

Etiological Profile and Precipitating Factors of Hepatorenal Syndrome in a Tertiary Care Hospital

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I. Background

- Hepato-renal syndrome is a unique form of functional renal failure due to diminished renal blood flow which occurs in histologically normal kidneys seen in advanced liver disease.
- Prognosis is poor with survival commonly measured in weeks to months.
- Several treatment options exist, early diagnosis and treatment provide the best hope of survival.

OBJECTIVE

- To study the etiological profile and precipitating factors of hepato-renal syndrome.

II. Material & Methods

• **STUDY DESIGN**-Prospective study

• **STUDY SUBJECTS**-

Patients with cirrhosis of liver admitted in ICU & medical wards of Sri Venkateswara Ram Narain Ruia Government General Hospital, Tirupati.

• **Study Sample**-500 in patients studied prospectively.

• **Study Period**-June 2017 – June 2018.

• Written informed consent was obtained from all the participants.

• The local institutional ethical committee approved the study.

• **Inclusion criteria**-

1. Patients with chronic liver disease and declining renal functions.

2. Patients who meet HRS criteria.

• **Exclusion criteria**-

1. Patients with Pre-renal failure

2. Patients with renal parenchymal or obstructive pathology

3. Patients using nephrotoxic drugs

• **Statistical analysis**-

the study results are analysed using EPI INFO software version 7.1.4.0 for calculation of percentages.

➤ **Baseline investigations**•

• Serum creatinine

• Serum electrolytes

• Liver function tests

• Viral screening (HBV & HCV)

• USG abdomen

• CT abdomen

• Hepatic and portal vein doppler

III. Results

- Percentage of patients who met IAC revised criteria of HRS type 1 were 73% (n=66)
- HRS type 2 in 27% patients (n=24)

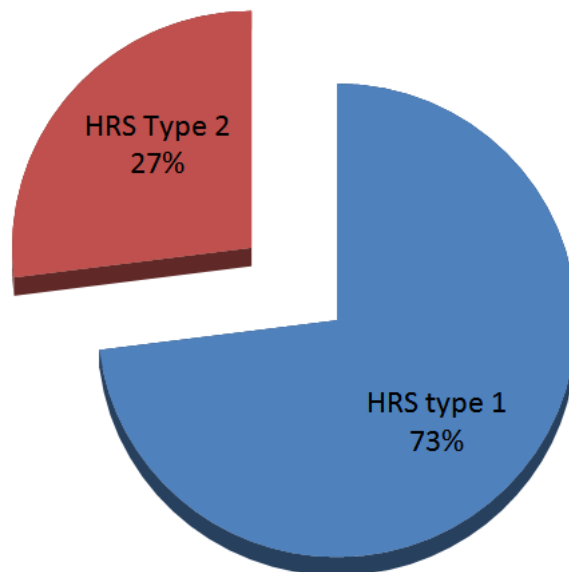
PERCENTAGEWISE OCCURRENCE OF HRS

- Alcoholic aetiology found in majority of the patients i.e., 52 out of 90 patients.
- Viral aetiology found in 21 patients of which 15 were of hepatitis B and 6 were of hepatitis C.
- Combined aetiology of alcohol and hepatitis B in 6 patients and ALD with hepatitis C in 4 patients.
- Cryptogenic liver disease was found in 7 patients.

PATTERNS OF ETIOLOGY OF HRS

- In our study 58.8% (n=52) of 90 patients presented with alcoholic aetiology.
- Viral aetiology was found in 23.3% (n=21) of 90 patients among which HBV in 16.67% (n=15), HCV in 6.67% (n=6)
- Combined ALD+HBV coinfection in 6.67% (n=6)
- Combined ALD+HCV coinfection in 4.44% (n=4)
- Cryptogenic liver disease (n=7) detected in 8% of 90 patients.

