

Podium - Annual Meeting 70
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Annual Meeting Podium Session I:
Fragility Fractures & Periprosthetic Fracture I

How Can We Improve Femoral Peri-Implant Fracture Management? Risk Factors and Predictors of 1-year Mortality in 440 Femoral Peri-Implant Fractures from the PIPPAS Study

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Purpose: The PIPPAS study (Peri-Implant and PeriProsthetic Survival Analysis) aimed to investigate the risk factors for one-year mortality of femoral peri-implant fractures (FPIF).

Methods: This prospective multicenter observational study involved 440 FPIF patients with a minimum 1-year follow-up. Data on demographics, clinical features, fracture characteristics, management, and mortality rates were collected and analyzed using both univariate and multivariate analyses.

Results: FPIF patients were old-aged (median 87 years, IQR (81–92)), female (82.5%), and frail: median clinical frailty scale 6 (4-7), median Pfeiffer 4 (1-7), median Charlson comorbidity index (CCI) age-adjusted 6 (5-7) and ASA III classification (58.9%). 90.5% of the patients were treated surgically, retained the implant (57.0%), and managed with fixation (88.7%).

Mortality rates were 8.2% in-hospital, 11.4% at 30 days, 21.1% at 6 months, and 21.6% at 12 months. Medical complications, mainly delirium, were common in the acute setting (52.7%). The non-union rate was 4.1%. Mortality risk factors in the univariate analysis were age, living at a nursing home, no walking outdoors, frailty variables, fractures in the distal epiphysis, fractures around a proximal nail, discharge to a healthcare facility and no osteoporotic treatment at discharge. Protective factors against mortality in the univariate analysis were surgical treatment by an experienced surgeon, not using an arthroplasty, allowing full weightbearing, mobilization in the first 48 hours postoperatively and geriatric involvement. Risk factors for mortality in the multivariate analysis were cognitive impairment (Pfeiffer's questionnaire) (HR 1.14 (95% CI: 1.05-1.23) p=0.002), age-adjusted CCI (HR 1.18 (1.07-1.30) p=0.001), and antiaggregant or anticoagulant medication at admission (HR 2.00 (1.19-3.38) p=0.009). Hemoglobin level at admission was protective against mortality (HR 0.85 (0.74-0.97) p=0.018).

Conclusion: Mortality in FPIF occurs mainly within the first six months of follow-up. Early co-management and clinical optimization, particularly targeting frail older patients, is crucial in reducing mortality following these fractures.