Abdominal Pannus Size Should Not Dictate Surgical Approach in Primary Total Hip Arthroplasty

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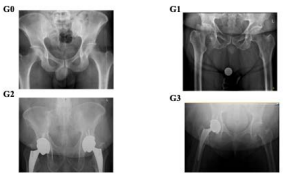
INTRODUCTION: Large abdominal pannus size is a risk factor for complications with anterior approach total hip arthroplasty (THA). However, it is unclear if changing to a posterior approach mitigates this risk. The purpose of this study was to evaluate whether abdominal pannus size had a differential effect on complication rates comparing anterior versus posterior THA.

METHODS: A total of 1,000 consecutive primary THA patients – 478 anterior, 522 posterior – were retrospectively reviewed for complications, and their abdominal pannus was radiographically measured on an a/p pelvis image and placed into one of four categories based upon its vertical size (no pannus (G0), above symphysis (G1), below symphysis (G2), or below ischial tuberosities (G3)). Age, race, gender, BMI, Charlson Comorbidity Index, smoking, and complications/revisions were collected by manual chart review. Chi squared tests for univariate and logistic regression models with forced entry model building controlling for those potential confounding variables were used for statistical analysis.

RESULTS: Comparing wound complications and/or delayed healing with increasing pannus size, anterior versus posterior: (G0 1.9% vs. 3.9% p=0.21, G1 7.2% vs. 6.7% p=0.08, G2 17.9% vs. 11.6% p=0.27, G3 16.7% vs. 15.5% p=0.84). Similar results were found with reoperations: (G0 0.9% vs. 1.1% p=0.080, G1 1.4% vs. 2% p=0.72, G2 3.0% vs. 5.8% p=0.41, G3 1.7% vs. 4.5% p=0.33). Additionally, when controlling for BMI, age, race, gender, CCI, and smoking in the logistic regression models there was no statistically significant difference in the odds of wound complications or return to the OR between the approaches at each pannus size.

DISCUSSION AND CONCLUSION: In primary anterior THA patients, an abdominal pannus of any size does not independently increase the risk of delayed wound healing or reoperation within 90 postoperative days compared to posterior, and should not dictate surgical approach.

Figure 1. Pannus size was graded based on review of AP pelvis radiographs.



G0: No pannus
G1: Pannus is proximal to the superior aspect of the pubic symphysis
G2: Pannus is between the superior aspect of the pubic symphysis & the inferior aspect of the inferior rami
G3: Pannus is distal to the inferior aspect of the inferior rami

Wound complications and/or delayed healing

Pannus Grade	Anterior (%)	Posterior (%)	p value	*OR	CI
G0	1.9	3.9	0.21		
G1	7.2	6.7	0.08	0.48	0.15-1.49
G2	17.9	11.6	0.27	1.60	0.94-2.75
G3	16.7	15.5	0.84	0.92	0.36-2.38

Antibiotics

Pannus Grade	Anterior (%)	Posterior (%)	p value
G0	1.9	2.8	0.21
G1	0.7	6.0	0.08
G2	4.5	5.8	0.27
G3	5.0	6.4	0.84

Reoperations

Pannus Grade	Anterior (%)	Posterior (%)	p value	*OR	CI
G0	0.9	1.1	0.08		
G1	1.4	2	0.72	0.58	0.10-3.26
G2	3.0	5.8	0.41	0.63	0.21-1.85
G3	1.7	4.5	0.33	0.69	0.13-3.80