CAPS—A UKOSS STUDY OF CARDIAC ARREST IN PREGNANCY AND THE USE OF PERIMORTEM CAESAREAN SECTION. IMPLICATIONS FOR THE EMERGENCY DEPARTMENT

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Objectives & Background There is limited data regarding the nature and number of cardiac arrests in pregnancy (CAP). The Resuscitation Council and simulation courses such as MOET and ATLS, recommend that, in order to improve maternal outcome, perimortem caesarean section (PMCS) should be considered at 4 minutes post-arrest and completed at 5 minutes. There is no prospective data on the efficacy of this intervention or on how many women who arrest in pregnancy are managed in this way. Data from Holland suggests that, whilst more PMCS is being performed, there is significant delay in performing PMCS and low rates of maternal survival. We set out to determine the incidence of cardiac arrest in pregnancy as well as the use of PMCS. We also wanted to explore the outcomes, whether the cardiac arrest happened on the delivery suite, elsewhere in hospital or in the community.

Methods We have carried out the first prospective study of cardiac arrest in pregnancy & perimortem caesarean section, using the well established UK Obstetric Surveillance System (UKOSS). Over a 3 year period, all cases of CAP in the UK were collected.

Results Between 2011 & 2014, 70 cases of CAP were reported. The UK incidence of CAP was 1:34 000 maternities. 16 women collapsed in the community, of which 87% (n=14) died. Of 47 women where the method of relieving aorto-caval compression was recorded, 21 had pelvic tilt & only 4 cases had the recommended manual uterine displacement. 7 women were avoidably moved to theatre for their PMCS. 47 women had a PMCS performed, 11 of which were performed in the Emergency Department (ED). In 43 of the cases, the decision to perform the PMCS was made by an Obstetrician, with 46 of the cases performed by an Obstetrician. Cardiac output was restored in 53 women. 60% (n=42) ultimately survived their arrest. In all women who survived, the median time from collapse to PMCS was significantly shorter than in those that died (p<0.001). There was no difference in time from collapse to ALS (p=0.098).

Conclusion We report a UK incidence of 1:34 000, with evidence of a readiness to perform PMCS. This intervention was usually carried out within the recommended time post arrest, with good maternal outcomes. Several cases were encountered in the ED. We recommend that the management of CAP should be embedded within resuscitation training for ED staff to minimise delay in PMCS.
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