

## Remarks on the management of proximal femoral fractures in times of COVID-19 pandemic

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### Abstract

Proximal femoral fractures (PFFs) are among the main causes of hospitalization of elderly patients. They are often challenging to manage at the perioperative stage, which is why appropriate monitoring is recommended in order to prevent and - whenever possible - avoid foreseeable complications (infections, bedsores, bronchopneumonia, psychological deterioration and worsening general conditions), reduce the mortality rate, facilitate functional recovery and restore the patient's ability to walk and return to everyday life activities and a normal family context. PFFs constitute a major adverse event for elderly patients, often over the age of eighty and with possible issues arising from a substantially unstable and deficient biological balance, with negative repercussions on their quality of life, longer hospitalization and higher healthcare costs. The COVID-19 pandemic has severely impacted the healthcare systems of virtually all world countries, giving rise to serious operational management difficulties (e.g. surgical staff shortages, less availability of surgical facilities, reassignment of surgical staff to other tasks, the need to convert facilities into intensive care units and dedicated COVID + operating rooms, reconfiguration of pathways and procedures with longer anesthesiological and surgical preparation times, environmental sanitation, etc.). All such factors have prolonged waiting times for surgery, causing higher complication rates especially in fragile patients. It is essential to operate through a timely multidisciplinary approach for PFF patients, who must be treated surgically as soon as possible in order to limit the risk of secondary complications due to prolonged bed rest and facilitate a rapid functional recovery. *Clin Ter 2022; 173 (5):398-399 doi: 10.7417/CT.2022.2453*

**Key words:** COVID-19, Proximal femoral fractures (PFFs), elderly patient management

Dear Editor,

The COVID-19 pandemic has caused fatalities, severe harm to people's health, and daunting challenges for hospital care all over the world. In 2020, a decrease was reported

in surgical procedures involving fractures of the proximal extremity of the femur, both due to the restrictions of daily activities and the need to contain the viral spread (1). For the same reasons, lower average age of patients and a higher incidence of accidents occurred in the home environment were observed. The COVID-19 pandemic has also put up considerable barriers to medical care for elderly patients with hip fractures, leading to delays in access to surgery and higher complication rates (2).

As it is now recognized in long-established standards of traditional orthopedics and confirmed in the guidelines of the Italian Society of Orthopedics and Traumatology (3), the timely implementation of surgical treatment and the prompt reintroduction of a load on the injured lower limb are essential prerequisites for therapeutic success, with a lower likelihood of often fatal systemic complications and better chances of joint and ambulatory function recovery, both essential in order to resume daily activities (4). It follows that even during the COVID-19 pandemic, surgery to reduce and stabilize fractures of the proximal femur should be prioritized, particularly in elderly and "fragile" patients, and performed early, not only to facilitate the restoration of motor and functional gestures, impaired by the inevitable alteration of post-traumatic proprioceptive input and caused by immobility of the lower limbs, but also to shorten hospitalization times and lower the risks of hospital-acquired infections, post-operative adverse events and in-hospital mortality (5).

Recent meta-analyses have reported that COVID-19 increased the risk of mortality in patients with hip fractures (6). It is therefore necessary to inform patients with COVID-19 as to the likely higher risks of therapeutic failure than in the past, not easily preventable and certainly not avoidable, with an exponential increase in hospital mortality rates partly linked to advanced age and comorbidity profiles (6). Appropriate management, including infection control measures, hospitalization protocols, early surgery, and adequate clinical rehabilitation follow-up, are the most effective measures for minimizing mortality risks and other adverse events in patients with hip fracture, as the pandemic drags on.

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In light of the ongoing emergency caused by the COVID-19 pandemic, patients should be aware that the surgical interventions to reduce and stabilize PFFs fall into the category of “nondeferrable interventions” and that they will be admitted in an inpatient ward not intended for patients suffering from COVID-19, so-called “NO-COVID” wards. For such reasons, it will be necessary to perform the diagnostic oropharyngeal swab (3) prior to admittance. It is also advisable to stress that despite the preventive measures adopted by the facility and staff, designed to contain viral spread, even for patients testing negative and asymptomatic, the possibility of being infected cannot be ruled out (7).

Clinical experience leads us to formulate medico-legal remarks about medical professional liability. The studies cited herein (1, 6) clearly highlight the importance of early surgery. Any delays in surgical treatment not adequately justified by serious clinical issues requiring preliminary resolution, may well entail professional malpractice liability arising from negligence and imprudence. In particular, such a conclusion can not only apply to outcomes of orthopedic surgical procedures, but also to possible septic and systemic complications. As for surgical site and systemic infections, a thorough assessment has to be conducted of the risk factors related to comorbidities and the degree of fragility of each individual patient (8). In case of septic complications and viral infections, delays in surgical therapy caused by organizational shortcomings of the healthcare facilities, with inevitable repercussions in the area of contractual responsibility towards the patient, should not be underestimated (9).

Furthermore, the possible risk of contagion during the necessary medical check-ups or prolonged hospitalization should not be discounted. Several advantages are associated with the use of telemedicine (10), which has proven an effective tool for reducing the risk of SARS-CoV2 infection and septic complications while simplifying the patient’s care relationship.

The fundamental purpose is to monitor the evolution of the patient’s clinical progression over time after discharge, by installing an application on their mobile device which enables direct and timely interactions with healthcare professionals, thus allowing personalized treatment, the regularity of follow-ups and adequate continuity of care.

Through telemedicine-based consultation, highly relevant clinical care standards can be kept in check, such as the measurement of the progression of load on the operated limb measured in Kg (Weight), detectable through a scale connected via a wireless device, the number of steps taken by the patient during the day, which can be monitored through an Activity Tracker, and body temperature measurements. The administration of a daily evaluation questionnaire can be implemented remotely as well.

Lower healthcare costs and avoiding patient transfers that require the involvement of carers are also considerable advantages of such an approach. Clearly, telemedicine-based

consultations should never be intended as a substitute for traditional clinical monitoring, which has to rely on direct observation by doctors and nurses, but rather as an additional valuable tool for more complete, timely and consistent monitoring over time.

#### Conflict of interest

The author declares that he has no conflict of interest regarding this manuscript

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