

Impact of COVID-19 pandemic on admissions and management of acute coronary syndrome: a single tertiary cardiac centre experience in the United Kingdom

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Background/Introduction: Global reports are suggestive of decline in number of patients attending hospital with acute coronary syndromes (ACS) and a reduction in the number of cardiac procedures since the onset of COVID-19 pandemic.

Purpose: The aim of the study was to compare the trend of presentations and management among ACS patients in a single tertiary cardiac centre in the West midlands of United Kingdom (UK) during the early lock down period of COVID-19 pandemic (Group 2020) in comparison to the same period of 2019 (Group 2019).

Methods: In this descriptive study patients' records were extracted retrospectively from the electronic database who presented with ST segment elevation myocardial infarction (STEMI), non- ST segment elevation myocardial infarction (NSTEMI) and Unstable angina (UA), during the 30 day period from mid-March to mid-April of 2020 (Group 2020), and the same period of 2019 (Group 2019).

Results: In comparison to group 2019, total number of ACS (153 vs 91) including STEMI (70 vs 59), NSTEMI (76 vs 31) and UA (7 vs 1) were lower in group 2020 (Fig 1A). Inter-hospital transfer (IHT) dropped from 2019 to 2020 (55 vs 17). In group 2020, percutaneous coronary angioplasty (PCI) for STEMI was similar to group 2019 (83.05% vs 88.57%) but PCI for NSTEMI were higher (80.65% vs 48.68%). No coronary artery bypass graft (CABG) services were available during the studied period (Fig 1B). In terms of troponin I (Trop I) levels at the time of admission, 47.25% of all ACS presentations were over 1000ng/L in group 2020 compared to 28.76% in group 2019 (Fig 1C). On assessment of left ventricular ejection fraction (LVEF) at the time of admission, 24% of all ACS were severely impaired (LVEF < 40%) compared to 13.79% in 2019 (Fig 1D). 37 (31 IHT) patients in group 2019 and 16 (11 IHT) patients in group 2020 had no transthoracic echocardiogram data. There was an overall reduction in number of days spent in hospital per ACS patient from 4.78 days in 2019 to 3.70 days in 2020 and a further reduction for STEMI patients from 5.16 days in 2019 to 3.83 days in 2020. 5 ACS patients died in 2020 in comparison to 6 patients in 2019.

Conclusion: The reduced number of admissions is likely to be a result of nation-wide lock-down and public fear. Proportion of ACS patients with high level of troponin I values and severely impaired LVEF may be explained due to late presentation. It remains necessary to address public fear and to ensure that ACS patients are managed in accordance with ACS management guidelines even in the times of COVID-19 pandemic.

Abstract Figure.

Fig 1A Trend of ACS presentation (Group 2019 vs Group 2020)

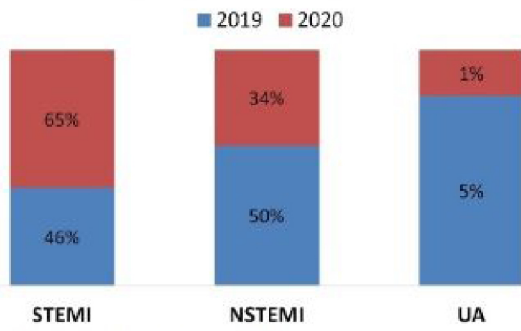


Fig 1B Management of ACS (Group 2019 vs Group 2020)

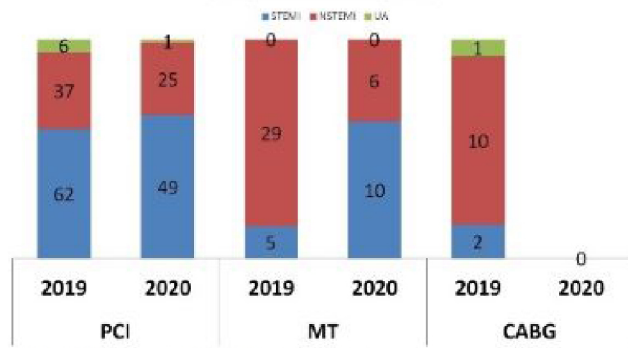


Fig 1C Troponin values at presentation (Group 2019 vs Group 2020)

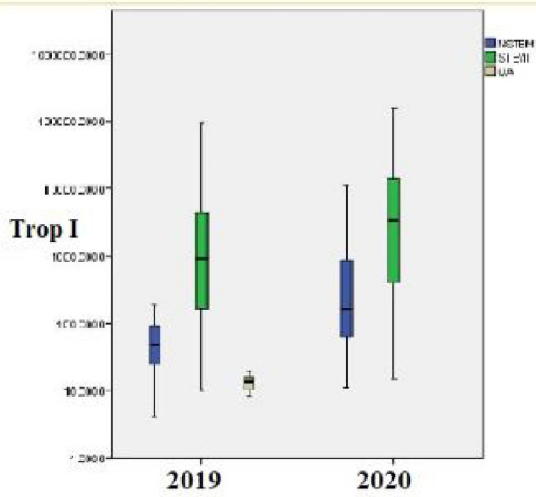


Fig 1D LVEF at presentation (Group 2019 vs Group 2020)

