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Difference in the Prevalence of On-Track and Off-Track Lesions Amongst Males and Females with Shoulder Instability

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Authors & Disclosure Information

Disclosure(s) are as follows:

Jillian Mazzocca, BA: No disclosures to report.

Giovanna Medina, MD: Consultant for Smith & Nephew; Consultant for Vericel.

Brian Tao, BA: No disclosures to report.

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Elizabeth Matzkin, MD: Consultant for Arthrex; Editorial board member for Arthroscopy Journal.

Purpose & Hypothesis

Purpose

To determine the prevalence of on-track and off-track Hill-Sachs lesions (HSL) amongst male and female patients with shoulder instability.

Hypothesis

Females will have more on track-lesions in comparison to males.

Methods

Retrospective analysis of a clinical series of consecutive patients who underwent a shoulder MRI during a workup for **anterior glenohumeral instabilit**y between **January 2021 and January 2024.**

The database was searched using **Research Patients Data Registry (RPDR) Mass General Brigham (MGB)** CPT codes and ICD-9/10.

Inclusion criteria included patients between **13 and 35** years old with **anterior shoulder instability**.

Exclusion criteria included subjects with no preoperative MRI, posterior instability, an isolated superior labrum anterior to posterior (SLAP) tear, a proximal humerus fracture, a rotator cuff tear, multidirectional instability, or a reverse Hill-Sachs lesion.

Each patient's medical record was reviewed to retrieve clinical and demographic data.

The MRI was read independently by trained research team members to determine the **glenoid track (GT), Hill-Sachs Interval (HSI) and distance-to-dislocation (DTD)**. Any discrepant reading was evaluated by an orthopedic surgeon to determine a final score.

Descriptive statistics were employed to summarize patient and clinical characteristics. Analyses were performed in R (R Core Team, http://www.r-project.org).

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Results

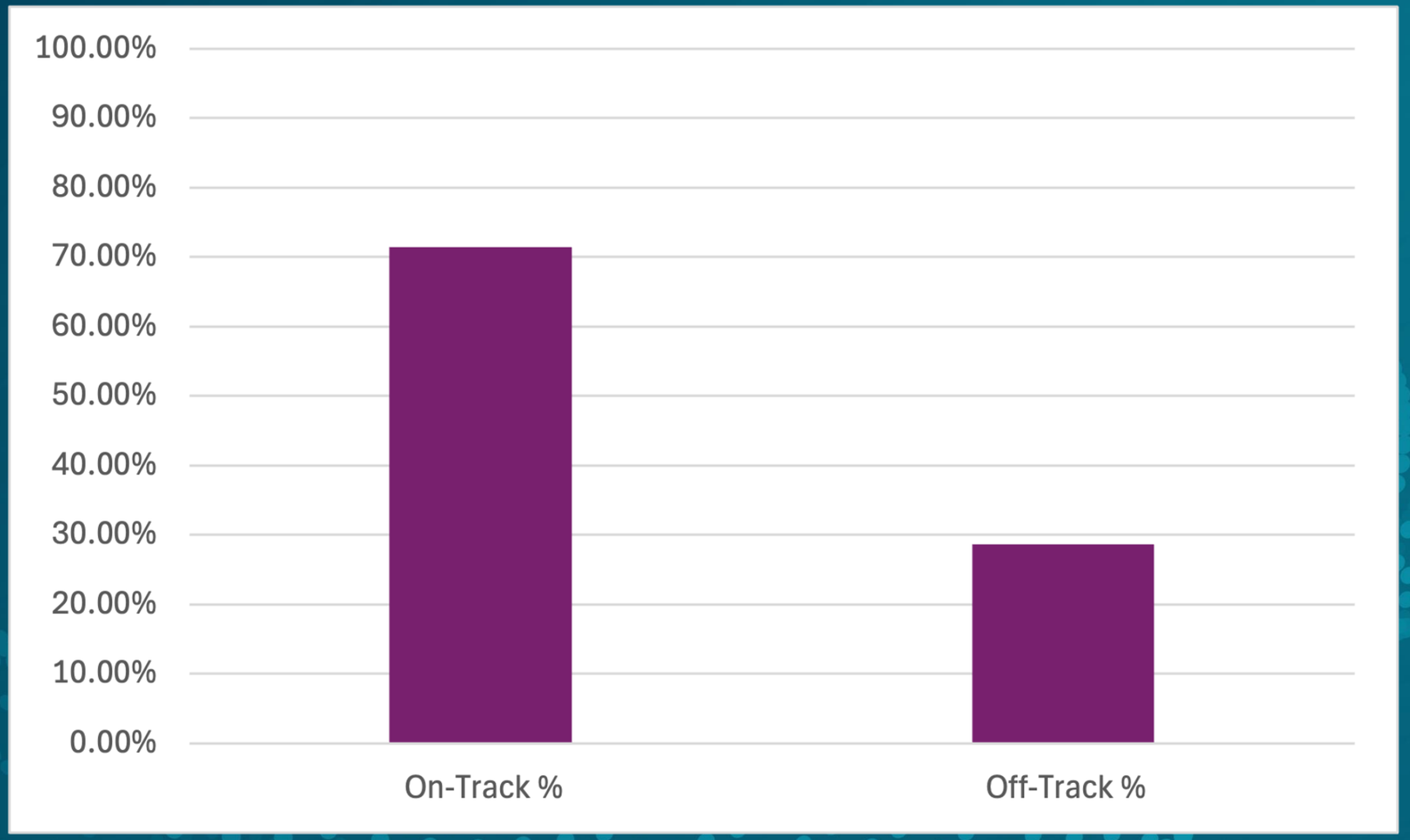
42 patients who met inclusion criteria were included in the data analysis.

