Our findings suggest that the benefits of thromboprophylaxis lie in reducing long-term consequences of VTE rather than reducing the risk of acute serious adverse events.

010 DIAGNOSTIC ACCURACY OF PULMONARY EMBOLISM (PE) RULE-OUT STRATEGIES IN PREGNANCY

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10.1136/emermed-2019-RCEM.10

Recent studies suggest that combinations of clinical probability assessment and D-dimer can safely rule out suspected PE in pregnant women. Van der Pol (NEJM 2019) reported that a pregnancy-modified YEARS algorithm and D-dimer ruled out PE in 195/498 (39%) and Righini (Ann Intern Med 2018) reported that the Geneva score and D-dimer ruled out PE in 46/395 (12%) without adverse outcome. We undertook a secondary analysis of pregnant women with suspected PE prospectively recruited to the DiPEP study to determine the diagnostic accuracy of these strategies.

The DiPEP study collected data and blood samples from pregnant/postpartum women with suspected PE across 11 UK hospitals and with diagnosed PE from all UK hospitals over 18 months. We selected prospectively recruited pregnant women who had definitive diagnostic imaging for analysis. We used clinical data and D-dimer results to determine whether the van der Pol and Righini strategies would recommend further investigation and imaging results to determine whether this would detect or miss PE.

We analysed 219 prospectively enrolled patients, including 12 (4.6%) with PE. The van der Pol strategy indicated no PE in 96/219 (43.8%), but this would have included 5/12 false negative cases with PE. Sensitivity for PE was 58.3% (95% CI 28.6–83.5%) and specificity 44.0% (37.1–51.0%). The Righini strategy indicated no PE in 46/219 (21.0%) but this would have missed 3/12 cases with PE. Sensitivity was 75.0% (21.9–98.7%) and specificity 20.8% (15.6–27.1%).

Strategies using clinical probability and D-dimer do not accurately rule out PE in pregnancy. The absence of adverse events in the published management studies may reflect lack of statistical power to detect clinically important adverse event rates. We therefore recommend against using clinical probability assessment and D-dimer testing to rule out suspected PE in pregnancy.

011 HIGH-SENSITIVITY CARDIAC TROPONIN ON PRESENTATION TO RULE OUT MYOCARDIAL INFARCTION (HISTORIC): A STEPPED-WEDGE CLUSTER RANDOMISED CONTROLLED TRIAL

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10.1136/emermed-2019-RCEM.11

Background High-sensitivity troponin (hs-cTn) assays enable MI to be ruled out earlier, but the effectiveness and safety of this approach is uncertain. We compared a conventional pathway using the 99th centile and serial testing at presentation and at 6–12 hours, with a rapid rule out pathway that uses lower hs-cTn concentrations to risk stratify patients at presentation and earlier serial testing.

Method and results A 6-centre stepped-wedge, cluster RCT was completed, evaluating the efficacy/safety of implementation of a rapid rule out pathway using a hs-cTnI assay. Consecutive patients were identified, with suspected ACS who had a hs-cTnI concentration within the normal range at presentation in 3 phases. During the validation phase, patients were assessed using the standard care pathway with serial hs-cTnI testing at presentation and 6–12 hours. All centres were randomized in a stepped-wedge fashion to the novel pathway, where MI is ruled out if hs-cTnI is <5 ng/L at presentation or between 5 ng/L and the 99th centile with a change <3 ng/L at 3 hours. Sequential hypothesis testing evaluated the superiority of the novel pathway for a primary efficacy endpoint of length of stay, and non-inferiority for a primary safety endpoint of MI or cardiac death 30 days following discharge.

Conclusions From Nov 2014 to Dec 2016, 36,322 patients with suspected ACS and hs-cTnI concentrations <99th centile at presentation were identified. All patients were followed up for at least one year. Median lengths of stay and the proportion with MI or cardiac death 30 days following discharge before and after implementation of the pathway will be reported. Non-inferiority for the primary safety endpoint will be concluded if the upper limit of the one-sided 95% CI is below the non-inferiority margin of 0.5%. The proportion of patients discharged directly from ED and proportion with MI or cardiac death one year following discharge will be reported.

012 OUTCOMES FOLLOWING CONFIRMED MYOCARDIAL INJURY IN PATIENTS WITH ATRIAL FIBRILLATION: A POST HOC SUBGROUP ANALYSIS OF THE HIGH-STEACS TRIAL

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10.1136/emermed-2019-RCEM.12

Troponin rise in patients with atrial fibrillation may be falsely attributed to oxygen demand-supply mismatch rather than acute atherothrombotic events requiring urgent percutaneous coronary intervention. The purpose of this study was to compare the differences in clinical presentation, management and outcomes between patients in atrial fibrillation and sinus rhythm presenting to the Emergency Department with a suspected acute coronary syndrome. This is the first report to describe the atrial fibrillation patient population recruited to the High-STEACS trial.

Patients recruited to the *High-Sensitivity Troponin in the Evaluation of patients with suspected Acute Coronary Syndromes* (High-STEACS) trial from three sites across South East Scotland with confirmed myocardial injury diagnosed by high-sensitivity cardiac troponin I were included in a *post hoc* subgroup analysis (n=3597). Baseline patient characteristics, coronary revascularisation treatment and one-year mortality