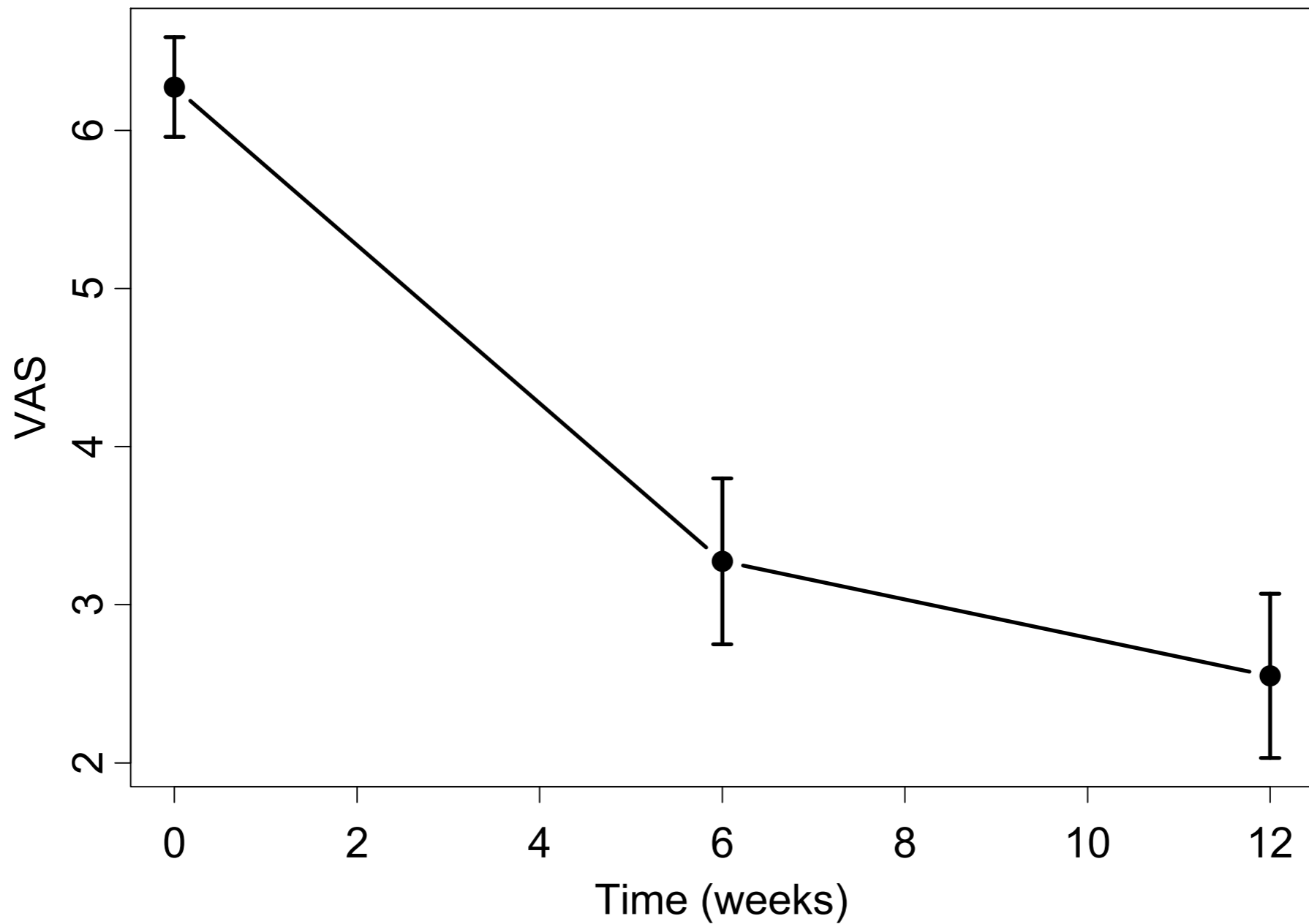
Methods



- PRP obtained by apheresis system (COM.TEC, Fresenius).
- Site located by US.
- 6mL of PRP were injected without anaesthetic.
- 1 week after infiltration → 6-week standardised sub-maximal eccentric reeducation.
- NSAIDs were avoided.

