Females Are More Likely To Undergo Revision Surgery After Proximal Hamstring Avulsion Repair

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Faculty Disclosure Information

- Ross Radic
  - Consultancy: Arthrex, Smith and Nephew, Zimmer Biomet, DePuy Synthes, AO Sports
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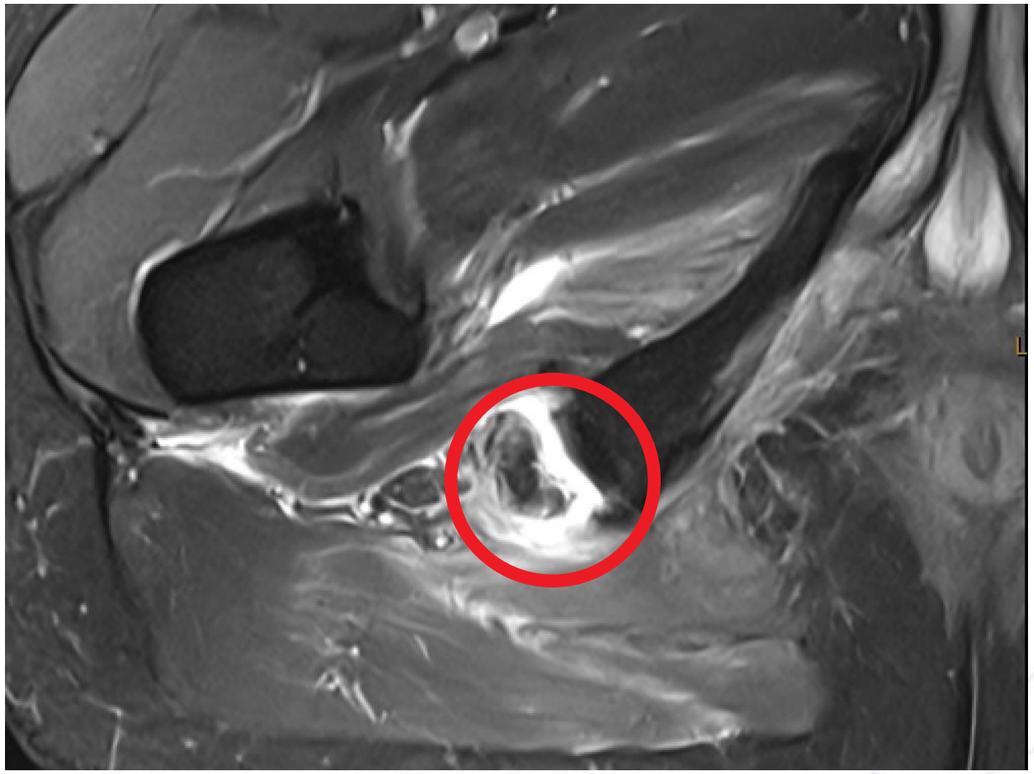
  - Holds shares in: Convergence Medical
  - Royalties: nil

Background

- 12% of hamstring injuries reported to be proximal avulsion/ruptures[1]
- Surgical repair of acute tears improve patient satisfaction, muscle strength and return to sports rate[2,3]
- 1.2 – 2.7% re-rupture rate [2,4]
- Remaining ambiguity of associative patient-related factors and re-rupture

Aim

- Identification of associative patient-related factors in acute and chronic repair settings leading to revision surgery two years postoperatively

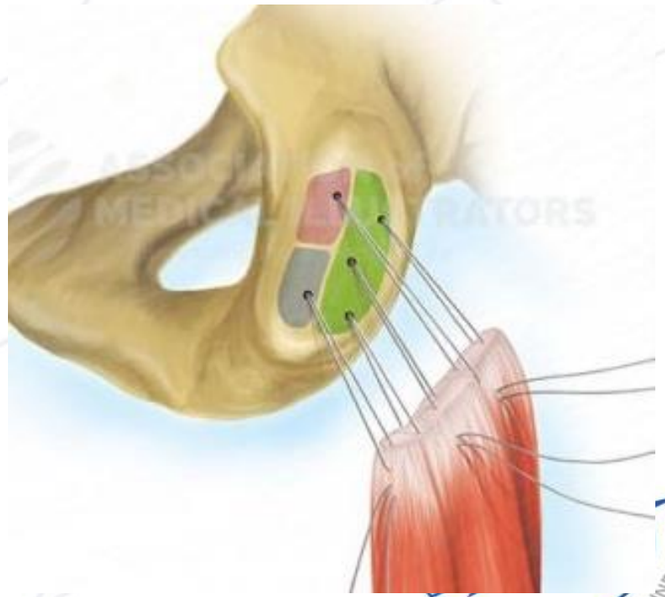


Materials & Methods

- MRI-approved tears, patients demographics

- Open primary repairs (n = 206, 2/2014 – 6/2022)
  - Acute rupture (n = 139), chronic tear (minimum 6 weeks post trauma, n = 67)

