compensations and responses to iron deficiency treatment between HHT molecular genotypes.

**Results** Serum ferritin was higher in ACVRL1 (median 31; IQR 17.5,75) than ENG (median 25; IQR 13.5,0.5; p=0.006) and SMAD4 (median 26; IQR 5,39.5; p=0.03) HHT/PAVM patients, as shown by Kruskal-Wallis and Dunn’s post-test. Age and sex-adjusted linear regression analysis found that a SMAD4 variant was predictive of a decrease in serum iron (p<0.0005). Mean corpuscular volume was lower in SMAD4 (median 75; IQR 70,87) than ACVRL1 (median 90; IQR 86,93; p<0.0001) and ENG (median 89; IQR 84,93; p<0.0001) patients. This was compensated for by higher red blood cell counts in SMAD4 (median 5.4; IQR 5.6) than ACVRL1 (median 4.7; IQR 4.2,5; p<0.0001) and ENG (median 4.8; IQR 4.3,5.1; p<0.0001) patients, so that ultimately, haemoglobin concentrations did not differ significantly between molecular genotypes (p=0.39). Associations between molecular genotype and other iron deficiency complications, such as ischemic stroke and venous thromboembolism are under evaluation.

**Conclusions** SMAD4 HHT/PAVM patients had lower iron indices, more marked indicators of iron deficiency anemia, and displayed evidence of different compensatory mechanisms to maintain haemoglobin concentration. We speculate that the role of SMAD4 as a hepcidin regulator may explain why SMAD4 patients have this unique phenotype. A randomised-control trial prospectively assessing differing molecular genotypes’ responses to iron treatment would help to further clarify relationships between iron deficiency and HHT molecular genotype.

**Gazing through the crystal ball: predicting outcomes from COVID-19**

**NATIONAL COVID POINT OF CARE LUNG ULTRASOUND EVALUATION (SOCIETY FOR ACUTE MEDICINE WITH THE INTENSIVE CARE SOCIETY)**

1T Knight, 2P Parulekar, 3G Rudge, 4F Lesser, 5M Dachsel, 6A Aujayeb, 7D Lasserson, 8N Smallwood, 9Sandwell and West Birmingham Hospitals NHS Trust, Birmingham, UK; 10East Kent Hospitals NHS Trust, East Kent, UK; 11Institute of Applied Health Research University of Birmingham, Birmingham, UK; 12Surrey and Sussex Healthcare NHS Trust, Redhill, UK; 13Northumbria Healthcare NHS Foundation Trust, Newcastle upon Tyne, UK

**Introduction** The Society for Acute Medicine and the Intensive Care Society developed a collaborative evaluation of point-of-care lung ultrasound (LUS) in the UK to describe the scope of current practice and explore performance during real-world application. All participating hospitals have established expertise in point-of-care imaging.


**Methods** We report the evaluation of all imaging studies performed outside the intensive care unit. An ordinal scale measured the severity of loss of lung aeration. The relationship between this score and adverse outcomes was explored using generalised linear models. A composite diagnostic score was used to describe diagnostic performance compared against polymerase chain reaction (PCR) results as a reference standard.

**Results** 297 ultrasound examinations from 295 patients were recorded, between February and September 2020, from 7 sites. Nasopharyngeal swab samples were positive in 145 patients (49.2% 95%CI 43.5–54.8). A multivariate model combining three ultrasound variables had an AUC of 0.79 (95%CI 0.73–85) to predict PCR positivity. The composite outcome of death or intensive care admission at 30 days occurred in 83 (28.1%, 95%CI 23.3–33.5). Lung ultrasound was able to discriminate the composite outcome with a reasonable level of accuracy (AUC 0.76 95%CI 0.69–0.83) in univariate analysis. The relationship remained statistically