Comparison of 90-Day Complications Between Direct Anterior and Postero-Lateral Total Hip Arthroplasty in Morbidly Obese Patients

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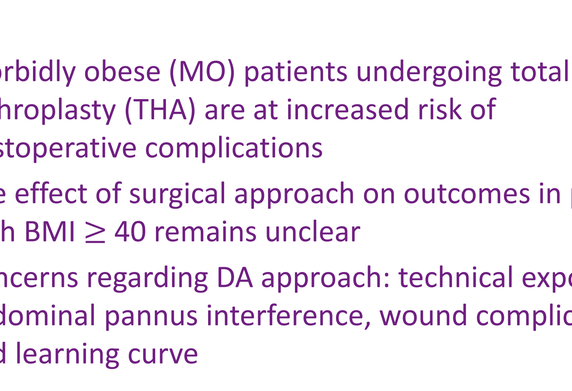
ABSTRACT

- Morbidly obese (MO) patients undergoing total hip arthroplasty (THA) are at increased risk of postoperative complications
- The effect of surgical approach on outcomes in patients with BMI ≥ 40 remains unclear
- Concerns regarding DA approach: technical exposure, abdominal pannus interference, wound complications, and learning curve

OBJECTIVE

This study compared perioperative outcomes and 90-day complications between direct anterior (DA) and postero-lateral (PL) approaches in MO and non-MO patients

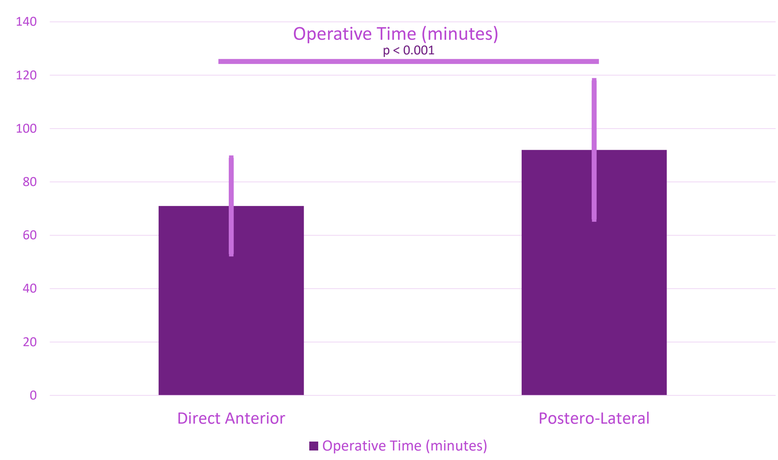
MATERIALS & METHODS



- Surgeons included had performed at least 50 DA cases
- Demographics, operative characteristics, and 90-day complications were analyzed
- Multivariable logistic regressions adjusted for age, sex, body mass index, American Society of Anesthesiology (ASA) class, and operative time
- Rare events were evaluated using penalized logistic regression
- Propensity score-based sensitivity analyses were performed to account for confounders

RESULTS

Direct Anterior Approach Was Associated With Shorter Operative Time



- In Morbidly obese patients, DA was associated with significantly lower operative times ($p < 0.001$)
- DA: 71 ± 18 minutes
- PL: 92 ± 26 minutes

90-Day Complications in Morbidly Obese Patients

Outcome	Direct Anterior (n=238)	Postero-Lateral (n=127)	p-value
Wound complications	1.7% (4/238)	0% (0/127)	0.302
DVT/PE	1.3% (3/238)	0.8% (1/127)	1.00
Dislocation/Instability	1.7% (4/238)	0% (0/127)	0.302
Periprosthetic Fracture	**0% (0/238)**	**3.1% (4/127)**	**0.014**
Periprosthetic Joint Infection (PJI)	2.5% (6/238)	6.3% (8/127)	0.089
Reoperation	1.7% (4/238)	0% (0/127)	0.302
Revision Surgery	**2.5% (6/238)**	**9.4% (12/127)**	**0.009**
Readmission	7.6% (18/238)	7.9% (10/127)	0.915
Total Complications	10.1% (24/238)	11.8% (15/127)	0.599

Bold indicates $p < 0.05$

- Unadjusted analysis demonstrated higher rates of periprosthetic fracture and revision surgery with PL, while overall 90-day complication rates were similar between approaches

Adjusted 90-Day Complications in Morbidly Obese Patients

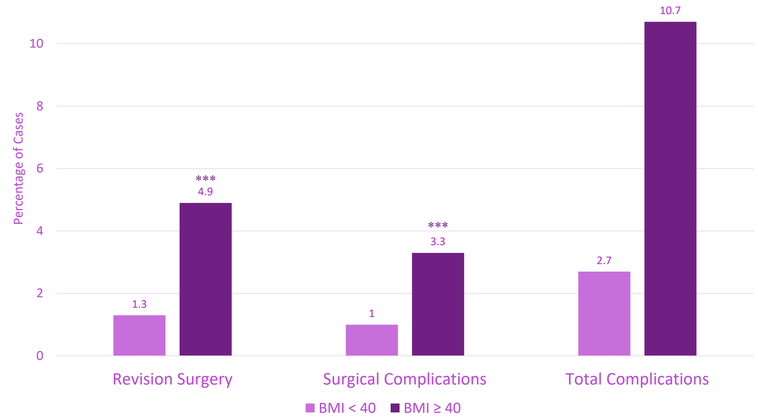
Outcome	Adjusted OR (DA vs PL)	95% CI	p-value
Dislocation/instability	8.91	0.63-125.54	0.105
Periprosthetic fracture	**0.08**	**0.01-0.89**	**0.040**
PJI	0.75	0.22-2.55	0.643
Reoperation	6.08	0.49-74.78	0.159
Revision Surgery	0.51	0.16-1.60	0.249
Total complications	1.26	0.49-3.21	0.636

Adjusted for age, sex, BMI, ASA class, and operative time

- Only periprosthetic fracture remained significantly lower with DA ($p = 0.040$) - overall complications risk did not differ by surgical approach

CONCLUSIONS

Morbid Obesity Was Associated With Higher 90-Day Complication Rates



DA and PL approaches combined

- Direct Anterior (DA) and postero-lateral (PL) approaches demonstrated similar overall 90-day complication rates in morbidly obese patients after adjustment
- DA was associated with significantly shorter operative time compared with PL (71 vs 92 minutes, $p<0.001$)
- Morbid obesity was associated with higher rates of revision surgery, surgical complications, and total complications, regardless of surgical approach
- Approach selection in morbidly obese patient should be guided by surgeon preference and expertise, as neither approach demonstrated an overall increased 90-day complication profile

In experienced hands, both DA and PL approaches can be safely utilized for THA in morbidly obese patients without an overall increase in 90-day complication due to surgical approach.

REFERENCES & CONTACT

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