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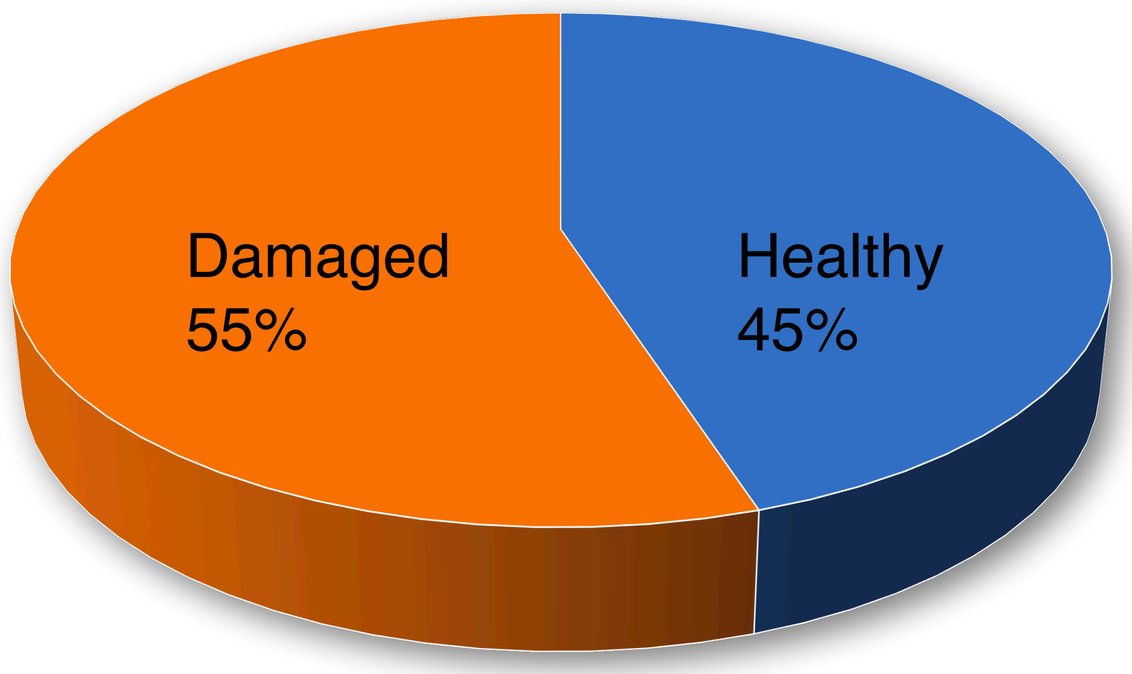
Knee osteoarthritis and rotator cuff pathology: coexistence, genetic and molecular risk factors

