Is the combination of high-joint impact sport and occupational load associated with hip-related symptoms and hip joint structure?

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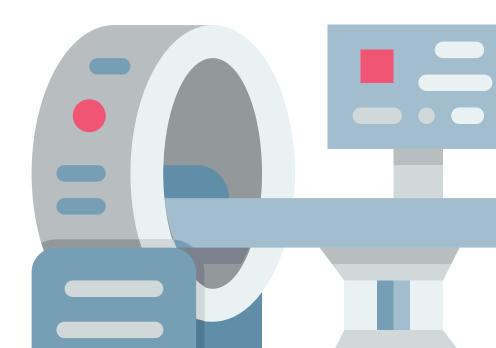
- High impact sport and occupational load are independent risk factors for hip osteoarthritis development. It is unclear if individuals exposed to both of these loads have worse hip-related symptoms and joint structure.
- The influence of occupational load on hip-related symptoms and joint structure is unknown.
 - Aims

Methods

- Evaluate the association between occupational load and hip-related groin symptoms
- Analyse associations between occupational load and hip joint structure on MRI



Femoroacetabular impingement and osteoarthritis cohort (FORCe) study



Symptomatic football players (n = 182)

Main eligibility

Aged 18-50 years, >6 months hip and/or groin pain, +ve FADIR test Symptomatic hips

Hip and/or groin pain and +ve FADIR test

General questionnaire and iHOT-33 questionnaire

Occupational load question

High vs. low occupational load iHOT-33 questionnaire

All domains

3T hip MRI

Scoring Hip Osteoarthritis with MRI (SHOMRI)

Quantify cartilage defects and labral tears

2 musculoskeletal radiologists blinded to clinical findings evaluated all baseline MRI to quantify cartilage defects and labral tears

Data analysis: regression models (incorporating sex-specific interaction terms) adjusted for age

182 symptomatic football players completed baseline questionnaires, X-rays and MRIs

286 hips total

High vs. low occupational load & iHOT-33 subscales (symptoms, sport, job, social)

20% females

Occupational load (high vs. low) & iHOT33-scores

aMD

 \Diamond = -8.4 (-15.1, -1.7) Peq = 4.6 (-9.3, 18.5)

iHOT-symptoms

aMD

 \Diamond = -11.1 (-19.3, -2.9) 9 = 8.0 (-9.0, 24.9)

iHOT-sport

aMD

 \Diamond = -20.2 (-28,3, -12.1) 9 = 12.0 (-4.7, 28.6)

iHOT-job

aMD

 $\delta = -12.2 (-20.2, -4.1)$ Pepropersise = 6.8 (-9.8, 23.5)

iHOT-social

Male football players with high occupational load experience worse hip-related symptoms, function (sport and job) and social concerns.

Occupational load (high vs. low) & hip joint structure

Incidence rate ratio (IRR)

1.30 (0.9, 1.8)

Cartilage

Incidence rate ratio (IRR)

1.07 (0.9, 1.4)

Labrum

Structural joint changes did not differ between football players with high and low occupational load.



*** Conclusion ***

Males with high occupational load had worse iHOT33-subscale scores compared to footballers with low occupational load

No association between occupational load and iHOT-33 in female football players

Joint structure did not differ between football players with high & low occupational load

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