

Oral presentation

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Incidence of traumatic long-bone fractures requiring in-hospital management: a prospective age- and gender-specific analysis in 4,890 fractures

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Background

Musculoskeletal trauma represents a considerable global health burden, however reliable population-based incidence data are lacking. Thus, we prospectively investigated the age- and sex-specific incidence patterns of long-bone fractures in a defined population.

Methods

A 4-year prospective study of all long-bone fractures in a defined Norwegian population. Demographic data, fracture type and location, and mode of treatment were collected using recognized classification (e.g. AO/OTA; Gustilo-Anderson for open fractures). Age- and sex-adjusted incidences were calculated using population statistics.

Results

During the study period 4,890 long-bone fractures were recorded. Overall incidence per 100,000/yr was 406 with 95% confidence interval (95%CI) of 395–417. The age-adjusted incidence <16 yrs (339; 95%CI 318–360) was lower than those ≥16 years (427; 95% CI: 414–440). Overall male incidence (337; 95%CI 322–355) was lower than female (476; 95%CI 459–493), but male:female ratio was 2:1 among those <50 years, and 1:3 in those ≥50 years. Upper limb fractures had an overall incidence of 159 (95%CI 152–166), whereas lower limb incidence was 247 (95%CI 238–256). Open fractures occurred in 3%,

for an incidence of 13 (95%CI 11–15). Pediatric fractures were more often treated conservatively with only 8% requiring internal fixation, compared to 56% internal fixation in those ≥16 years. An increase in the use of angular stable plates occurred during the study period.

Conclusion

This prospectively collected study of long-bone fractures in a defined population recognizes age- and gender-specific fracture patterns. Boys predominate in young age for which treatment is basically conservative. In the senior population, women and operative treatment predominate.