Secondary fracture in fragility fractures of the pelvis: A pilot study

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PURPOSE

To examine
(1) the incidence of secondary fractures within one year after fragility fractures of the pelvis (FFP).
(2) predictive factors of secondary fractures within one year after FFP.

METHOD

Study design: Prospective cohort study (secondary fracture, present vs. absent)
Inclusion criteria: Patients with FFP who admitted in our institution from 2017 to 2019
Exclusion criteria: Patients with FFP who could not be followed up for one year
Statistics: Fisher's exact test (qualitative data) or Student's t test (quantitative data)

RESULT

Incidence: **16.4%** (11/67 patients)
Secondary fracture: femoral (4); vertebral (2); humerus (2); FFP (1); patella (1); radius (1).

		Secondary fracture		
	Overall (n=67)	Present (n=11)	Absent (n=56)	*p* value
Female, n (%)	58 (86.6)	10 (90.9)	48 (85.7)	1.000
Age, years	82.6 ± 9.0	84.5 ± 8.9	82.2 ± 9.0	0.458
BMI, kg/m^2	20.3 ± 3.7	20.9 ± 3.9	20.2 ± 3.7	0.556
Glucocorticoid user, n (%)	16 (23.9)	4 (36.4)	12 (21.4)	0.438
ASA grade, n (%)				1.000
2	15 (22.4)	2 (18.2)	13 (23.2)	
3	51 (76.1)	9 (81.8)	42 (75.0)	
4	1 (1.5)	0 (0)	1 (1.8)	
Functional mobility scale	1.6 ± 1.6	1.7 ± 2.4	1.6 ± 1.4	0.770
Rommens classification of FFP, n (%)				0.872
Type I	10 (14.9)	2 (18.2)	8 (14.3)	
Type II	18 (26.9)	3 (27.3)	15 (26.8)	
Type III	7 (10.4)	0 (0)	7 (12.5)	
Type IV	24 (35.8)	5 (45.5)	19 (33.9)	
Not applicable	8 (11.9)	1 (9.1)	7 (12.5)	
Surgery for FFP, n (%)	9 (13.4)	1 (9.1)	8 (14.3)	1.000
YAM at lumbar spine, %	69.9 ± 17.0	68.5 ± 14.0	70.1 ± 17.4	0.828
YAM at total hip, %	52.7 ± 14.3	51.2 ± 9.6	52.9 ± 14.8	0.777
Osteoporotic therapy, n (%)				0.281
BP	21 (31.3)	4 (36.4)	17 (30.4)	
DMAb	2 (3.0)	1 (9.1)	1 (1.8)	
TPTD	15 (22.4)	3 (27.3)	12 (21.4)	
Vit D only	9 (13.4)	2 (18.2)	7 (12.5)	
None	20 (29.9)	1 (9.1)	19 (33.9)	

BMI, body mass index; ASA, American Society of Anesthesiologists; FFP, fragility fractures of the pelvis; YAM, young adult mean; BP, bisphosphonates; DMAb, denosumab; TPTD, teriparatide

DISCUSSION

Our main finding: **NO** significant differences between secondary fractures and the potential predictors

Possible explanation: **Lack of statistical power**

Conclusion: Further investigations with more cases are warranted.

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