Comparing resource consumption from an economic evaluation of GORE® VIATORR® TIPS Endoprosthesis versus large volume paracentesis in the Spanish and U.K. healthcare systems

BACKGROUND

Liver disease is associated with increased comorbidities and mortality. Many patients with liver disease tend to develop refractory ascites as a part of the disease progression. This requires intense monitoring and clinical input with many healthcare resources and professionals to manage a patient safely. Currently, many patients are treated with large volume paracentesis (LVP) plus albumin infusion or the transjugular intrahepatic portosystemic shunt (TIPS) procedure using the GORE® VIATORR® TIPS Endoprosthesis. The GORE® VIATORR® TIPS Endoprosthesis is widely used in patients for the treatment of portal hypertension and its complications such as refractory ascites in the U.K. and Spain. To date there is limited information available which has a focus on the resource consumption of GORE® VIATORR® TIPS Endoprosthesis versus LVP plus albumin in both these European regions.

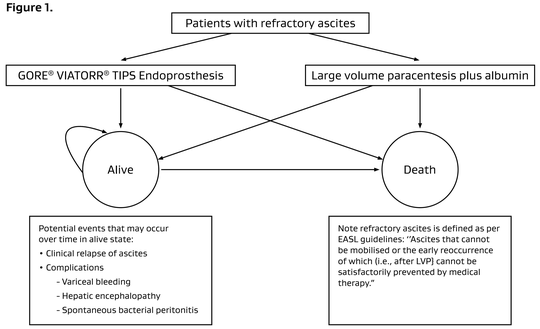
OBJECTIVES

The aim of this analysis was to highlight similarities and differences in resource consumption when using the GORE® VIATORR® TIPS Endoprosthesis versus LVP plus albumin in the management of refractory ascites in two major European countries, U.K. and Spain.

METHODS

Two published markov models[1,2] (*Figure 1*) were analysed to compare the resource consumption differences within the U.K. and Spanish healthcare systems at two years. The models enabled patients to receive either GORE® VIATORR® TIPS Endoprosthesis or LVP plus albumin after which the cohort would enter the alive or death model health states. In the alive state, patients could incur potential adverse events including clinical relapse of ascites, hepatic encephalopathy or spontaneous bacterial peritonitis. Resource consumption for both models was analysed for similarities and differences over the two-year time horizon of the economic evaluations across both the European regions.

Figure 1.



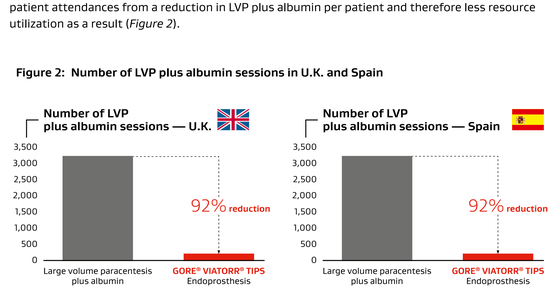
RESULTS

Based on a simulation of 100 patients, the comparative analysis of GORE® VIATORR® TIPS Endoprosthesis versus LVP plus albumin demonstrated a reduction in the number of paracentesis sessions, hospital LVP plus albumin bed days and healthcare professional nurse-time in both European regions.

Large volume paracentesis

Patients in both countries had 2,868 more LVP plus albumin sessions based on a simulation of 100 patients, averaging to 28 more LVP plus albumin sessions per patient over the two-year time frame. Patients on GORE® VIATORR® TIPS Endoprosthesis had over 92% less LVP plus albumin sessions compared to patients on LVP plus albumin treatment alone. This accounted for less patient attendances from a reduction in LVP plus albumin per patient and therefore less resource utilization as a result (*Figure 2*).

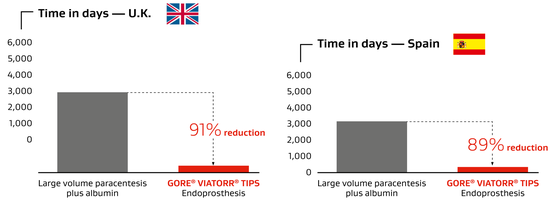
Figure 2: Number of LVP plus albumin sessions in U.K. and Spain



Hospital bed days

Overall, patients on LVP plus albumin in the U.K. experienced more hospital bed days than LVP plus albumin patients in Spain. However, all patients on LVP plus albumin regardless of the country had more time in hospital (*Figure 3*). There was a 91% reduction in hospital stay in the U.K. and an 89% reduction in Spain when comparing LVP plus albumin hospital bed days to GORE® VIATORR® TIPS Endoprosthesis hospital bed days. This was primarily driven by the number of times patients had to attend hospital for drainage of their paracentesis.

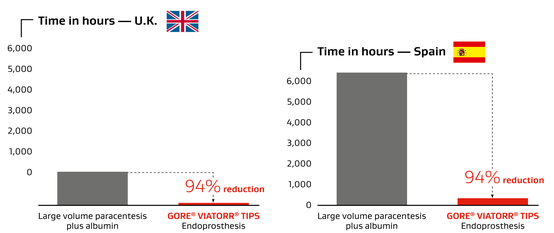
Figure 3: GORE® VIATORR® TIPS Endoprosthesis versus LVP plus albumin hospital bed days in U.K. and Spain



Healthcare professional time of a nurse

Nurse-time for LVP plus albumin patients was also more than for patients on GORE® VIATORR® TIPS Endoprosthesis. Regardless of country, nurse healthcare professional time was 94% less for patients in the GORE® VIATORR® TIPS Endoprosthesis arm compared to LVP plus albumin usage (*Figure 4*). Patients in Spain experienced more nurse healthcare professional time as nurse-duration per nurse episode was longer.

Figure 4: GORE® VIATORR® TIPS Endoprosthesis versus LVP plus albumin healthcare professional nurse time in U.K. and Spain



CONCLUSIONS

- Based upon this analysis, adopting GORE® VIATORR® TIPS Endoprosthesis in refractory ascites patients can reduce resource consumption and subsequent related costs to the healthcare systems in both European regions.
- Both countries showed substantial time and resource consumption savings in reduced LVP plus albumin sessions, hospital bed days and healthcare professional nurse-time in the GORE® VIATORR® TIPS Endoprosthesis arm.
- Patients in the GORE® VIATORR® TIPS Endoprosthesis arm in both the U.K. and Spain had over 92% reduction in LVP plus albumin sessions, a 91% and 89% reduction in hospital bed days for U.K. and Spain respectively, and 94% less nurse healthcare professional time compared to LVP plus albumin regardless of location.
- The benefits of GORE® VIATORR® TIPS Endoprosthesis with demonstrated reduced LVP plus albumin sessions, less hospital bed days and healthcare professional nurse-time need to be confirmed in further studies in more European nations.

REFERENCES

1. Mattock R, Tripathi D, O'Neill F, *et al*. Economic evaluation of covered stents for transjugular intrahepatic portosystemic stent shunt in patients with variceal bleeding and refractory ascites secondary to cirrhosis. *BMJ Open Gastroenterology* 2021;8(1):e000641.
2. Nakum M, Wiersma T, Di Stasi F. A cost-effectiveness evaluation of the GORE® VIATORR® TIPS Endoprosthesis versus large volume paracentesis in the management of portal hypertension complications in the Spanish healthcare system. Presented at The International Liver Congress 2022; June 22-26, 2022; London, United Kingdom. *Journal of Hepatology* 2022;77(Supplement 1):S617. FRI504