



Where have all the hip fractures gone?

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Dear Editor,

Amidst the coronavirus disease 2019 (COVID-19) pandemic, we have noticed a marked unexplained decrease in osteoporotic hip fracture surgeries in our institution. This is baffling and mirrors the unexplained reported decrease in heart attacks and strokes [1]. We also looked at time to surgery to see if our protocols during COVID-19 had compromised fracture care.

Singapore's Disease Outbreak Response System Condition (DORSCON) status escalated to Orange [2] in response to worsening community spread. Resource and manpower considerations affected all departments in our institution including the Department of Orthopedic Surgery [3]. This prompted an investigation into the quality of care afforded to hip fracture patients during the COVID-19 pandemic. We hypothesized that a well-executed treatment protocol ensures that care afforded to hip fracture patients should remain unaffected.

We compared surgically managed hip fracture patients admitted 2 months before escalation to DORSCON Orange ("pre-COVID"), with patients admitted 2 months after ("post-COVID"). Indications for hip fracture surgery remain unchanged. We collected demographic data, time taken to be admitted to ward from the Emergency Department, as well as time elapsed between ward admission and surgery.

We found a sharp decrease in hip fractures during the COVID-19 pandemic, with 76 pre-COVID patients compared with 35 post-COVID patients (54% decrease). There were no differences in demographic data, time to admission (2.0 ± 1.2 versus 1.7 ± 0.9 ; mean difference, 0.3; 95% CI, -0.2 to 0.7 ; $p = 0.20$), and time to surgery (60.7 ± 45.1 versus 45.0 ± 42.3 ; mean difference, 15.7; 95% CI, -2.2 to 33.6 ; $p = 0.084$) between both cohorts (Table 1).

Our study population is a bellwether of orthopedic trauma care as most osteoporotic hip fractures are now treated

surgically due to benefits of reduced length of hospital stay and improved rehabilitation [4]. In Singapore, emergency services have defined evacuation protocols to identified public hospitals. As the vast majority of hip fractures usually require emergency services for delivery to hospitals, which has not changed from the pre-COVID era, the proportion of hip fracture patients brought to our institution should not have changed. A similar pattern was noticed in myocardial infarctions in the USA where up to a 60% reduction in admissions was reported, postulated to be due to COVID-19 instilling a fear of face-to-face medical care as people would rather stay at home than risk seeking treatment [1].

With the need for additional perioperative precautions during this pandemic [5], detrimental effects on the ability of an overwhelmed healthcare system to provide timely hip fracture care is understandable, evident in increased delay in time to surgery [6]. However, despite the implementation of department segregation protocols which disrupt routine workflow, there was no delay in time to admission and surgery in our study population. This suggests that an established bundled care protocol for hip fractures can withstand the challenges during a pandemic and ensure that the standard of care is not compromised.

Will we eventually see patients with late sequelae of untreated fractures? Is treatment being compromised, leading to poorer functional performance and quality of life? Further

Table 1 Demographic data and treatment protocol parameters

	Pre-COVID (<i>n</i> = 76)	Post-COVID (<i>n</i> = 35)	<i>p</i> value
Gender (female:male)	44:32	22:13	$p = 0.621$
Age (years)	79.6 ± 8.5	76.3 ± 8.4	$p = 0.059$
ASA class (<i>n</i>)			$p = 0.483$
II	31	18	
III	44	17	
IV	1	0	
Time to ward (hours)	2.0 ± 1.2	1.7 ± 0.9	$p = 0.200$
Time to surgery (hours)	60.7 ± 45.1	45.0 ± 42.3	$p = 0.084$

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studies will be essential in evaluating the downstream effects on patients with hip fractures. The question of whether there will be a rebound in osteoporotic hip fractures after the current COVID crisis is over remains unanswered, but we should plan for this eventuality.

Compliance with ethical standards

Conflicts of interest None.

Ethics approval Institutional review board approval was obtained without the need for consent as de-identified data was used.

Human and animal rights This article does not contain any studies with human participants or animals performed by any of the authors.

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