The study cohort was stratified by **sex** and statistics were generated.

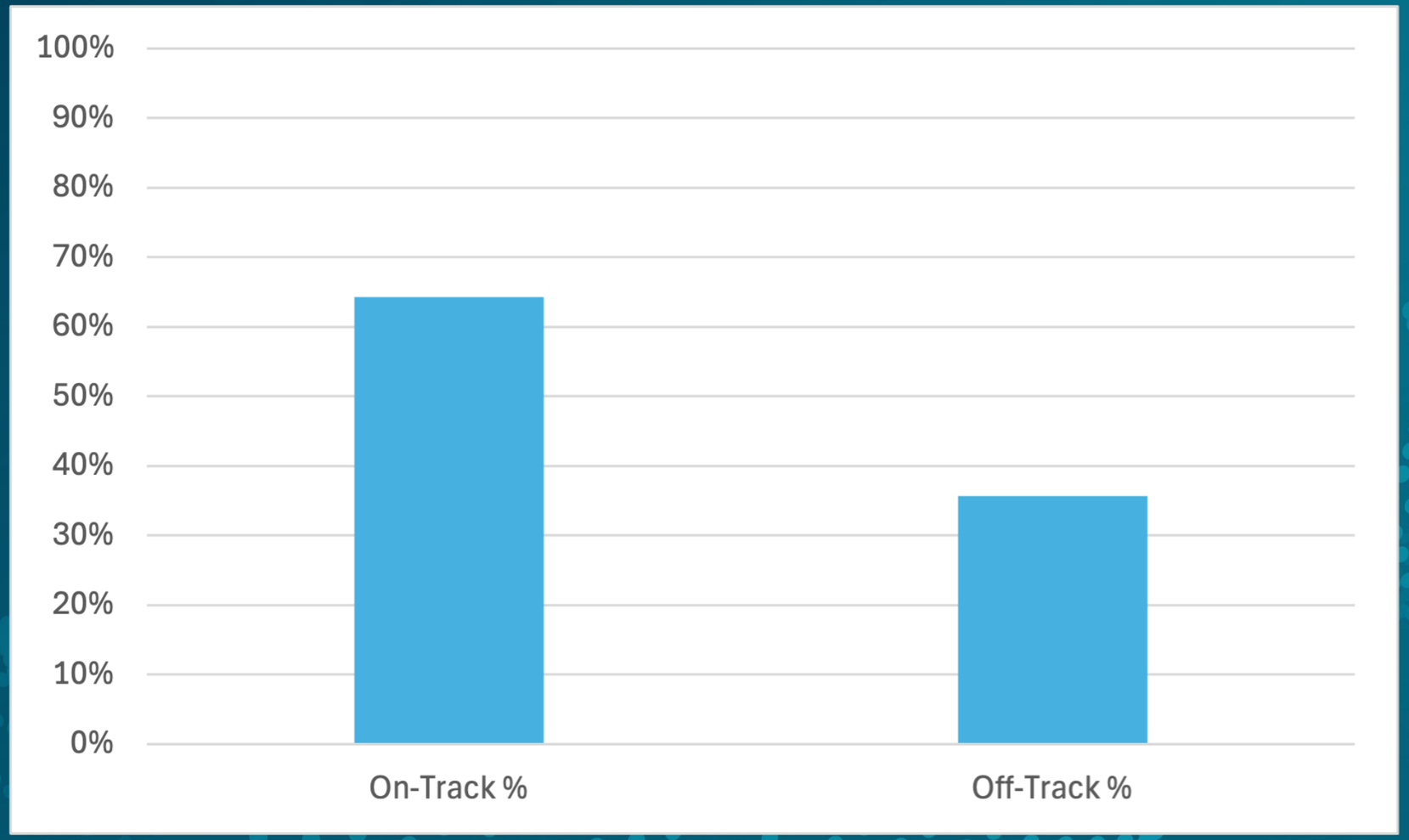
Comparison of Clinical and Demographic Information between Male and Female Cohort

