Time to Presentation: The Impact of Duration of Symptoms on Hip Arthroscopy

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INTERNATIONAL SOCIETY FOR HIP ARTHROSCOPY

Disclosures

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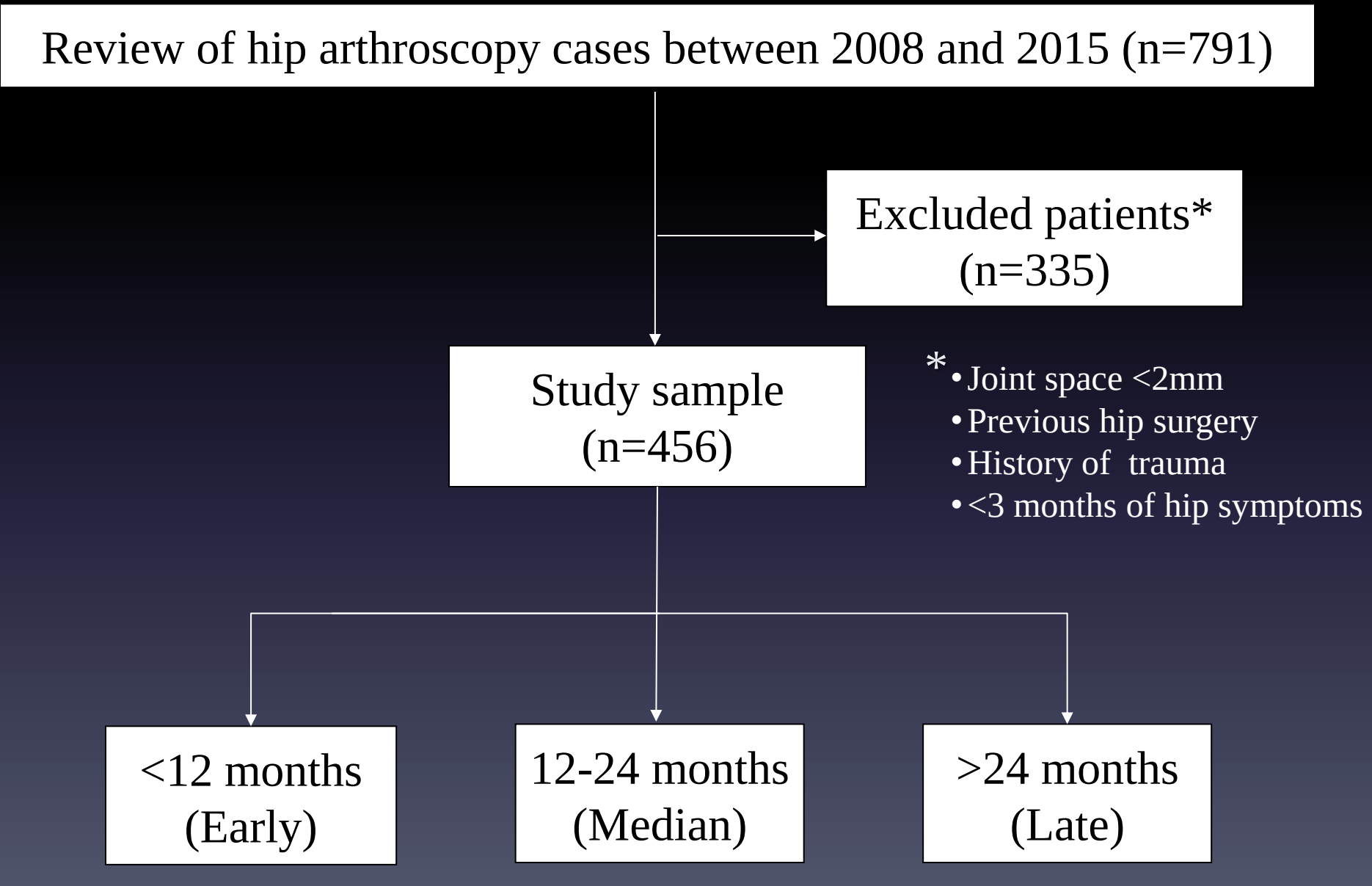
  - Nothing to disclose.

Introduction

- Recent studies suggest that longer duration of hip pain prior to surgery is associated with more severe chondral defects.

- The purpose of this study is to further characterize the impact of duration of symptoms on hip pathology and necessary procedures in patients undergoing hip arthroscopy.

