Provision of TIPS for Variceal Haemorrhage in North East of England
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Background
The North East encompasses a wide geographical area, the farthest hospital being 160km from the specialist centre providing transjugular intrahepatic portosystemic shunt (TIPS). We aim to evaluate factors influencing provision of the TIPS service and outcome in the region.

Methods
All cases undergoing TIPS at Freeman Hospital from December 2015 to December 2017 were identified from the interventional radiology register. Electronic records and medical notes of all patients who had TIPS performed for variceal haemorrhage were reviewed retrospectively to collect data regarding clinical demographics, length of hospital stay and outcomes.

Results
A total of 46 procedures were performed; 29 for variceal haemorrhage. Two were excluded from further analysis due to non-availability of medical notes. The median age at the time of intervention was 51 (range 21-71) years and 13 (48%) were male. Cases were referred from nine regional hospitals. The majority had alcohol related liver disease (63% alcohol, 26% Non-alcohol), 77% with Child B or C cirrhosis and 85% had MELD score ≥11. A third of patients had undergone one attempt at haemostatic control with another third having had ≥3 interventions prior to referral. 96% and 92% had received antibiotics and terlipressin, respectively. 56% were ITU to ITU transfers with airway protection and 52% had a Sengstaken tube in-situ [average duration of placement 17 (4-48) hours]. Average time to transfer from referral was 18.3 hours. 57% had TIPS performed within 24 hours of arrival at the specialist centre. Although the average time to TIPS varied between weekends and weekdays, 46 and 35 hours respectively, there was no significant difference in outcome or survival (p=0.221). 22% required inotropic support following TIPS. Average time taken for discharge from ITU after being assessed as fit for stepping down care to the ward or repatriation was 4.45 (0-51) days. The duration of Sengstaken insertion ≥24 hours did not influence outcome or survival. 67% of patients were alive at 90 days post TIPS.

Conclusion
The majority of patients received antibiotics and terlipressin during the bleeding episode consistent with good clinical practice. Time to TIPS was longer in patients admitted at weekends but with no significant difference in survival outcome. The duration of Sengstaken tube placement did not significantly influence outcome. Delays and decisions to repatriation were multifactorial, including non-availability of beds at the referring hospital, family preference to remain in centre and post TIPS complications.