Results

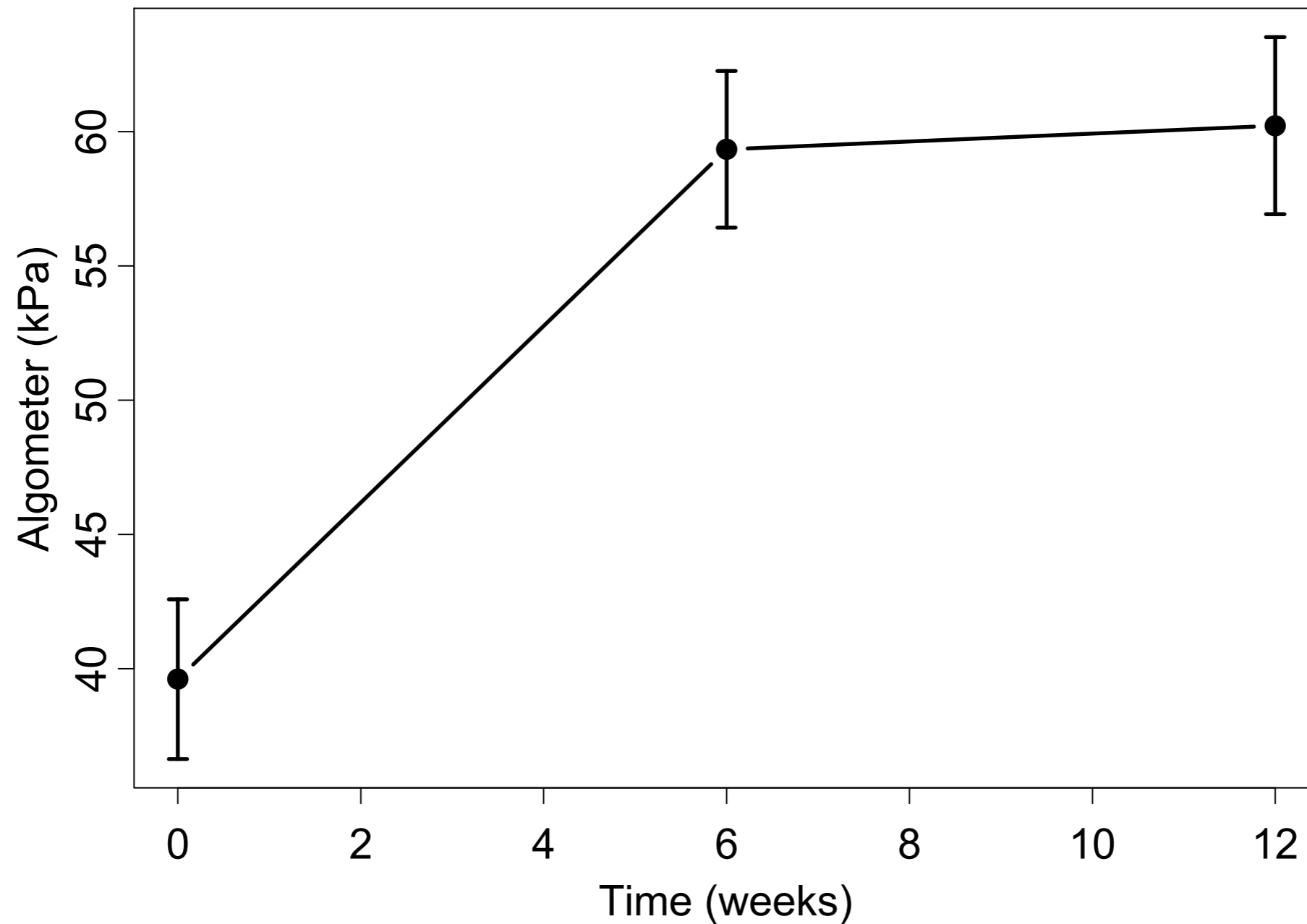
VAS



$p < 0.001$

Results