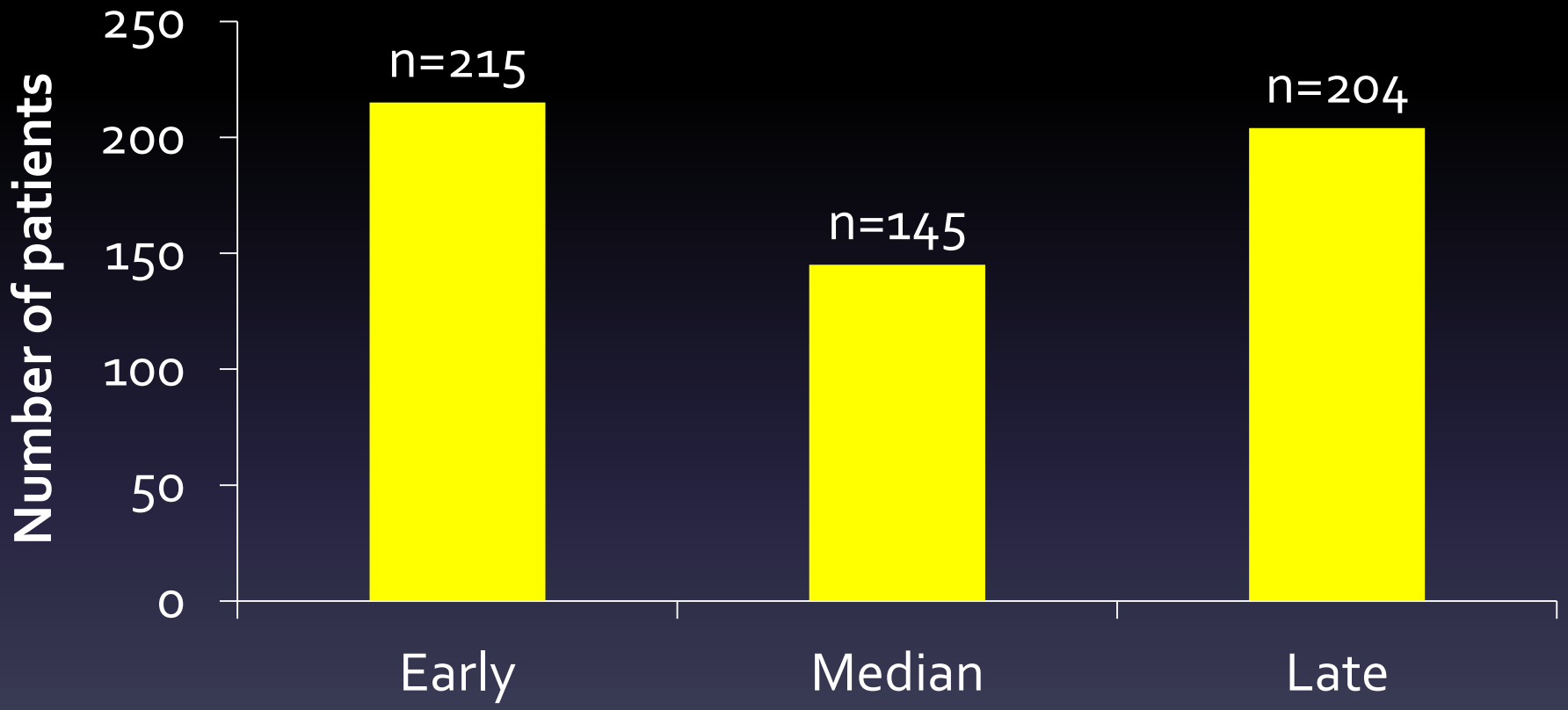
Methods


Review of hip arthroscopy cases between 2008 and 2015 (n=791)
Excluded patients* (n=335)
Study sample (n=456)
* • Joint space <2mm
• Previous hip surgery
• History of trauma
• <3 months of hip symptoms
<12 months (Early)
12-24 months (Median)
>24 months (Late)

Methods

- Location of hip pain, pain with activity, non-operative interventions, diagnostic imaging findings, and intraoperative arthroscopic procedures were assessed.
- Chondromalacia severity index (CMI) was reported as a product of the Outerbridge chondromalacia grade and effected surface area (mm^2*severity).
- Statistical analysis was performed using chi-square and one-way ANOVA with post-hoc (Bonferroni) for categorical and continuous data respectively.
- Regression analysis was utilized to asses the association between duration of symptoms, hip disease, and arthroscopic interventions.

