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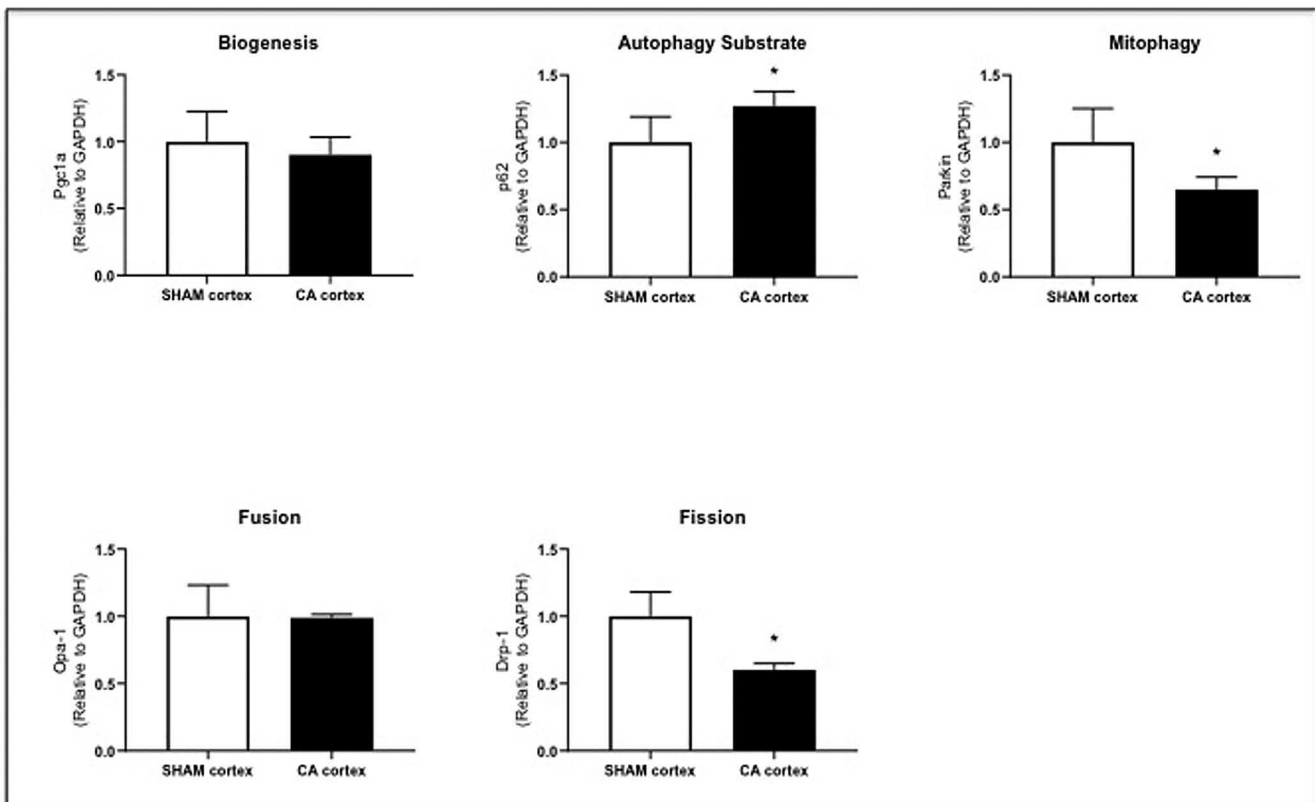


Figure 2. Western Blot detection of biogenesis, autophagy, mitophagy, fusion and fission markers in brain cortex of rats 72 hours after CA/CPR. Data are shown as mean ± SD, n=4 sham, n=4 CA. Student T test, * p<0.05.

Figure 2: (abstract: OR25)

CPR, no difference was observed between the groups Wet-to-dry ratio did not differ between the 2 groups.

Conclusion: These results indicate that the development of CRALE is characterized by derangement of mechanical properties of the respiratory system mainly represented by a reduction of lung compliance. The presence of no-flow time did not aggravate the development of CRALE.

OR27

The COVID-19 pandemic’s impact on out-of-hospital cardiac arrest incidence and survival outcomes: a systematic review

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Background: The COVID-19 pandemic has overwhelmed health-care systems, strained ambulance services and, directly or indirectly, affected community responses to patients who experience cardiac arrests outside hospitals. Previous observational studies have shown a notable rise in Out-of-Hospital Cardiac Arrest (OHCA) cases during the pandemic in different parts of the world compared to the same period in 2019, including the United Kingdom and the United States 1, 2. This systematic review’s intention is to shed light on the incidence and survival outcomes of adult OHCA patients.

Methods: A comprehensive review of MEDLINE, EMBASE, the Cochrane Library, Web of Science, WHO’s Global Index Medicus,

WHO’s Global Research Literature on Coronavirus 2019 and medRxiv up to 8 September 2021 was conducted to identify articles and pre-prints that reported OHCA figures before and during the COVID-19 pandemic. Primary outcomes were OHCA incidence, Return of Spontaneous Circulation (ROSC) and survival to hospital discharge.