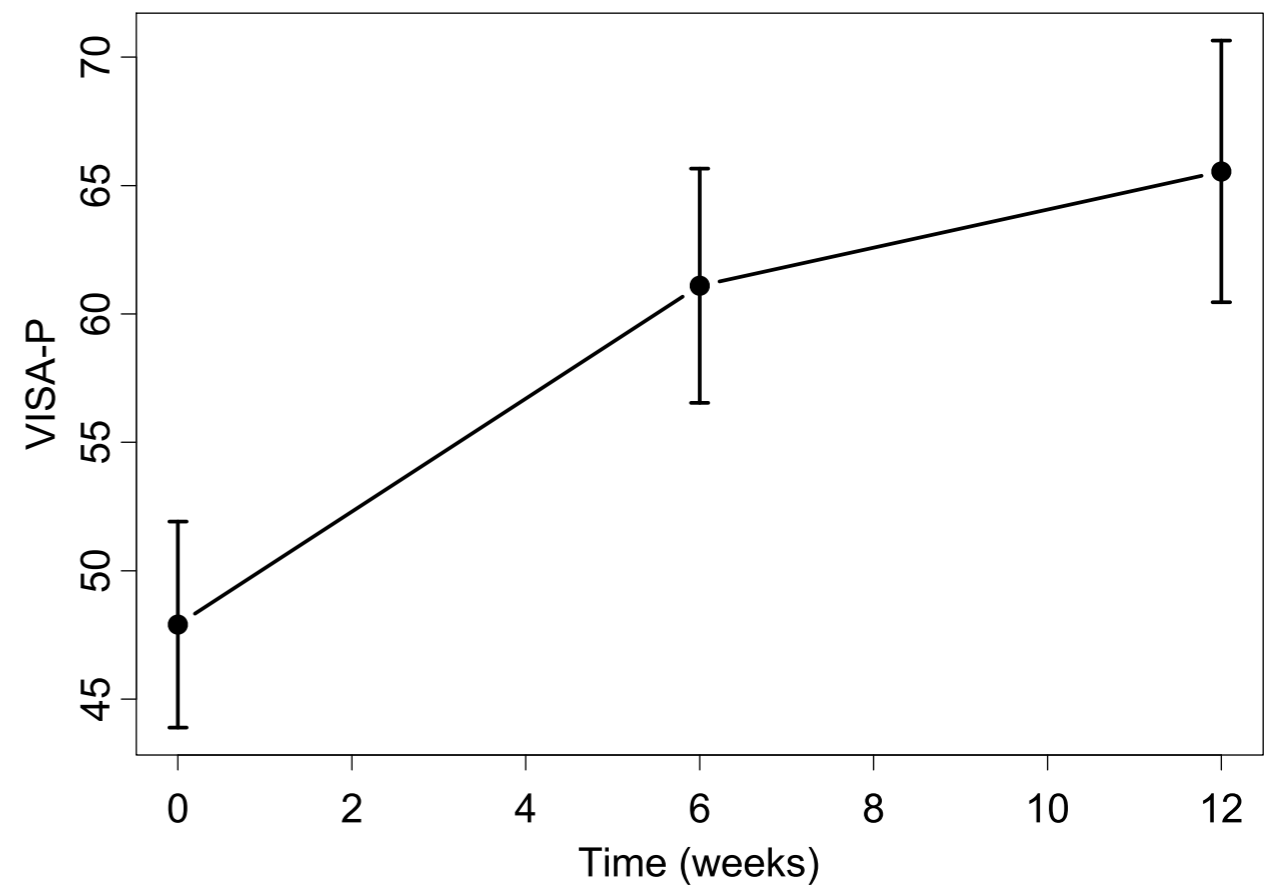
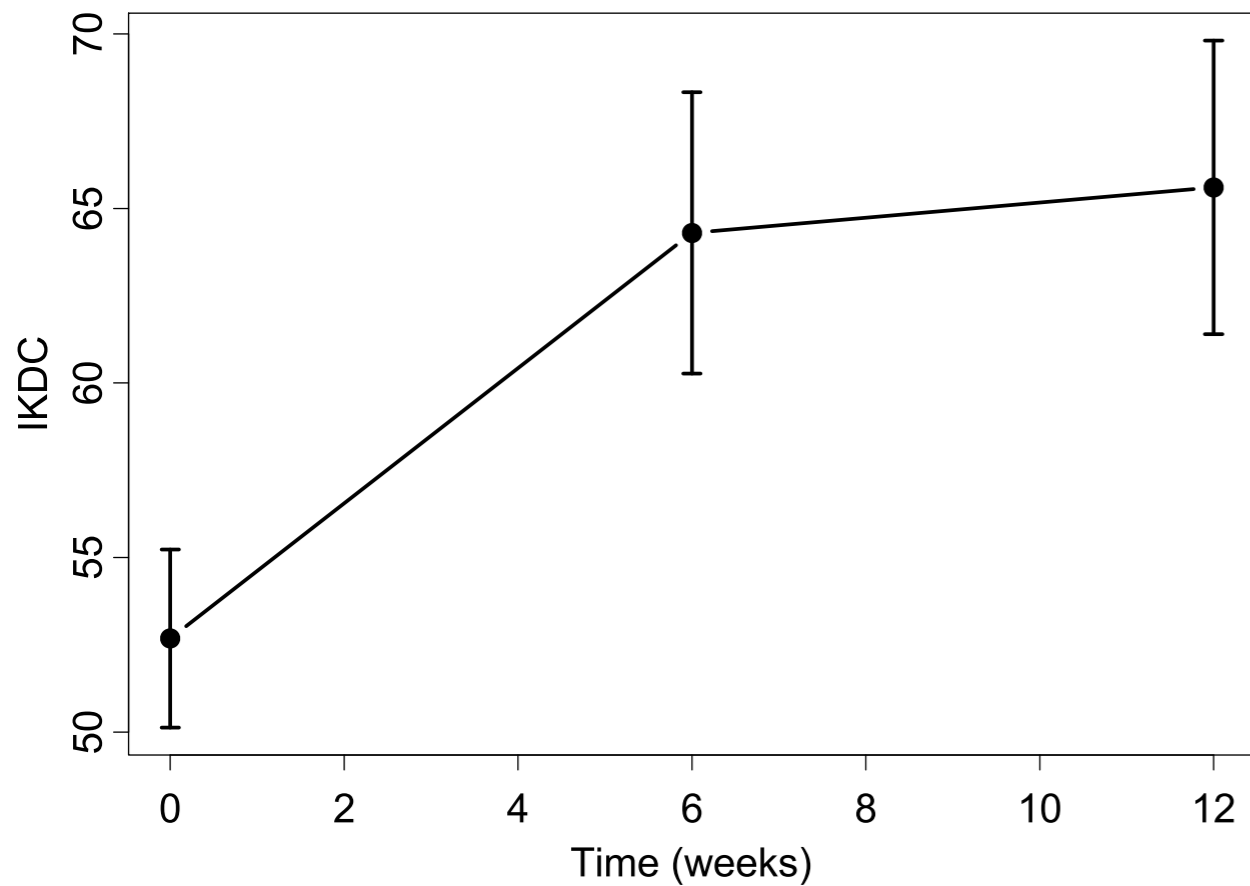
Algometer