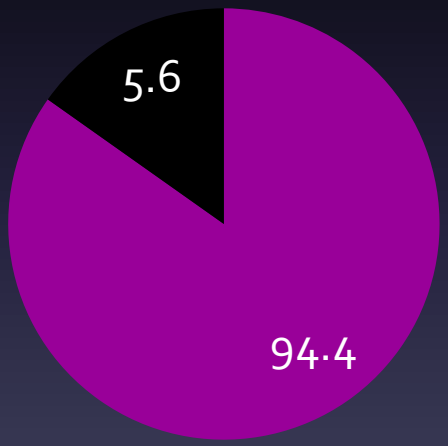
Results - Frequency



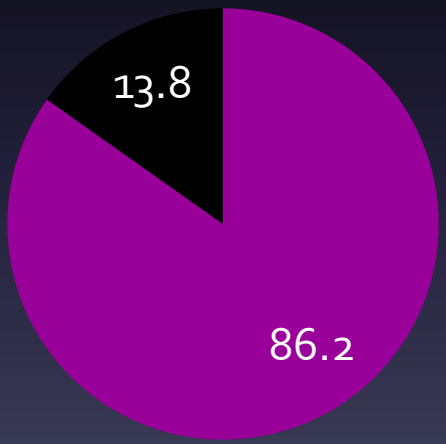
Months	**8.1±2.8**	**18.1±3.7**	**50.4±23.2**

Results – Clinical Presentation

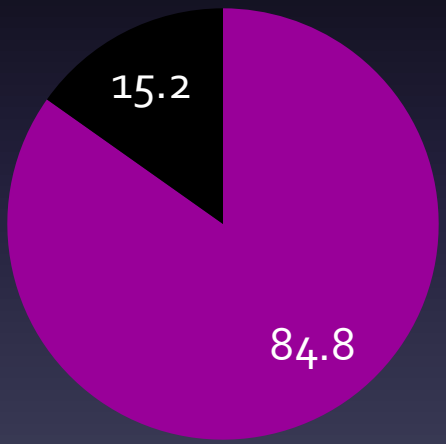
- Anterior hip pain was more prevalent in those who presented early
  - OR 2.9 95%CI:1.3-6.5, p=0.009



Early



Median



Late

Results – Diagnostic Imaging

- There were no differences in radiographic hip angles and MRI findings based on duration of symptoms

	Early	Median	Late	P-value
Radiographic measurements				
Lateral center edge angle	30.2±6.2	29.6±6.1	30.6±6.2	0.362
Sharp's angle	40.1±3.7	40.3±3.4	39.9±3.7	0.582
Anterior center edge angle	31.1±7.0	31.1±8.2	31.9±8.0	0.467
Alpha angle (Ultrasound)	63.3±3.9	62.6±5.2	63.8±4.6	0.457
MRI findings				
Acetabular Labral Tear	98.0%	98.6%	100.0%	0.364
Acetabular Chondromalacia	90.3%	90.9%	94.8%	0.473
Femoral head chondromalacia	9.8%	12.5%	13.0%	0.797

Results – Chondromalacia

	≤12 months	13-24 months	>24 months	P-value
Chondromalacia severity index				
- Acetabulum	337.9±324.9	320.6±359.2	438.8±414.4	**0.004**
- Femoral head	293.9±333.0	255.4±261.9	302.5±319.9	0.413

- Multivariate linear regression confirmed duration of symptoms to be a statistical significant predictor of acetabular chondromalacia severity index after controlling for age, gender, and BMI (Standardized β:0.17, R2:0.196, 95% CI:1.3-3.9, p-value:<0.001)

Results – Arthroscopy

Arthroscopy Procedure	Odds Ratio	95% CI	P-value
Acetabular chondroplasty			
- <12 months	1.8	1.1-3.0	0.032
- 12-24 months	2.5	1.3-4.6	0.004
Microfracture			
- <12 months	0.6	0.3-0.9	0.039
- 12-24 months	0.5	0.3-0.9	0.043
Iliopsoas release			
- <12 months	1.6	1.0-2.7	0.045
- 12-24 months	2.1	1.3-3.6	0.004

- Relative to a duration of symptoms >24 months, those with shorter duration of symptoms demonstrated an increased probability of undergoing acetabular chondroplasty, and iliopsoas release, and a lower probability of undergoing microfracture.

Discussion

- The higher rate of anterior hip pain on early presenters may be associated with superior-anterior labral tears that can be caused by iliopsoas impingement
  - Shorter duration of symptoms was associated with an increased probability of iliopsoas release.
- Longer duration of symptoms was associated with more severe chondral defects and demonstrated an increased probability for arthroscopic microfracture.

Conclusions

- These findings suggest that the duration of hip symptoms may have a direct association with certain types of hip pathologies.

- Ultimately, understanding the pathologies associated with the duration of hip pain is likely to help develop hip specific algorithms for the diagnosis and management of patients undergoing hip arthroscopy.

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Thank You

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