PERCENTAGEWISE DISTRIBUTION OF ETIOLOGY IN HRS



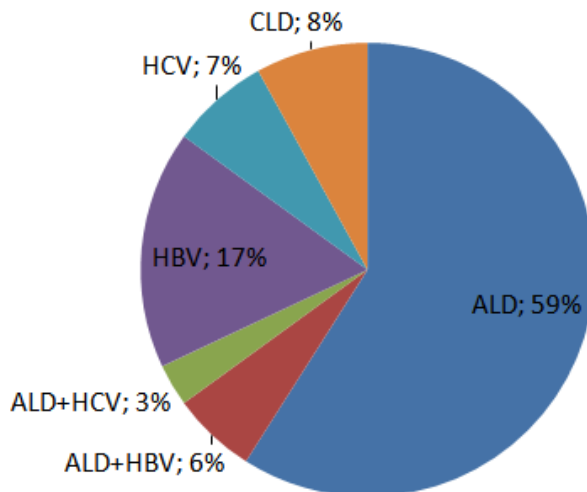
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PATTERNS OF AETIOLOGY OF HRS



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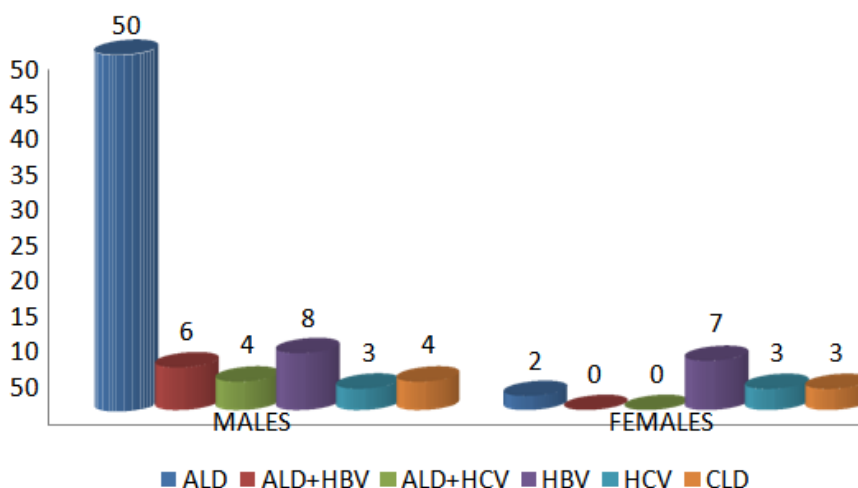
PERCENTAGEWISE DISTRIBUTION OF ETIOLOGY IN HRS



ETIOLOGY OF HRS IN MALES AND FEMALES

- In males the most common aetiology found to be alcoholism in 50 patients.
- Combined ALD+HBV co-infection in 6 patients, ALD+HCV co-infection in 4 patients.
- Cryptogenic liver disease in 4 patients.
- In females, most common aetiology was of viral HBV infection i.e., 7 patients, followed by HCV infection in 3 patients and cryptogenic liver disease in 3 patients.
- Alcoholic aetiology found in only 2 patients.

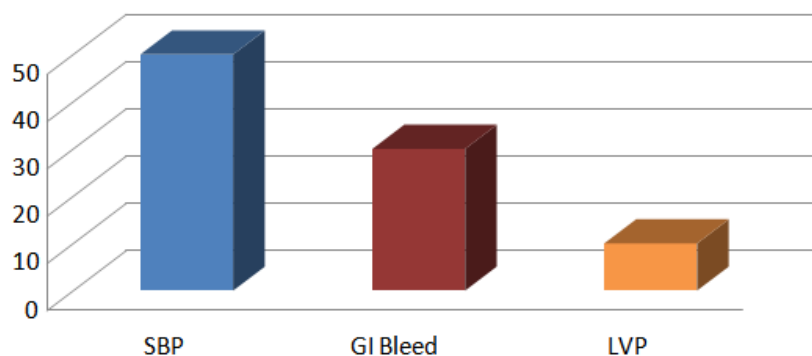
ETIOLOGY OF HRS IN MALES AND FEMALES



PRECIPITATING FACTORS OF HRS

- 55.6% (n=50) patients with HRS had spontaneous bacterial peritonitis as the precipitating factor.
- Gastrointestinal hemorrhage in 33.3% (n=30) patients.
- Large volume paracentesis without volume expansion in 11% (n=10) patients.

PRECIPITATING FACTORS OF HRS



IV. Conclusion

•In our study alcoholic liver disease is the most common etiological factor and spontaneous bacterial peritonitis is the most common precipitating factor in HRS.

Reference

- [1]. •Sleisenger and Fordtrans gastrointestinal and liver diseases 10th edition
- [2]. •Sherlocks diseases of the liver and biliary system 12th edition
- [3]. •Harrisons 19th edition
- [4]. •Hepatorenal Syndrome: Aetiology, Diagnosis, and Treatment G.Low,^{1,2,3} G.J.M.Alexander,⁴ and D.J.Lomas^{1,3}

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