$p < 0.001$

Results

IKDC - VISA-P



p=0.03

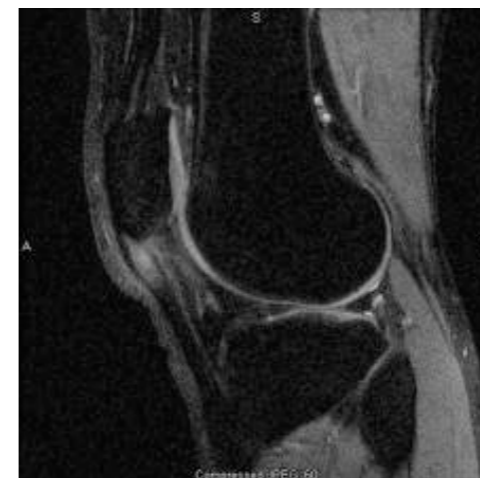
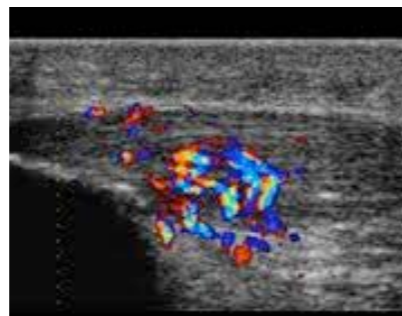
Results

Isokinetic and optojump

US and MRI



- Pain felt decreased at each functional evaluation.
- No functional improvement.
- No improvement in the imagery.



Results

- Patients with best improvement → younger (24.7 vs 32.2 y.o.)
- VAS \leq I
- significant increase of IKDC score ($p=0.003$)
- significant improvement of pain during isokinetic evaluation ($p<0.05$) and optojump ($p=0.01$)
- 70% return to sport (50% same level).



Discussion



- A local infiltration of PRP + submaximal eccentric reeducation → improvement of symptoms of chronic upper patellar tendinopathies.
- No functional or imagery improvement observed.

Discussion

- No general agreement on the preparation and use of PRP.
- Apheresis system provides:
 - «pure» PRP (without red and white cells)
 - reproducible PRP from one patient to another (duration of platelet collect depended on anthropometric and biologic parameters of each patient)
 - choice of PRP concentration



Conclusion

- PRP can be a treatment for resistant chronic tendinopathies.
- RCT are still needed.

Thank you for your attention !



jfkaux@chu.ulg.ac.be