

COVID-19 and Hip Fracture Management in Ireland Compared to International Standards

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Dear Sir,

COVID-19 has caused significant challenges in the provision of safe and effective healthcare globally. We examined the impact of departmental reconfigurations on hip fracture quality standards/outcomes during the first wave of the COVID-19 pandemic (March 1st – May 1st, 2020). This time period reflected the initial alterations to patient flow and redeployment of key staff members during the first COVID-19 wave.

Variables of interest included source of admission, adherence to the Irish Hip Fracture Standards (IHFS), length of stay, re-admission rates, discharge destination and 30-day mortality. All variables were compared to the same timeframe from the previous year.

There were 118 hip fracture cases during these timeframes. Sixty patients (37 females, 62%) were treated during the COVID-19 time period compared to 58 patients (40 females, 69%) during the preceding year. There was no difference between median ages (82 vs 75 years, $p=0.213$). More patients (23.3%) were admitted from nursing homes during the COVID-19 wave than in the comparative group (14 vs 5, 23.3% vs 8.6%, $p = 0.052$).

IHFS were maintained, with each standard showing an improvement from the previous time period. Admission to an acute orthopaedic ward within four hours of admission (IHFS 1) improved from 44.8% to 56.7% in the COVID-19 time period ($p=0.27$). Surgery within 48 hours of admission (IHFS 2) improved from 50% to 60% ($p=0.37$). Minimising the risk of developing pressure ulcers (IHFS 3) also improved from 3.4% to 1.7% ($p=0.98$). Likewise, Orthogeriatric review during admission (IHFS 4) improved from 74.1% to 80% ($p=0.59$), while adherence to a comprehensive bone health assessment (IHFS 5) remained high in both timeframes (96.6% vs 96.7%, $p=1.0$). Finally, access to a Specialist falls assessment (IHFS 6) increased from 75.9% to 95% ($p=0.07$) in the COVID-19 time period.

The median acute length of stay (LOS) was 7.5 days in the COVID-19 cohort compared to 10.0 days in the comparative group ($p=0.345$). There was a higher 30 day re-admission rate in the COVID-19 patient cohort (4 vs 1, $p = 0.36$), and a statistically significant increase in new nursing home admissions (4 vs 0, $p=0.04$). There was no statistically significant difference in either inpatient mortality (8.3% vs 5.2%, $p=0.961$) or 30 day mortality (10% vs 6.9%, $p=0.961$). Three patients (5%) tested positive for COVID-19. One patient was deemed unfit for surgery and died as an inpatient after four days. The other two positive patients underwent surgical fixation, their LOS was 26 and 31 days respectively.

Larger international studies have demonstrated increased peri-operative complications and increased mortality rates in COVID-19 positive patients with hip fractures. (1)(2) Although our case series is relatively small, it demonstrates consistent findings with a definite mortality risk and prolonged LOS.

In summary, IFHS were successfully maintained despite significant changes in practices and redeployment of staff. We noted trends towards higher re-admission and higher nursing home admission rates which warrants ongoing monitoring. However overall, our findings highlight the commitment of both the geriatric and orthopaedic departments in delivering high quality hip fracture care despite disruptions in well-established hip fracture pathways.

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