	FEMALE	MALE
Number	14 (33.4%)	28(66.6%)
Avg age	22.72 (+/- 11.46)	22.05(±11.47
Avg BMI	28.01kg/m^2(±6.36)	27.95kg/m^2(±6.48)
Dominant: Nondominant: Missing	6(42.8%):4(28.6%): 4(28.6%)	8(28.6%):12(42.8%):8(28.6%)
Sport Injury	7(50%)	18(64.3%)
Activity of Daily Living Injury	7(50%)	10(35.7%)
Recurrent instability	9(64%)	14(50%)
Hyperlaxity	2(14%)	6(21.4%)
Subluxation	4(28.65)	3(10.7%)
Dislocation	10(71.4%)	23(82.2%)
On track	10(71.4%)	18(64.3%)
Off track	4(28.6%)	10(35.7%)

Percentage (%) of On- vs Off-Track Hill-Sach Lesion in Female Cohort

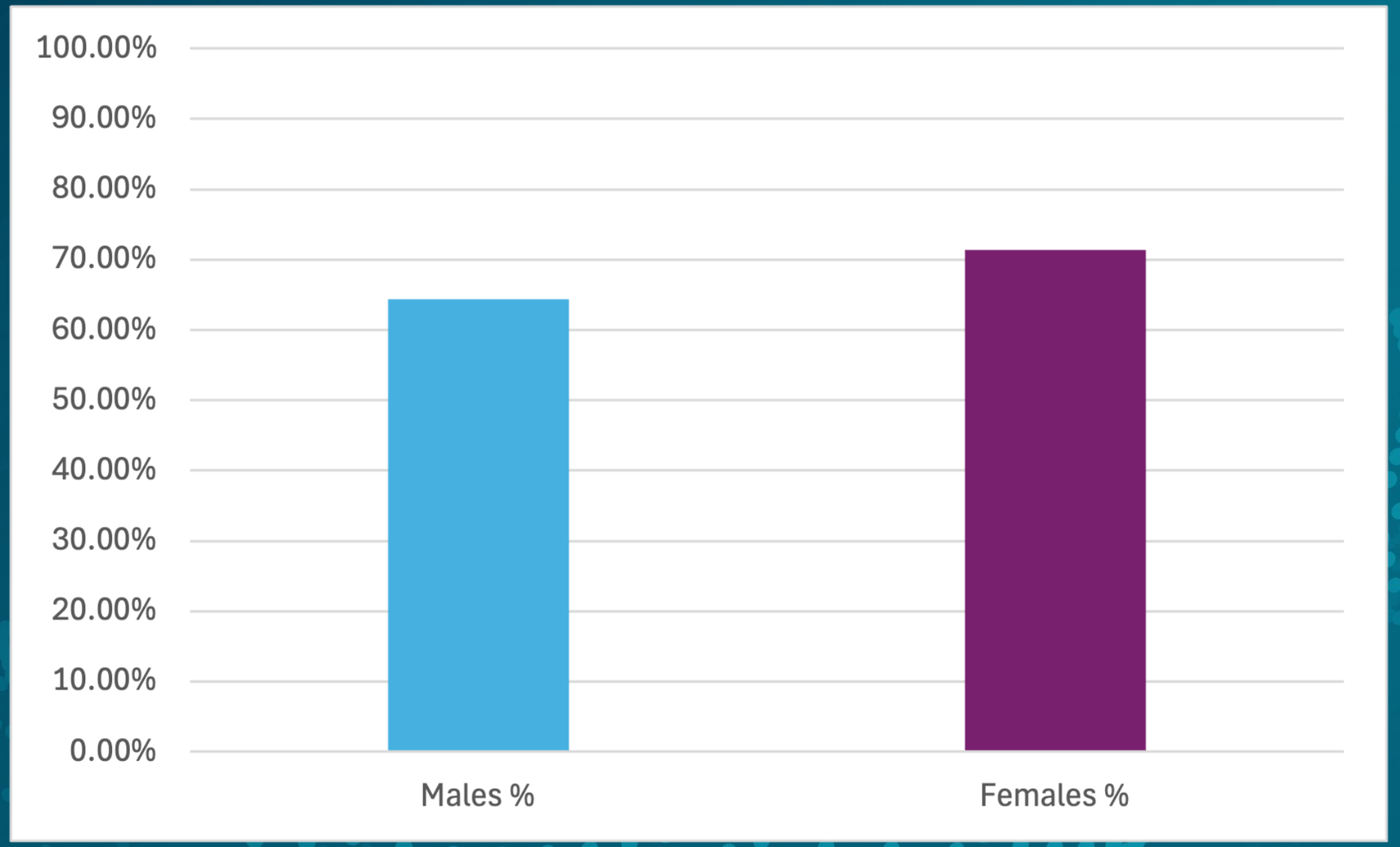


Percentage (%) of On- vs Off-Track Hill-Sach Lesion in Male Cohort



There was no significant difference between males and females when comparing on-track and off-track HSL **(p=0.7384)**

Percentage (%) of On-Track Hill-Sachs Lesion in Male vs Female Cohort



Conclusion

This study’s cohort of patients was predominantly male (66.6%), with a mean age at the time of dislocation of approximately 22 years. Females had a higher percentage of on-track lesions however, this difference was not significant compared to males.

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