Results: Twenty-one studies were included in the final analysis, out of 2877 potentially eligible records. There were 12,619 OHCA cases during the COVID-19 pandemic, compared with 8353 OHCA cases in the same period of 2019, representing a 51.1% increase in OHCA incidence during the pandemic. In terms of survival outcomes, ROSC and survival to hospital discharge rates were substantially reduced during the pandemic compared to the pre-pandemic period.

Conclusion: The pandemic has had an impact on the incidence and survival outcomes among adult OHCA patients compared to the pre-pandemic period. Moreover, the pandemic has delayed ambulance care processes and disrupted community responses to OHCA.

1. Fothergill RT *et al.* Out-of-hospital cardiac arrest in London during the COVID-19 pandemic. *Resusc Plus.* 2021;5:100066.
2. Lai PH *et al.* Characteristics associated with out-of-hospital cardiac arrests and resuscitations during the Novel Coronavirus Disease 2019 pandemic in New York City. *JAMA Cardiol.* 2020;5(10):1154–63.

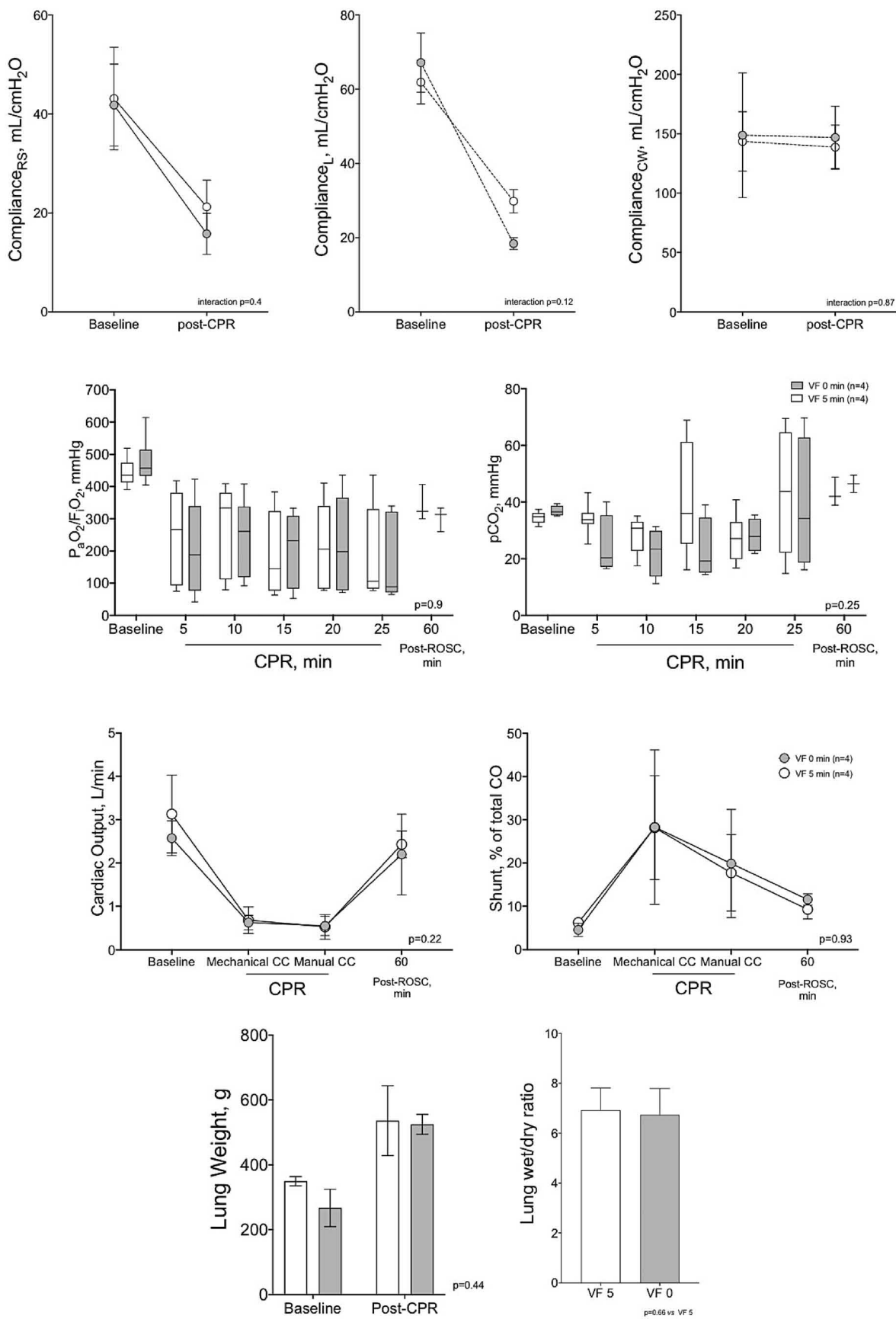


Figure: (abstract: OR26)

