Impact of COVID-19 pandemic on surgical care of patients with acute aortic conditions

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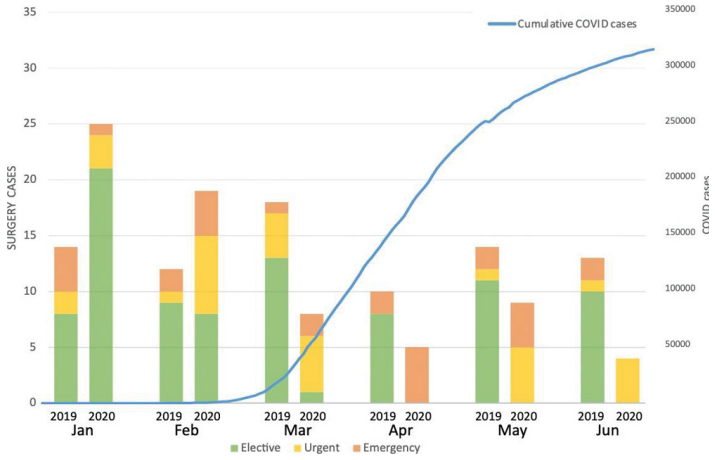
Background: The outbreak of COVID-19 pandemic catastrophically interrupted medical care systems causing substantial decrease in the admission of patients and consecutively a sharp decline in the number of surgeries and interventions. In several European countries, the nationwide lockdown severely restricted movement which may have contributed to this phenomenon on top of anxiety of patients to contract COVID-19 when admitted to hospital.
Purpose: The aim of this analysis was to evaluate the impact of the COVID-19 pandemic onto acute and elective thoracic aortic surgeries and interventions and to compare the data with the same period in 2019 in a single aortic centre.
Methods: Information on admission and surgery/intervention was extracted from hospital electronic record system. Patients who were admitted for treatment of aortic conditions between January 1st to June 30th both in 2019 and 2020 were identified and selected for this analysis. The time from referral to admission and surgery/intervention was noted for service delay analysis. Aortopathies were classified as type A aortic dissection, type B aortic dissection, aortic aneurysm and others. In a daily central hub meeting, urgency was defined as emergent (operation required before the next working day), urgent (operation needed within 48 hours), and elective. Patients' condition and comorbidities were represented by ACEF II score.
Results: Total case volume of 81 in 2019 reference period was reduced to 70 in 2020 (–14%). Elective cases significantly declined from 59 (72.8%) in 2019 to 30 (42.8%) in 2020 (–49%). Urgent and emergent cases were performed more frequently in 2020 with 40 cases versus 22 in 2019 (+45%).
The ACEF II score showed no difference for patients in both periods (2.1±1.9 vs. 2.5±2.1, p=0.221), however, a trend to higher ACEF II score in 2020 consistent with a higher proportion of urgent and emergent cases.
The overall in-hospital delay (from admission to surgery) was not significant affected with 1 (IQR 1–2) versus 1 (IQR 0–2); p=0.991. However, with the official declaration of a pandemic and introduction of restrictions, no in-hospital delay was documented.
In-hospital mortality was observed lower in 2019 as compared in 2020 (6.1% vs 11.4%, P=0.251).
Conclusion: The first wave of COVID-19 pandemic disrupted the aortic service, however, acute care for urgent thoracic aortic conditions and subsequent procedures even increased compared to 2019 as a result of both centralised allocation system and decline of elective cases. Acute aortic syndromes were managed despite COVID-19 according to current guidelines.



Impact of COVID on aortic case load