Beneficial haemodynamic and renal sodium handling effects of combined midodrine and octreotide treatment in a cirrhotic patient with large hepatic hydrothorax and mild ascites

Sir,

Hepatic hydrothorax complicates advanced liver cirrhosis resulting from the transfer of ascitic fluid into the pleural space in the absence of primary cardiopulmonary disease and, occasionally, of clinically evident ascites. When management with sodium restriction and diuretics fails and repeated thoracenteses are needed, potentially dangerous invasive procedures, such as pleurodesis, thoracoscopic repair of diaphragmatic defects with pleural sclerosis or transjugular intrahepatic portosystemic shunting should be considered [1]. Recently, octreotide-induced natriuresis and reduction of hepatic hydrothorax was described [2,3]. We report on a case of hepatic hydrothorax, which resolved after adding the α-adrenergic agonist midodrine to octreotide.

A large sterile right hepatic hydrothorax was diagnosed in a 66-year-old female with hepatitis C virus (HCV) cirrhosis (Child class C) with mild ascites and deteriorating dyspnoea. Marked hyponatraemia and encephalopathy without a cause was noted. Further investigations revealed a large pleural effusion, and repeated paracenteses were required. Diuretics were discontinued and octreotide 600 mg thrice weekly, midodrine 7.5 t.i.d., furosemide 40 mg/day and spironolactone 100 mg/day without recurrence of the hepatic hydrothorax until her death 4 months later.

Splanchnic arterial vasodilation with reflex activation of sodium- and water-retaining systems is involved in the pathogenesis of cirrhotic ascites and related pleural effusion [1]. Chronic octreotide administration seems to disrupt the circulatory homeostasis in decompensated cirrhotics by directly inhibiting the renin–angiotensin–aldosterone axis. As a result, it improves ERPF but not systemic haemodynamics, GFR and natriuresis [4]. However, octreotide ameliorates the splanchnic arterial hyporeactivity to vasoconstrictors by suppressing glucagon secretion [5]. Indeed, recent observations suggest that octreotide could potentiate the beneficial haemodynamic and renal effects of midodrine in decompensated cirrhotics [4]. The combination of midodrine and octreotide could therefore be considered in the treatment of hepatic hydrothorax.

Conflict of interest statement. None declared.