

Mortality and Morbidity amongst patients with neck of femur fracture with Covid 19 when compared to those without - A case control study

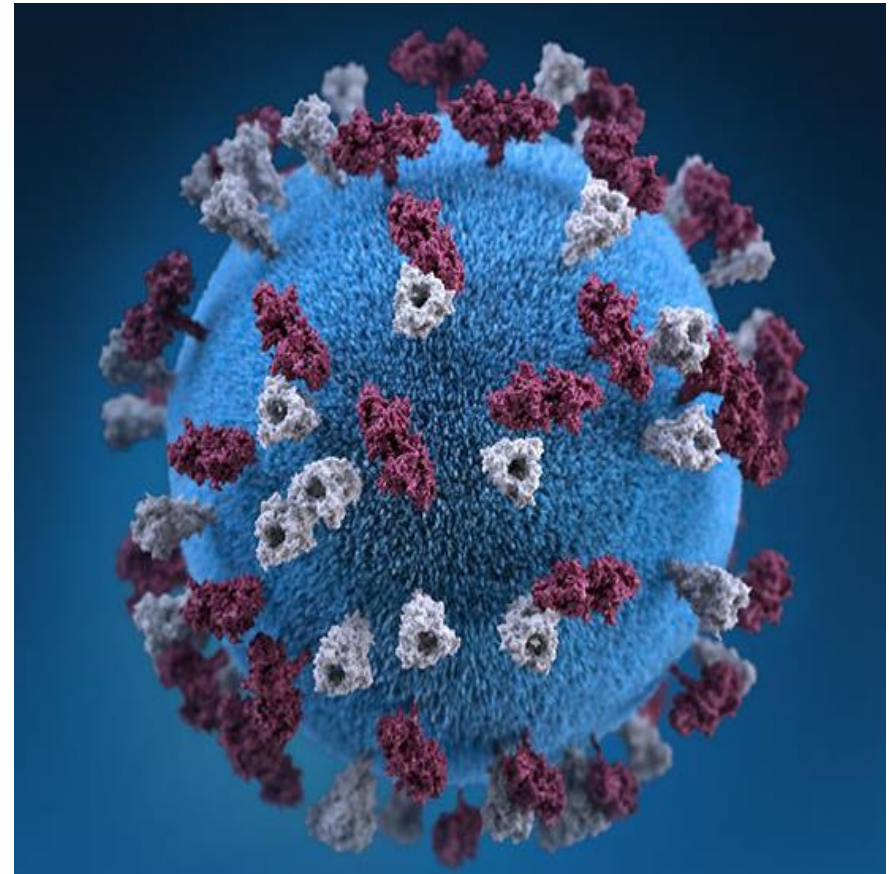
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Siney



Introduction

- COVID-19 pandemic has transformed orthopedic services with cessation of elective operation but hip fractures continue to present at a similar rate(1)
- 30 day Mortality rate of 6.5% was found in 2019 in whole of UK, slightly higher than the 6.1% recorded for 2018(2). Will it be same in 2020????
- There is limited data in literature relating to the effect of COVID-19 on the mortality and morbidity of patients with a hip fracture
- The aim of this study was to assess the impact of COVID-19 infection on the morbidity and mortality rates among NOFF patients when compared to those without.



Methods

- Retrospective study between March to December 2020
- All patients with hip fractures admitted to Royal Albert Edward Infirmary included
- Covid Positive if laboratory/radiological/ clinical evidence suggestive of COVID-19 during admission or until 3 weeks post discharge
- Data collected and compared: ASA, Nottingham hip fracture score(NHFS), Charlton comorbidity index(CMI), complications, length of stay, 30-day, and 90-day mortality.



**Case group : NOFF
with COVID-19**



51 patients



**Control group: NOFF
without COVID-19**



223 patients

Results

- No statistically significant difference between the group in terms of demographic variables, type of operation, CMI, NHFS, ASA($p>0.05$)
- The 30 day and 90day mortality among covid patients was 35.29% and 49.01% when compared to 10.72% and 21.97% in the control group($p<0.001$).
- 33 out of 51 developed covid during the hospital stay.
- Length of hospital stay was significantly higher among the covid group 15.7 ± 12.0 days compared to 10.1 ± 6.1 days in the control group($p<0.001$).
- Respiratory complications, electrolyte disturbance, AKI were higher amongst the covid group ($p<0.001$). whereas no significant difference was seen in DVT, neurological or cardiac complications.

Parameters	Covid Positive (N=51)	Covid Negative (N=223)	p value
Age	80.7±10.9	78.8±11.4	0.277
NHFS	4.9±1.7	4.7±1.7	0.526
Charlton Comorbidity Index	5.2±2.1	4.7±2.2	0.138
30 day Mortality	18(35.2%)	24(10.76%)	<0.001*
90 day Mortality	25(35.2%)	44(19.73%)	<0.001*
AMTS	6.7±3.8	7.1±3.6	0.64
Hospital stay	15.7 ± 12.0	10.1 ± 6.1	<0.001*
Delay in surgery(>48hours)	6	12	<0.001*
Own home	37	170	0.551
Care home/IMC/Nursing home	14	53	

Discussion

Parameters	Andrew hall et al(IMPACT SCOT Scottish study)(3)	Babar Kayani et all(London study)(4)	Narang et all(sussex)(5)	Our study(WWL)
Covid positive(CP) : Covid Negative(CN)	78: 755	82: 340	86:596	51:223
30 day mortality(CP:CN %)	34.6: 9.0	30.5 vs 10.3	34.9 vs 6.1	35.2 vs 10.76
Significant differences(p<0.0 01)	NHFS ≥ 7, ASA grade ≥ 3, length of stay ≥ nine days	smoking status, greater than three comorbidities, increased length of hospital stay	Operative delay, NHFS (5.9vs5.0), Extracapsular fracture	Length of hospital stay, Respiratory complications, Operative delay

- Hall AJ, Clement ND, MacLulich AMJ, White TO, Duckworth AD. IMPACT-Scot 2 report on COVID-19 in hip fracture patients. Bone Joint J. 2021 May;103-B(5):888-897. doi: 10.1302/0301-620X.103B.BJJ-2020-2027.R1. Epub 2021 Jan 25. PMID: 33487012
- Kayani B, Onochie E, Patil V, Begum F, Cuthbert R, Ferguson D, Bhamra JS, Sharma A, Bates P, Haddad FS. The effects of COVID-19 on perioperative morbidity and mortality in patients with hip fractures. Bone Joint J. 2020 Sep;102-B(9):1136-1145. doi: 10.1302/0301-620X.102B9.BJJ-2020-1127.R1. Epub 2020 Jul 7. PMID: 32634023.
- A. Narang¹ & G. Chan² & A. Aframian³ & Z. Ali. Thirty-day mortality following surgical management of hip fractures during the COVID-19 pandemic: findings from a prospective multi-centre UK study. International Orthopaedics <https://doi.org/10.1007/s00264-020-04739-y>

Conclusion

- COVID-19 was independently associated with an increased 30-day mortality rate for patients with a hip fracture.
- Most of the patients acquired covid-19 during hospital stay
- Increased risk of respiratory complications, electrolyte disturbances postoperatively in covid patients
- Operative delay happen more commonly in covid patients than those without

Recommendation

- Uniform screening for all patients undergoing surgery for covid-19 during admission and at weekly interval during hospital stay
- Identification of risk factors, anticipate complications and apply preventive strategies to avoid them
- Covid vaccination to everyone
- Social distancing, face mask regular hand wash should be strictly followed