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Direct Anterior Approach Utilizing a Bikini Incision has Less Wound Related Complications in Patients with High BMI

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Introduction

Direct anterior approach (DAA) total hip arthroplasty (THA) can be performed through a traditional vertical skin incision, situating the proximal incision at the hip flexion crease, or a horizontal (bikini) skin incision, situating the incision slightly distal and parallel to the hip flexion crease. The dissection beyond the subcutaneous layer is identical for both methods.

Objective

The purpose of this study was to compare these approaches, performed by an experienced single surgeon, in terms of overall wound complications and patient-reported esthetics 6-months post-operatively. It was hypothesized that the bikini incision would result in less wound complications and improved cosmesis due to decreased applied tension from the hip flexion crease.

Methods

A case-control retrospective study was conducted and 86 bikini DAA patients were matched 3:1 to 230 conventional DAA patients for gender, age, body mass index (BMI), and American Society of Anesthesiologists score. The outcomes evaluated included wound

complications, acute periprosthetic joint infection, transfusion, length of surgery, and dysesthesia with an additional subset analysis for obese patients (BMI >30kg/m^2). Patients rated incision cosmesis 6 months post-operatively using a Patient Scar Assessment Scale and the Vancouver scar assessment scale.

Results

Bikini patients had lower rates of delayed wound healing compared to conventional incision (2.3% vs. 6.1%; p=0.087). This difference was statistically significant (0% vs. 16.6%; p<0.05) in obese patients with no difference in incision cosmesis in either analysis.

Discussion

The bikini incision could offer safety benefits in selected patients (BMI >30kg/m^2) undergoing DAA THA by decreasing wound complications while preserving cosmesis.