- Anchor (n =5)/suture fixation
- Rehab
  - full weight bearing as tolerated, 2 weeks knee brace (30° flexion), unrestricted strengthening after 3 months



Results

- Acute repair

	Full Cohort (n=139)	
	No Revision	Revision
n (%)	**124 (89.2)**	**15 (10.8)**
Age (years), mean ± SD	48.7 ± 15.5	52.5 ±14.8
BMI, mean ± SD	26.5 ± 4.9	26.9 ± 5.8
Sex, n (%)		
Female	**43 (34.7)**	**10 (66.7)**
Male	81 (65.3)	5 (33.3)
Hypertension, n (%)		
No	103 (83.1)	10 (66.7)
Yes	21 (16.9)	5 (33.3)
Hypercholesterolaemia, n (%)		
No	115 (92.7)	14 (93.3)
Yes	9 (7.3)	1 (6.7)

- Mean time to repair 56.4 ± 65.5 days

- Multivariable logistic regression
  - Female gender predictive for revision (OR 4.1, p = 0.026)
  - No further difference in investigated variables

Results

- Chronic repair

	Full cohort (n=67)	
	No Revision	Revision
n (%)	**56 (83.6)**	**11 (16.4)**
Age (years), mean ± SD	61.2 ± 9.6	56.3 ± 7.6
BMI, mean ± SD	26.3 ± 4.4	24.1 ± 4.1
	n	% re-injury
Sex, n (%)		
Female	45 (80.4)	9 (81.8)
Male	11 (19.6)	2 (18.2)
Hypertension, n (%)		
No	41 (73.2)	8 (72.7)
Yes	15 (26.8)	3 (27.3)
Hypercholesterolaemia, n (%)		
No	48 (85.7)	11 (100.0)
Yes	8 (14.3)	0 (0.0)
Type 2 Diabetes Mellitus, n (%)		
No	51 (91.1)	11 (100.0)
Yes	5 (8.9)	0 (0.0)
Smoker, n (%)		
No	56 (100.0)	10 (90.9)
Yes	0 (0.0)	1 (9.1)

- No difference between cohorts
- No predictive factor for revision surgery

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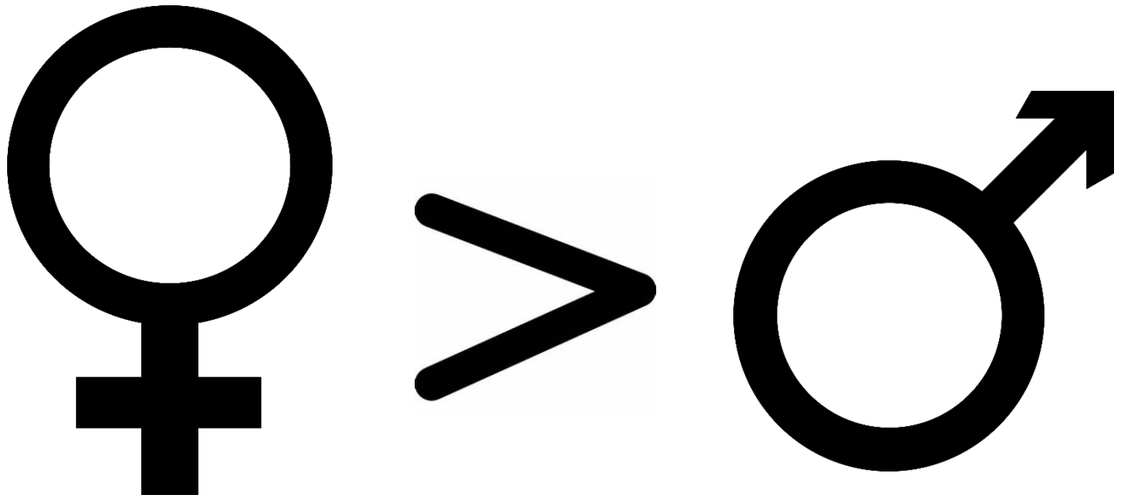
Discussion & Limitations

- Female gender quadruples likelihood for re-tear after acute repair
- Overall higher re-rupture rate compared to pooled data of literature[4,5]
- Retrospective design (predictive variables not collected)

Conclusion

- Beside female gender in acute hamstring ruptures, no further variable was predictive for revision surgery



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