Endoscopic treatment of iliopsoas impingement after primary replacement surgery: A preliminary risk factor analysis in a propensity-matched cohort

Ady Haim Kahana Rojkind, Krishi Rana, Shahar R Barda, Roger Andres Quesada Jimenez, Nils Becker, Benjamin D Kuhns, Benjamin G. Domb

INTRODUCTION:

Iliopsoas impingement (IPI) is a common reason for ongoing pain after total hip replacement (THR). The majority of such patients improve significantly using non-surgical treatment options. However, some cases are considered for endoscopic surgery due to persistent pain. The current study aimed to identify risk factors, specifically offset changes, that are possibly associated with surgical iliopsoas revision following primary THR.

METHODS:

The institutional registry was screened for patients treated with endoscopy for IPI following primary THR. We identified thirty-seven (37 cases) eligible patients and matched them 1:1 (37 cases in 37 patients) based on age, sex, and body mass index (BMI) against patients undergoing THR without IPI-related revision. We assessed patient-specific factors alongside pre- and postoperative radiological features, focusing particularly on changes in offset, neck-shaft angle (NSA), and leg length discrepancies (LLD). Descriptive analyses and comparative statistics, utilizing either an unpaired Student's t-test or Mann–Whitney U test, were conducted, with statistical significance established at $p < 0.05$.

RESULTS:

The total study group included 22 (29.7%) males and 52 (70.3%) females. The overall mean age was 54.1 ± 9.3 (34.0 – 76.4) years and the mean BMI was 30.4 ± 7.0 (19.2 – 51.6) m/kg2. The mean preoperative LCEA was 26.4 ± 6.5 for the IPI group and 19.8 ± 10.9 for the non-IPI group (p=0.007). The use of a collared stem correlated with a higher postoperative incidence of IPI (7/30 vs. 1/36; p=0.03 with an associated OR of 8.4). The neck cut height varied between collared and collarless stems (collared: 17.9 mm ± 8.7; collarless: 12.0 mm ± 6.5; p=0.016). The changes in the offset, NSA, and LLD were comparable between both groups.

DISCUSSION AND CONCLUSION:

We found that the use of a collared stem is a considerable risk factor for IPI that necessitates treatment with endoscopic release and lengthening. The parameters for joint reconstruction, including offset, NSA, and LLD, showed no differences between the two groups and did not indicate a risk factor for IPI following primary THR.