

Mean age was 32.7 ± 3.1 in the fracture group, compared with 29.3 ± 5.0 years-old in the non-fractured group ($p=0.002$). Patients had OI type I in 77.1% of cases, type III in 14.3% of cases, and other OI subtypes in 8.6%. All patients that displayed fractures in the post-partum period were breastfeeding, compared with 47% of patients with no fractures ($p=0.03$). Fracture during pregnancy or post-partum was not associated with the severity of OI including number of fractures during childhood, number of fractures after puberty, scoliosis or orthopedic surgery. Bisphosphonates had been administered in 17% of patients with fractures compared with 24% with no pregnancy-related fractures (non significant). Bone mineral density was lower in patients with pregnancy-related fractures compared with other patients : spine Z-score -2.9 ± 1.6 vs -1.48 ± 1.67 ($p=0.03$), and total hip Z-score -2.05 ± 0.74 vs -0.53 ± 1.36 ($p=0.04$). At least one concomitant osteoporosis inducing disease or risk factor was identified in 81.8% of fractured patients: smoking, spondyloarthritis, Crohn's disease, low vitamin D level, anorexia nervosa, or immobilization.

Conclusion. OI management during pregnancy and post-partum should aim for the optimal control of modifiable risk factors. Breastfeeding should be avoided especially in women with low bone mass or other risk factors.

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TREATMENT INITIATION RATE POST HIP FRACTURE AS A KEY INDICATOR IN AN ORTHOPAEDIC FRACTURE LIAISON SERVICE.

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Objectives

One of the major key indicator of Fracture Liaison Services (FLS) success is initiation/continuation of anti-osteoporosis treatment (Osteoporosis Canada Guidelines). These clinical indicators have been proposed to help assess the performance of FLS for the secondary prevention of fragility fractures (FF). Our objective was to assess the success of the Lucky BoneTM FLS in the management of hip fractures.

Methods

A FLS was implemented in our orthopaedic wards for the management of men and women ≥ 50 years that sustained a hip fracture. Data was obtained from patients that were admitted for a hip fracture between April 1 st, 2019 and September 30th, 2019. Key indicators of efficiency were measured as proportions of patients with treatment initiation and continuation. Xrays were also screened for atypical femoral fractures (AFF).

Results

Sixty three subjects sustained a hip fracture during this time period (mean age of $82.4 (\pm 10.3)$, 30.2% male). Fifty-six (56) of the hip fractures were FF (88.9%) and 2 were AFF (3.5%). Only 15 out of the 56 subjects were already under bisphosphonates treatment (26.8%), including both AFF patients. Twelve out of 15 (80%) were switched to denosumab. The combined treatment initiation or continuation rate was 71.4%. Both AFF were identified during the review, not at the time of the fracture.

Conclusion

The combined treatment initiation or continuation rate of the hip fracture patients in our FLS was 71.4%. These results demonstrate that our FLS is efficient. Most FLS on hip fractures are reporting a 60 to 80% FF identification rates and $\approx 46\%$ treatment initiation rate. We also noted that the $\approx 30\%$ of patients that were not initiated on treatment were the most at-risk for a subsequent fracture, including the oldest old, suffering of dementia or were polymedicated. Finally, AFF is still underdiagnosed in our orthopaedic department.

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PHYSICAL PERFORMANCE TRAJECTORIES AND MORTALITY AMONG NURSING HOME RESIDENTS: THE RESULTS OF THE SENIOR COHORT

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Objectives: This study aimed to identify physical performance (PP) trajectories and their association with mortality among nursing home residents who were followed up for 3 years.

Material and Methods: A longitudinal analysis of the data from the SENIOR (Sample of Elderly Nursing home Individuals: an Observational Research) cohort was conducted. Baseline clinical characteristics (i.e., age, sex, body mass index, medical history, medication, civil status, educational attainment, cognitive status, depressive symptoms) and the date of death were collected from the medical records. PP was assessed annually by the Short Physical Performance Battery (SPPB) test. Multiple imputations were performed to manage the missing data. PP trajectory groups were estimated using latent growth curve analysis. The association between the baseline characteristics and trajectory groups was evaluated with multinomial logistic regressions. Cox proportional hazard regression models were applied to examine the risk of mortality according to the PP trajectory groups after adjustments were made for all baseline characteristics.

Results: A total of 604 nursing home residents with a mean age of 82.9 ± 9.1 years were included. Three PP trajectory groups were identified: slow decline ($N=96$), moderate decline ($N=234$) and fast decline ($N=274$). Subjects in the fast decline trajectory group were more likely to be older, female and widow(er)s, to have cognitive impairment, take more medications and have a more involved medical history. After adjustments were made for potential confounding variables and the baseline SPPB scores, the residents in the fast decline and moderate decline trajectory groups had an increased risk of mortality compared to those in the slow decline trajectory group, with HR values of 1.78 (95% CI=1.34-2.26) and 1.37 (95% CI=1.10-1.66), respectively.

Conclusions: PP trajectories provide value-added information to baseline geriatric assessments and could be used for predicting 3-year mortality among nursing home residents. It may be important to regularly monitor the SPPB score and signal an alert when a fast decline in PP is detected in older people.

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LIFESTYLE, ANTHROPOMETRY, AND BONE HEALTH ACROSS THREE GENERATIONS OF THE HERTFORDSHIRE COHORT STUDY

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Objectives

The aim of this study was to explore associations between lifestyle, anthropometry, and bone density across three generations of the Hertfordshire Cohort Study (HCS).

Materials and Methods

Data from three generations of participants in the HCS [grandparents (F0), parents (F1), and children (F2)] were utilized to assess associations