World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:16, No:12, 2022

Assessing the Impact of Frailty in Elderly Patients Undergoing Emergency Laparotomies in Singapore

Authors : Zhao Jiashen, Serene Goh, Jerry Goo, Anthony Li, Lim Woan Wui, Paul Drakeford, Chen Qing Yan

Abstract : Introduction: Emergency laparotomy (EL) is one of the most common surgeries done in Singapore to treat acute abdominal pathologies. A significant proportion of these surgeries are performed in the geriatric population (65 years and older), who tend to have the highest postoperative morbidity, mortality, and highest utilization of intensive care resources. Frailty, the state of vulnerability to adverse outcomes from an accumulation of physiological deficits, has been shown to be associated with poorer outcomes after surgery and remains a strong driver of healthcare utilization and costs. To date, there is little understanding of the impact it has on emergency laparotomy outcomes. The objective of this study is to examine the impact of frailty on postoperative morbidity, mortality, and length of stay after EL. Methods: A retrospective study was conducted in two tertiary centres in Singapore, Tan Tock Seng Hospital and Khoo Teck Puat Hospital the period from January to December 2019. Patients aged 65 years and above who underwent emergency laparotomy for intestinal obstruction, perforated viscus, bowel ischaemia, adhesiolysis, gastrointestinal bleed, or another suspected acute abdomen were included. Laparotomies performed for trauma, cholecystectomy, appendectomy, vascular surgery, and non-GI surgery were excluded. The Clinical Frailty Score (CFS) developed by the Canadian Study of Health and Aging (CSHA) was used. A score of 1 to 4 was defined as non-frail and 5 to 7 as frail. We compared the clinical outcomes of elderly patients in the frail and non-frail groups. Results: There were 233 elderly patients who underwent EL during the study period. Up to 26.2% of patients were frail. Patients who were frail (CFS 5-9) tend to be older, 79 ± 7 vs 79 ± 5 years of age, $p < 0.01$. Gender distribution was equal in both groups. Indication for emergency laparotomies, time from diagnosis to surgery, and presence of consultant surgeons and anaesthetists in the operating theatre were comparable ($p > 0.05$). Patients in the frail group were more likely to receive postoperative geriatric assessment than in the non-frail group, 49.2% vs. 27.9% ($p < 0.01$). The postoperative complications were comparable ($p > 0.05$). The length of stay in the critical care unit was longer for the frail patients, 2 (IQR 1-6.5) versus 1 (IQR 0-4) days, $p < 0.01$. Frailty was found to be an independent predictor of 90-day mortality but not age, OR 2.9 (1.1-7.4), $p = 0.03$. Conclusion: Up to one-fourth of the elderly who underwent EL were frail. Patients who were frail were associated with a longer length of stay in the critical care unit and a 90-day mortality rate of more than three times that of their non-frail counterparts. PPOSSUM was a better predictor of 90-day mortality in the non-frail group than in the frail group. As frailty scoring was a significant predictor of 90-day mortality, its integration into acute surgical units to facilitate shared decision-making and discharge planning should be considered.

Keywords : frailty elderly, emergency, laparotomy
Conference Title : ICTGPS 2022 : International Conference on Trends in General and Pediatric Surgery
Conference Location : Paris, France
Conference Dates : December 29-30, 2022