STEP 1 – Diagnosis

Does the patient have ALL of the following:

- Confirmed diagnosis of Cirrhosis with ascites
- AKI: (an increase in serum Creatinine (Cr) ≥26.5 micromol/L within 48 hours or an increase in Cr ≥50% from baseline (1.5x baseline).
- Absence of shock.
- Absence of renal parenchymal disease (urine dip NAD for blood and protein)

NO? → **This might not be the guideline for you! Manage as per AKI bundle, and consider renal referral**

STEP 2- Risk Factor management

- Stop diuretic and renal acting medications. Consider withholding beta-blocker if MAP <65.
- Screen for sepsis (Clinical examination, CXR, Urine dip and culture, ascitic tap, Blood culture)
- Screen for other causes of kidney disease (urine dip, urine ACR and renal US)
- *All cases of suspected HRS or decompensated cirrhosis should be referred to Gastroenterology*

STEP 3 - Assess Severity

AKI Stage 2/3 (>2x increase in Cr from baseline OR Cr >133)
Proceed immediately to Step 4

AKI Stage 1 (<2 increase in Cr from baseline and Cr <133)
Monitor for 48hrs

No Improvement after 48 hrs?

STEP 4- Volume replacement

HAS 20% up to 1g/kg per day (max 100g) for 48hrs
(there is 20g in 1 bottle of 20%, this is usually 2-5 bottles per day)

STEP 5 - Reassess after 48hrs

If not resolved reassess for cause of AKI
If still in keeping with HRS, calculate Acute-on-Chronic Liver Failure (ACLF) score
(0=No organ failure, 1= single organ failure, 2= two organ failure, 3= >2 organ failure)

ACLF Grade 3, MELD ≥ 39 OR Serum Cr >442

Consider discussion about RRT on an individual patient basis (Renal team or DCC as appropriate) or consider palliative care review

ACLF Grade 0,1 or 2

STEP 6- Terlipressin

Continue HAS 20% at 1-2 bottles per day

Consider Terlipressin – D/W Gastro SpR or Consultant before starting

Terlipressin 2mg in 100ml over 24hrs ***IV infusion:*** **Intranet Guideline**

48HRS

Decrease in serum Cr >25% from its peak value?

YES

Continue until AKI resolution or max duration of 14 days

NO

Increase Terlipressin in 2mg/24hr increments until max dose of 10mg/24hrs, reassess every 48hrs. If 10mg is reached with no decrease in serum Cr >25% from its peak value, consider discussion with DCC or palliative care if unsuitable for DCC

Terlipressin can also be given in bolus dosing e.g. 0.5mg QDS IV, but continuous infusion is preferred due to the reduced risk of adverse events

If prescribing Terlipressin consider that the following should result in ***immediate cessation*** of the terlipressin infusion and review:

- Acute respiratory distress
- CVS complications including chest pain, arrhythmia or HR>120 bpm or BP >180/120
- Peripheral ischaemia
- Signs of bowel Ischaemia

Diagnosis and assessment

Management and reassessment

References:
Hepato-Renal Syndrome (HRS) with Acute Kidney Injury (AKI) clinical guideline, Greater Glasgow and Clyve, Forrest et al 2023
MHRA Drug Safety Update (March 2023) Terlipressin: new recommendations to reduce risks of respiratory failure and septic shock in patients with type 1 hepatorenal syndrome - GOV.UK (www.gov.uk)
EASL clinical practice guidelines on the management of ascites, spontaneous bacterial peritonitis, and hepatorenal syndrome in cirrhosis: Hepatology 2010 vol. 53,397-417