Atypical versus Typical Subtrochanteric Femur Fractures:
Disparate Patient Profile, Similar Outcomes
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Purpose: Atypical femoral fractures continue to be a problem faced by orthopaedic surgeons. The purpose of this study was to evaluate if there are differences in demographic features and clinical outcomes between patients who sustained a typical versus atypical subtrochanteric fracture.

Methods: All patient radiographs from an IRB-approved trauma database were manually reviewed to identify patients who were operatively treated for an OTA Type 32Axa, 32Bxa, or 32Cxa subtrochanteric fracture. All 31A3 (reverse oblique fractures) were excluded. Based upon standard clinical and radiographic criteria, patients were classified as either "typical" (T) or "atypical" (A) fracture types. All patients were reviewed for demographic features, injury information, perioperative parameters, hospital quality measures, and outcomes. Chi-squared and t-tests were performed to compare the "typical" and "atypical" cohorts.

Results: Of 200 operatively treated subtrochanteric fractures in 200 patients, 136 (68%) were classified as T, and 64 (32%) were classified as A. The A cohort was older, more female, and healthier (Table 1). The A cohort sustained fewer high-energy fractures ($P = 0.002$) (Table 1). Compared to the T cohort, the A cohort had a shorter hospital length of stay by 2 days ($P = 0.025$). There were no differences in time from presentation to surgery, operative time, estimated blood loss, postoperative fracture alignment, postoperative weightbearing status, postoperative hematocrit and hemoglobin levels, and in number of blood units transfused between the 2 cohorts. Interestingly, there was no difference in radiographic time to healing in days between the T and A cohorts. ($P = 0.255$).

Conclusion: Like other studies have found, patients who sustained atypical subtrochanteric fractures were more likely female and injured via a low-energy mechanism. Interestingly, these results demonstrate patients can expect similar outcome profiles between typical and atypical subtrochanteric fractures, as there was no difference in alignment, ultimate bony union, and time to healing.

Table 1. Demographic Features

Demographics	Typical n (%)	Atypical n (%)	*P-Value*
N	136	64	
Age (years, mean ± std)	68.51 ± 22.19	73.29 ± 12.87	0.117
Gender			**<0.001**
Male	60 (44%)	7 (11%)	
Female	76 (56%)	57 (89%)	
BMI	26.35 ± 5.82	25.98 ± 5.15	0.334
ASA Score Class	2.77 ± 0.73	2.52 ± 0.62	**0.010**
Charlson Comorbity Index	1.58 ± 1.68	1.66 ± 1.69	0.395
Independent Ambulator	92 (68%)	43 (67%)	0.948
Assistive Device	73 (53%)	40 (63%)	0.332
High Energy Injury Mechanism	36 (26%)	5 (8%)	**0.002**

POSTER ABSTRACTS