Risk Factors for 1-Year Mortality in 2229 Femoral Periprosthetic and Peri-Implant Fractures: The PIPPAS Prospective Multicenter Observational Study

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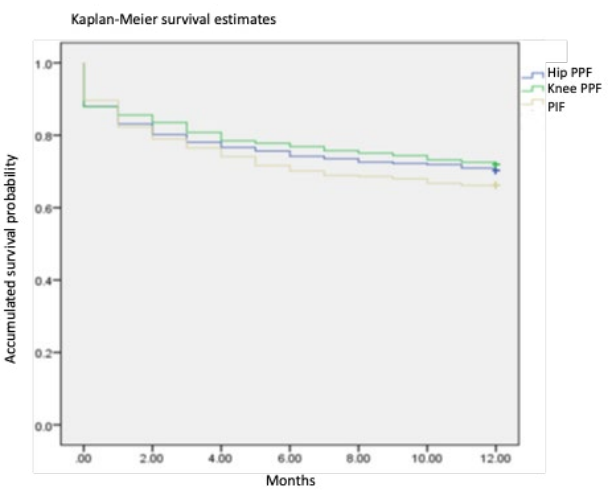
Purpose: What is the one-year mortality for femoral periprosthetic and peri-implant fractures (PPF&PIF)? What are the risk factors for mortality at one year? Improvement of patient and fracture management can help reduce the mortality in this population.

Method: The PIPPAS (Peri-Implant PeriProsthetic Survival Analysis) is a prospective multicenter observational study describing fracture distribution and incidence, analyzing clinical and surgical management, outcomes, and mortality in PPF&PIF patients in Spain. ClinicalTrials.gov (NCT04663893). Recruitment started in January 2021 in 59 hospitals. Primary outcome was 365-day survival. Secondary outcomes were determining risk factors for one-year mortality, as well as for in-hospital, 30-day and 180-day mortality. Kaplan-Meier curves were plotted to compare survival rates. Cox proportional hazards regression analysis were used to determine risk factors of mortality.

Results: 999 (44.4%) femoral hip PPF, 719 (31.9%) femoral knee PPF, and 533 (23.7%) femoral PPI, with at least one year follow-up were included. Patients were older (median 85 years, IQR 78–90), female (76.3%), frail (median clinical frailty scale 5), ASA III (59.3%), community-dwelling (80.7%), able to go outside (63.4%) and not receiving treatment for osteoporosis (64,7%). PPF type distribution was A 9.9%, B1 28.3%, B2 20.9%, B3 8.3%, C 28.7%, D+E+F 3.9%. PIF were related to a nail 73.3%.

The one-year mortality rate was 29.7% for femoral hip PPF, 28.1% for femoral knee PPF, and 33.8% for femoral PIF (figure).

Risk factors for 1-year mortality were medical complications at 6 months, 30 days and in the acute setting, ASA IV and III, surgical complications at 6 months, no treatment for osteoporosis at 6 months, 30 days and at hospital discharge, pre-fracture and at 6-months in-doors mobility, moved out of bed after 48hours post-op, weight bearing restrictions or living at a nursing home at any time. Surgical treatment and PIF related to a plate were survival factors.



Conclusions: Mortality in femoral PPF and PIF is high. Medical complications should be addressed promptly, and surgical strategies should allow early functional recovery and independency to improve survival.

POSTER ABSTRACTS