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Spotlight on Special Topics

EFFECT OF COVID-19 ON PRESENTATION, MANAGEMENT AND SURVIVAL OF ST ELEVATION MYOCARDIAL INFARCTION (STEMI) PATIENTS IN A SINGLE UK CENTRE

Poster Contributions

Saturday, May 15, 2021, 12:15 p.m.-1:00 p.m.

Session Title: Spotlight on Special Topics: COVID 2

Abstract Category: 61. Spotlight on Special Topics: Coronavirus Disease (COVID-19)

Authors: *Sachintha Perera, Sudhir Rathore, Vinod Achan, Frimley Park Hospital, Frimley Health NHS Foundation Trust, Frimley, Camberley, United Kingdom*

Background: During the COVID-19 pandemic, patients with ST elevation myocardial infarction (STEMI) may have delayed seeking help and thus influenced clinical outcomes. We studied the effect of COVID-19 on STEMI admissions, delays between symptom onset and treatment, troponin levels and mortality at a single medium sized UK primary percutaneous coronary intervention (PPCI) centre, before and after UK national lockdown on 23 March 2020.

Methods: We performed a retrospective single centre cohort study of all STEMI patients 9 weeks prior and 5 weeks post lockdown, identifying a COVID period from 23 February to 28 April 2020 (n=39). These were compared to historical controls from 23 February to 28 April 2019 (pre-COVID period, n=45). We analysed patient demographics; STEMI and procedural characteristics; symptom to call (STC), call to balloon (CTB), door to balloon (DTB) times; peak troponin (hs-cTn I) rise; in-patient left ventricular (LV) function and 6-month survival.

Results: We analysed a total of 84 patients presenting with STEMI. We observed a 29% reduction in number of STEMI patients from 16 March 2020 (one week prior to lockdown) compared to the equivalent 2019 cohort, incidence rate ratio (0.71 (95% CI 0.41-1.23) p=0.05). Median STC times tended to be higher during COVID (54 (IQR 131) vs 25 (IQR 73) minutes p=0.06) and began to rise from 23 February 2020 (one month prior to lockdown). Median CTB and DTB (34 (IQR 77) vs 37 (IQR 32) minutes p=0.93) times did not differ. Mean peak hs-cTn I rise was significantly higher during COVID: (15225 (11924-18523) vs 8852 (6295-11410) ng/ml p=0.004). Baseline demographics, in-patient LV ejection fraction following PPCI, in-hospital and 30-day survival were not different. However, 6-month survival was significantly reduced during COVID 82.1% vs 95.6% p=0.05. No patients swabbed positive for COVID-19.

Conclusion: During the COVID pandemic, STC times began to rise one month and number of STEMI admissions began to fall one week prior to national lockdown. This correlated with higher peak troponin levels and reduced 6-month survival. These early signals of changing patient behaviour during COVID correlate with poor survival and could guide public health interventions.