
August 13, 2020

Concerns Regarding Early Treatment of Proximal Femoral Fragility Fractures In COVID - 19 patients: Need to Study Optimum Time For Surgery

Rehan -Ul Haq

Head Of the Department and Professor

Department of Orthopaedics , AIIMS ,Bhopal

Other Contributors:

Vaibhav Jain

Senior Resident

Department of Orthopaedics , AIIMS, Bhopal

Gautam Chatterji

Senior Resident

Department Of Orthopaedics , AIIMS ,Bhopal

Manoj Nagar

Assistant Professor

Department Of Trauma and Emergency Medicine , AIIMS, Bhopal

Virendra Verma

Assistant Professor

Department of Orthopaedics , AIIMS, Bhopal

We read with great interest the article published by Francesco Catellani, Andrea Coscione, Riccardo D'Ambrosi, Luca Usai, Claudio Roscitano, and Gennaro Fiorentino, titled Treatment of Proximal Femoral Fragility Fractures in Patients with COVID-19 During the SARS-CoV-2 Outbreak in Northern Italy. The authors have suggested that early fixation of proximal femoral fracture in elderly COVID -19 patients contributes to improves pulmonary function, in-hospital mobilization, and the overall outcome((1). However, we have certain concerns regarding the methodology and the interpretation of the outcome, which need to be addressed before sincere recommendations can be drawn from the study.

1) Although it is agreeable that early surgical intervention in elderly patients with hip fractures improves outcome, extrapolation of similar recommendations in COVID 19 patients may not be reasonable. Surgery in COVID 19 patients has been associated with exacerbation of the COVID related illness, postoperative

ICU requirement, and higher mortality and therefore should be postponed whenever feasible⁽²⁾. In the current study, perioperative mortality was 30.7% (4 out of 13 patients) which is reasonably high. Severe hypoxemia is associated with acute inflammation of the respiratory system, operating patients during this phase may provoke a “second hit” reaction which may contribute to higher mortality^(3,4). Moreover, there is a risk of exposure and transmission to the theatre team (5–7). Therefore, in the absence of clear benefits and potential disadvantages of early surgery during the acute phase of COVID 19, it may be safer to delay the surgery until the achievement of COVID negative status or at least till the recovery of the acute phase of infection

2) If table 1 and table 2 have a corresponding patient sequence, the patient no 2,4,7 and 8 had deterioration of pulmonary function on the 3rd postoperative day along with the death of three others. We could not understand that at which stage did the authors observed improved respiratory function in 12 patients. Stabilization of respiratory function in 61.5% of the patients (8 out of 13) at seventh post- operative day may simply imply the natural recuperation from the disease.

3) The use of an intramedullary nail in trochanter fracture is a potential aerosol-generating procedure that needs to be avoided to decrease the disease transmission to the theatre team⁽⁸⁾. For this reason, the guidelines issued by National health services (NHS) recommend the use of sliding hip screw fixation of trochanteric fractures rather than Intramedullary nails in COVID 19 patients with hip fracture, where possible (9). Moreover, reaming can further deteriorate already compromised lung function by generating fat emboli. We believe the readers must be aware of such guidelines before adopting the recommendations from articles published in this subject matter.

4) Lastly, the use of hydroxychloroquine and azithromycin together increase the risk of cardiovascular mortality due to their synergistic effect on QT prolongation⁽¹⁰⁾. In the absence of proven benefit and recognized side effects, the combination should be used cautiously and better avoided in COVID 19 patients with cardiac conditions (11).

References

1. Catellani F, Coscione A, D'Ambrosi R, Usai L, Roscitano C, Fiorentino G. Treatment of Proximal Femoral Fragility Fractures in Patients with COVID-19 During the SARS-CoV-2 Outbreak in Northern Italy. *Journal of Bone and Joint Surgery* [Internet]. 2020 Apr 28 [cited 2020 Jul 12]; Publish Ahead of Print. Available from: <https://journals.lww.com/10.2106/JBJS.20.00617>
2. Kumar A, Kumar A, Das S. Perioperative COVID-19 testing for orthopaedic patients: Current evidence. *Journal of Clinical Orthopaedics and Trauma*. 2020 May;11:S296–7.
3. Xie J, Covassin N, Fan Z, Singh P, Gao W, Li G, et al. Association Between Hypoxemia and Mortality in Patients With COVID-19. *Mayo Clinic Proceedings*. 2020 Jun;95(6):1138–47.

4. Roberts CS, Pape H-C, Jones AL, Malkani AL, Rodriguez JL, Giannoudis PV. Damage Control Orthopaedics: Evolving Concepts in the Treatment of Patients Who Have Sustained Orthopaedic Trauma. *The Journal of Bone & Joint Surgery*. 2005 Feb;87(2):434–49.
5. Verma V, Nagar M, Jain V, Santoshi JA, Dwivedi M, Behera P, et al. Adapting Policy Guidelines for Spine Surgeries During COVID-19 Pandemic in View of Evolving Evidences: An Early Experience From a Tertiary Care Teaching Hospital. *Cureus* [Internet]. 2020 Jul 11 [cited 2020 Jul 24]; Available from: <https://www.cureus.com/articles/36413-adapting-policy-guidelines-for-spine-surgeries-during-covid-19-pandemic-in-view-of-evolving-evidences-an-early-experience-from-a-tertiary-care-teaching-hospital>
6. Nahshon C, Bitterman A, Haddad R, Hazzan D, Lavie O. Hazardous Postoperative Outcomes of Unexpected COVID-19 Infected Patients: A Call for Global Consideration of Sampling all Asymptomatic Patients Before Surgical Treatment. *World J Surg*. 2020 Aug;44(8):2477–81.
7. Massey PA, McClary K, Zhang AS, Savoie FH, Barton RS. Orthopaedic Surgical Selection and Inpatient Paradigms During the Coronavirus (COVID-19) Pandemic. *J Am Acad Orthop Surg*. 2020 Jun 1;28(11):436–50.
8. Parvizi J, Gehrke T, Krueger CA, Chisari E, Citak M, Van Onsem S, et al. Resuming Elective Orthopaedic Surgery During the COVID-19 Pandemic: Guidelines Developed by the International Consensus Group (ICM). *Journal of Bone and Joint Surgery* [Internet]. 2020 May 14 [cited 2020 Jul 12]; Publish Ahead of Print. Available from: <https://journals.lww.com/10.2106/JBJS.20.00844>
9. BOA. Clinical guide for the perioperative care of people with fragility fractures during the Coronavirus pandemic [Internet]. [cited 2020 Jul 12]. Available from: <https://www.boa.ac.uk/standards-guidance/clinical-guide-for-the-perioperative-care.html>
10. Lane JCE, Weaver J, Kostka K, Duarte-Salles T, Abrahao MTF, Alghoul H, et al. Safety of hydroxychloroquine, alone and in combination with azithromycin, in light of rapid wide-spread use for COVID-19: a multinational, network cohort and self-controlled case series study [Internet]. *Rheumatology*; 2020 Apr [cited 2020 Jul 12]. Available from: <http://medrxiv.org/lookup/doi/10.1101/2020.04.08.20054551>
11. Revised advisory on the use of Hydroxychloroquine (HCQ) as prophylaxis for SARS-CoV-2 infection (in supersession of previous advisory dated 23rd March, 2020). :4.

Conflict of Interest: None Declared