Exploratory proteomic analysis of systemic health care recourse use in patients with cirrhotic ascites: A UK real world evidence study

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Introduction Decompenated cirrhosis is a major cause of morbidity and mortality in the United Kingdom (UK).

The development of ascites complicating cirrhosis frequently represents the first manifestation of decompensation, which is a hallmark of advanced liver disease and frequently a prelude to other complications. Refractory ascites (RA), characterised by early recurrence after initial paracentesis, is associated with a worse prognosis. The objective of the present study was to describe healthcare resource utilisation and costs incurred by cirrhotic patients following presentation to the South West Liver Unit with large volume ascites requiring paracentesis.

Methods A retrospective study using the Hospital Episode Statistics (HES) data from University Hospitals Plymouth was performed. Patients with decompenated cirrhosis and ascites based on liver disease ICD-10 codes (K70-K77) requiring paracentesis (T46) between January-2015 and February-2020 were identified and healthcare resource utilisation/costs assessed over the following 12 months or until Transjugular Intrahepatic Portosystemic Shunt (TIPS) insertion, liver transplant, diagnosis of RA or death. RA was defined by the need for 2 or more paracenteses in a month. The subset of patients who developed RA were followed up for 12 additional months. Outpatient visits, elective and non-elective admissions and mortality were quantified and costed for the overall population and the sub-group who developed RA.

Results HES data identified a cohort of 524 cirrhotic patients with ascites. Mean age was 61.8 years and 57.8% were male. 12-month mortality was 22.3%. 3489 outpatient visits, 509 elective day cases, 284 elective admissions and 969 non-elective admissions were performed. The mean cost per patient was £12,176 per year. A total of 1061 paracenteses were performed during the 12-month follow-up. RA developed in 129 (24.6%) cases. Patients with RA were more likely to require hospitalisation (421 day cases, 421 non-elective and 206 elective admissions), had more outpatient appointments (1693) and a greater requirement for paracenteses (618 procedures) during the subsequent 12 months. This resulted in a greater mean cost per patient (£23,810 per year).

Conclusions The development of ascites in cirrhotic patients is associated with significant healthcare resource utilisation and high mortality. One in four patients developed refractory ascites within 12 months of first paracentesis and in these patients hospitalisation rates, outpatient appointments and paracentesis more than doubled, with a significant increase in associated cost. Future treatment strategies that can reduce the likelihood of developing RA may help mitigate costs and ease the burden on both health systems and patients.

REFERENCES