Hypothesis

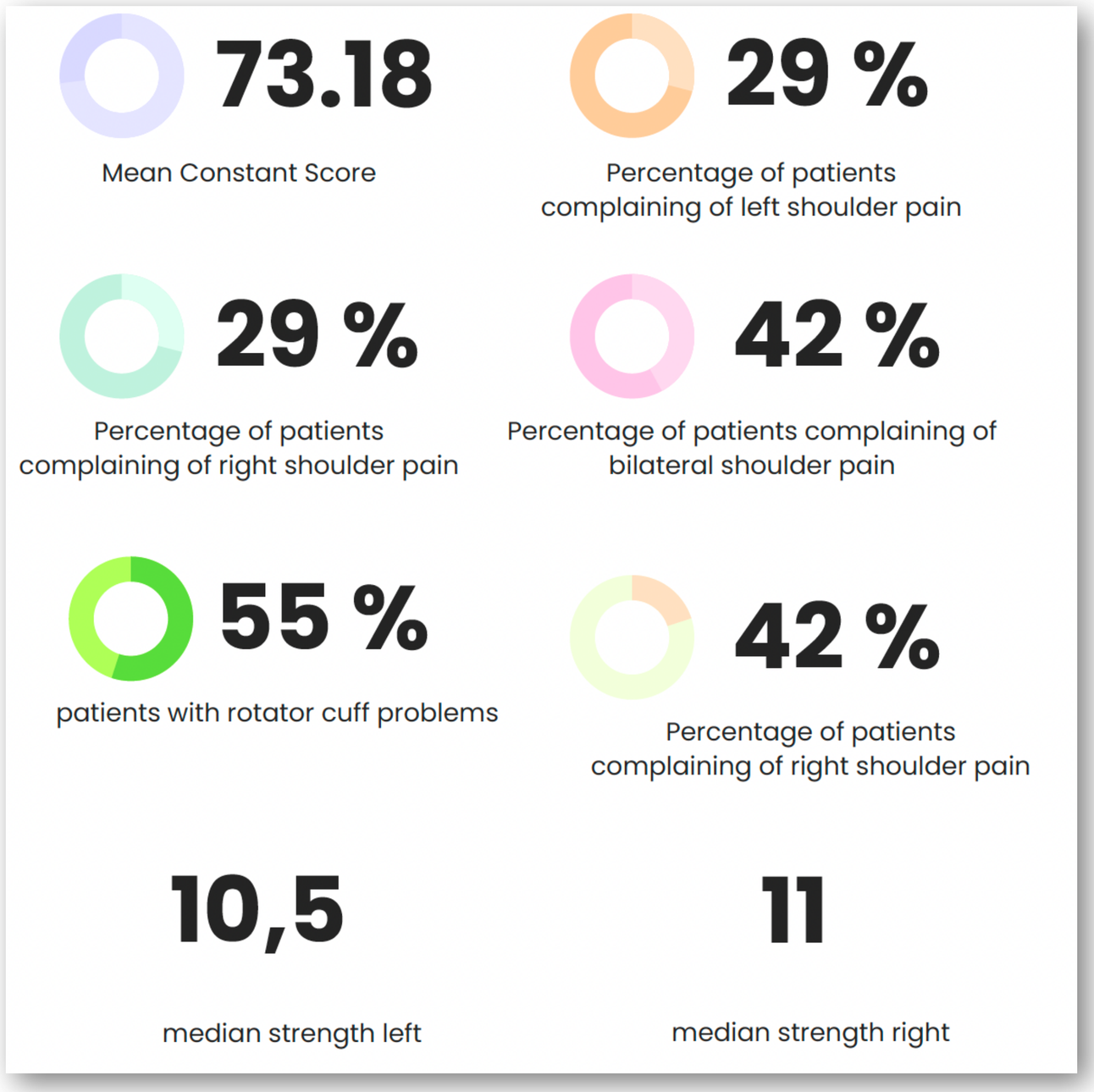
- Rotator cuff injury is more common in patients with coexisting knee osteoarthritis.
- There are molecular markers that are positively correlated with the coexistence of both pathologies.

Patients after TKA: Rotator cuff injury



Numbers

- About 28 % of people older than 60 have full thickness rotator cuff tear
- 10-13 % of populationover60 have symptomatic knee osteoarthritis
- 240 per 100,000 new cases per year of symptomatic knee OA



Knee osteoarthritis (OA) and rotator cuff (RC) injuries are debilitating conditions affecting a significant portion of the population. Knee OA involves the gradual deterioration of knee cartilage, leading to pain and reduced joint function. RC injuries, on the other hand, result from degenerative changes in shoulder tendons, impacting hand positioning and mobility.

Knee Osteoarthritis:

- ○Definition: Gradual loss of knee articular cartilage leading to pain and reduced functionality.
- ○Symptoms: Pain, joint stiffness, progressive disability.
- ○Diagnosis: Primarily through X-rays, detecting joint space narrowing, osteophytes, and sclerotization.
- ○Treatment: Non-operative methods including education, lifestyle changes, and medication. Surgical interventions such as knee arthroplasty for severe cases.

Rotator Cuff Injuries:

- ○Anatomy: Comprised of supraspinatus, infraspinatus, subscapularis, and teres minor muscles.
- ○Causes: Degenerative changes weakening tendon mechanical properties, leading to damage from micro-injuries, overload, or trauma.
- ○Diagnosis: Physical and radiological examinations including ultrasound and MRI, with MRI being the gold standard.
- ○Treatment: Varied, ranging from physical therapy and NSAIDs to injections and surgical options like tendon reconstruction or shoulder prosthesis.

Comparative Analysis:

- ○Aim: To explore the correlation between knee OA and RC injuries, particularly in patients undergoing knee arthroplasty.
- ○Impact: Patients using crutches during knee rehabilitation may inadvertently transfer weight to the shoulder girdle, potentially exacerbating RC damage.
- ○Implications: Understanding this relationship can inform rehabilitation protocols and improve patient outcomes.

Knee osteoarthritis and rotator cuff injuries pose significant challenges to patients and healthcare providers alike. By recognizing their coexistence and potential interplay, we can develop more effective treatment strategies and improve the quality of life for affected individuals.