Pathway for Diagnosis and Management of Hepatic Hydrothorax

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Aims of this Pathway

Patients presenting with hepatic hydrothorax are often complex and multi-morbid with multiple clinical issues that often need addressing in an MDT approach. The aim of this pathway is to guide healthcare professionals in the appropriate investigation and referral pathways for patients who present with suspected hepatic hydrothorax.

Hepatic hydrothorax is defined as a transudative pleural effusion in the context of decompensated liver disease. It is associated with a high risk of morbidity and mortality with a median survival of 8-12 months post presentation. The principal mechanism of hepatic hydrothorax is portal hypertension secondary to liver cirrhosis, with migration of ascitic fluid into the thoracic cavity via small diaphragmatic defects.

A significant proportion of patients will develop recurrent hepatic hydrothorax which is refractory to medical management, and thus rely on pleural interventions for symptomatic relief. In suitable patients, the definitive management options include liver transplantation, insertion of transjugular intrahepatic portosystemic shunt, or surgical repair of diaphragmatic defects. However, the majority of patients are not suitable for these interventions and so are managed on a symptomatic basis.

The mainstay of management is intermittent therapeutic thoracocentesis. However, the potential rapid accumulation of fluid in these patients can lead to very frequent pleural interventions. This affects the cumulative risk of intervention related complications such as haemothorax, pneumothorax, and pain.

An alternative strategy is insertion of a tunnelled indwelling pleural catheter (TIPC). These devices have the advantage of the ability for regular drainage of the effusion without the need for invasive pleural procedures. They also have the potential to achieve successful pleurodesis due to the inflammatory reaction caused by the catheter in the pleural space. Complications of TIPC insertion include infection which can range from localised cellulitis at the site of insertion to iatrogenic empyema. Rates of infection are higher compared to intermittent thoracocentesis but despite this remain low overall.

Suspected Hepatic Hydrothorax Pathway

- **Hepatic hydrothorax should be suspected in any patient with a unilateral pleural effusion who has a known diagnosis of liver disease.**
- **These patients should be referred to the ABUHB pleural service for thoracic ultrasound and consideration of diagnostic and/or therapeutic aspiration.**
- **Following diagnostic aspiration, the pleural fluid sample should be sent for cytology, protein, LDH, glucose, pH, MC&S, and AFB.**
- **If hepatic hydrothorax is confirmed the patient should be initially managed medically with diuretics and sodium restriction following therapeutic aspiration and referred to hepatology.**
- **If large volume ascites present paracentesis should be considered.**
- **In patients with a large symptomatic effusion which necessitates insertion of an intercostal chest drain (ICD). This should be inserted as per the ICD pathway with 100ml 20% human albumin solution (HAS) infused for every 3L of fluid drained.**
- **Ongoing management of these patients should be determined by patient preference alongside input from hepatology and discussion at the ABUHB pleural MDT.**
- **Patients who are a candidate for liver transplantation should be referred for transplant assessment via the relevant referral pathways and managed in the interim with periodic thoracocentesis.**
- **Non-transplant patients should be managed on a symptomatic basis with periodic thoracocentesis or by insertion of a TIPC.**
- **Patients who undergo TIPC insertion should have regular drainage by district nurses arranged if the patient is unable to manage themselves.**
- **TIPC follow up should be arranged by the pleural ambulatory unit with a review at 2 weeks post insertion for suture removal and then regular telephone follow-up via TIPC telephone clinic.**

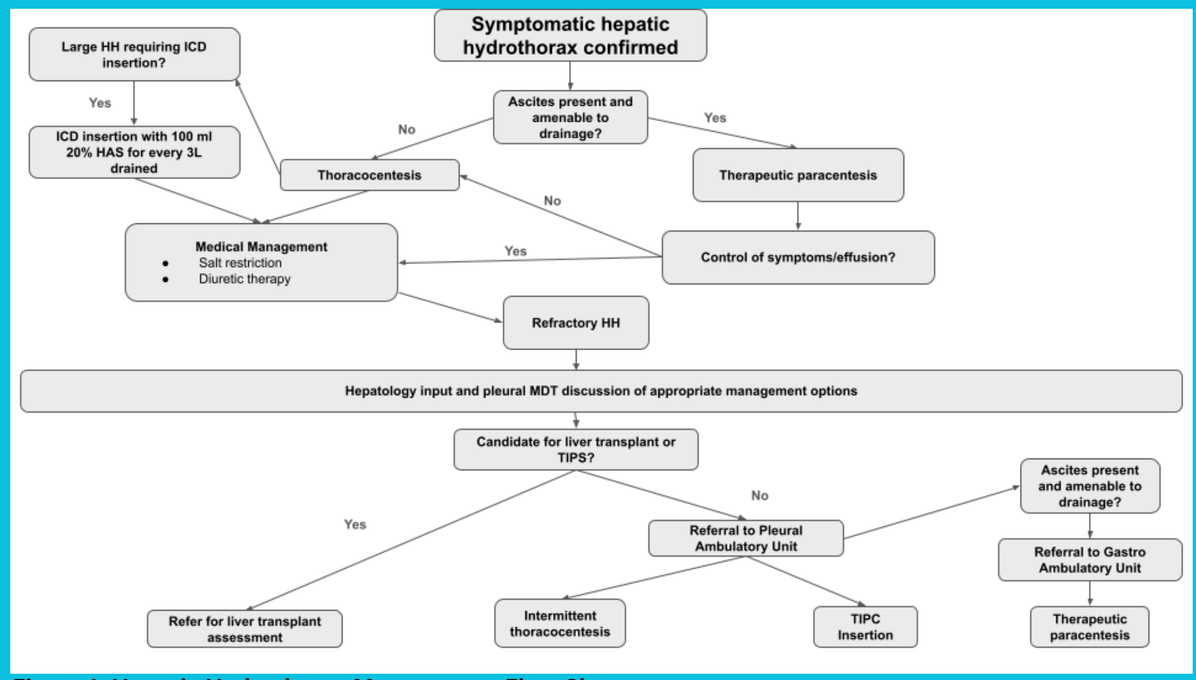

Figure 1: Hepatic Hydrothorax Management Flow Chart