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Risk Factors for Conversion to Total Hip Arthroplasty After Hip Arthroscopy in Patients Over 40 Years Old

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Faculty Disclosure Information

Nothing to disclose

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Introduction

Hip arthroscopy is a minimally invasive approach for treating hip pathologies

Patients >40 years old have a higher risk of conversion to THA

Identifying risk factors may improve patient selection and surgical planning

Study Aim & Hypothesis

Aim: Identify preoperative and intraoperative risk factors associated with conversion to THA

Hypothesis: Certain radiographic and intraoperative findings increase THA risk

Study Design & Methods

Retrospective cohort study (2013–2023)

211 patients (>40 years old), single surgeon

Preop: LCEA, acetabular angle, Tönnis grade, ADWR

Intraop: Chondral damage, ligamentum teres tears

Outcome: THA conversion

Analysis: Logistic regression, ROC curve

Patient Characteristics

211 patients (Mean Age: 55.6 years, 63% Female)

98 right hips, 111 left hips, 2 bilateral

THA conversion rate: 7.5% (16 patients)

Mean time to conversion: 33.8 months

Key Radiographic Findings

↓ LCEA associated with THA conversion (p = 0.015)
- Conversion: 23.4° vs. Success: 27.2°

↑ Acetabular angle in conversion group (p = 0.004)
- Conversion: 42.4° vs. Success: 39.5°

Intraoperative Findings

Ligamentum teres tears more common in THA conversion group (p = 0.019)

- Conversion: 38% vs. Success: 19%

Logistic Regression & ROC

Independent risk factors:

- Lower LCEA (OR = 0.804, p = 0.012)
- Increased acetabular angle (OR = 1.144, p = 0.009)
- Ligamentum teres tears (OR = 1.277, p = 0.033)

ROC Analysis: AUC = 0.87 (strong predictive accuracy)

Patient-Reported Outcomes

Success Group:

- mHHS: 60.29 → 81.28
- HOS: 42.27 → 79.51
- VAS: 6.04 → 1.89

THA Conversion Group:

- mHHS: 60.44 → 81.06
- HOS: 42.25 → 77.88
- VAS: 6.06 → 2.06

HOS significant but minimal clinical relevance

Discussion

LCEA & Acetabular Angle

Markers of acetabular dysplasia & instability

Ligamentum Teres Tears

Associated with microinstability & joint degeneration

Clinical Implications

Identifying high-risk patients optimizes surgical decisions

Conclusion

↓ LCEA, ↑ acetabular angle, ligamentum teres tears predict THA conversion

Preop risk stratification improves patient selection

Future research: Long-term outcomes & alternative strategies

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