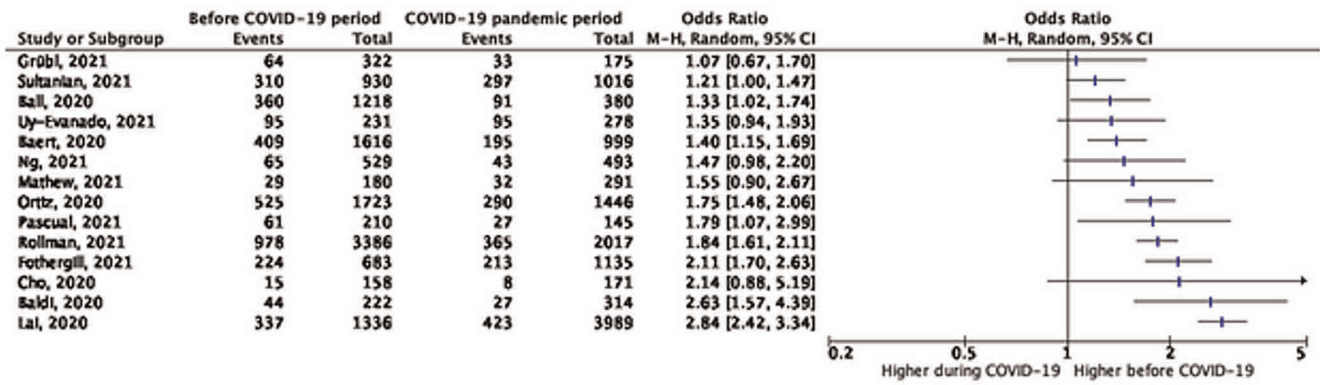


Figure 1. Forest plot of comparison: Return of Spontaneous Circulation (ROSC), outcome: ROSC.

Figure 1: (abstract: OR27)

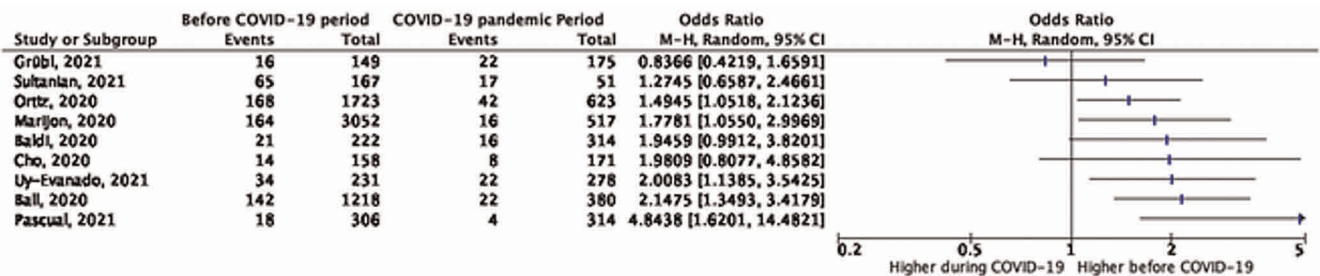


Figure 2. Forest plot of comparison: 2 Survival to Hospital Discharge, outcome: 2.1 Survival to Hospital Discharge.

Figure 2: (abstract: OR27)

OR28

The impact of COVID-19 on emergency medical service led out of hospital cardiac arrest resuscitation: A qualitative study

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Background: Following the emergence of COVID-19 there have been national changes in the way emergency medical service (EMS) staff respond to and treat patients in out-of-hospital cardiac arrest (OHCA). The views of EMS staff on the impact of COVID-19 and management of OHCA have not previously been explored. This study aimed to explore staff views on communication during resuscitation, resuscitation procedures and perception of risk.

Methods: A qualitative phenomenological enquiry was conducted. A purposive sample of n=20 participants of various clinical grades were selected from National Health Service EMS providers in the United Kingdom. Data was collected using semi-structured interviews, transcribed verbatim and inductive thematic analysis was applied.

Results: Three main themes emerged which varied according to clinical grade and location.

1. Service pressures: Availability of operational staff and in-hospital capacity were reduced. Staff felt pressure and disconnect from the continuous updates to clinical guidelines which resulted in organisational change fatigue.
2. Decision-making: Staff generally felt supported to make best interest decisions when resuscitation was ineffective or inappropriate. Staff made informed decisions to compromise recommended levels of personal protective equipment, felt impractical to the pre-hospital context, to improve communication and reduce delays to care.
3. Moral injury: The emotional impacts of prolonged and frequent exposure to patient death caused many staff to take time away from work to recover.

Conclusion: This qualitative study is the first known to explore the impacts of COVID-19 on OHCA which found positive outcomes, but also negative impacts important to inform EMS systems. COVID-19 created delays to performing resuscitation which were multifaceted. Staff developed new ways of working to overcome the barriers of impractical personal protective equipment. There was little impact on resuscitation procedures. Moving forwards EMS should consider how to limit organisational change and better support the ongoing emotional impacts on staff.