Gastrointestinal Bleeding versus Bacterial Infection as risk factors for Hepatic Encephalopathy in patients with Liver Cirrhosis in Ain Shams University Hospital

Thesis

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Summary

The current study aimed at comparing gastrointestinal bleeding and infection as risk factors for hepatic encephalopathy in patients with liver cirrhosis in Ain Shams University hospital.

This study was conducted on 100 consecutive patients with hepatic encephalopathy and all the patients were subjected to the following after taking their informed consent:

1- Full history taking stressing on history of fever, high protein diet intake, gastrointestinal bleeding, constipation and history of drug intake.

2- Full general examination with stressing on manifestations of liver disease.

3- Abdominal examination.

4- Laboratory investigations including: kidney function tests, ascitic fluid examination, liver function tests, CBC, α FP, PT, PTT, serum Na & K, HCVAb, HBsAg, HBcIgG.

5- Abdominal U/S.

6- Upper gastrointestinal endoscopy for indicated patients.

7- Child Pugh and MELD score was calculated.

8- Condition on discharge.

9- Determination of the risk factors(s) of Hepatic Encephalopathy.

10- Statistical analysis of results.

The results of the current study showed that cases that had previously suffered from GI bleeding showed increased frequency of recent GI bleeding

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List of Abbreviations

AASLD	American Association for the Study of Liver Disease
AFP	Alfa-Fetoprotein
ALT	Alanine amino-transferase
AMA	Anti-mitochondrial antibody
ANA	Anti-nuclear antibody
ASMA	Anti-smooth muscle antibody
AST	Aspartate amino-transferase
CBC	Complete blood count
CFF	Critical Flicker Frequency
CHESS	Clinical Hepatic Encephalopathy Staging Scale
CLD	Chronic liver disease
CNS	Central nervous system
CT	Computerized Tomography
EASL	Europe Association for the Study of Liver
EDTA	Ethylene-diamine-tetra-acetic acid
EEG	Electroencephalogram
ELISA	Enzyme Liked Immunosorbant Assay
ECM	Extra cellular matrix
ePTFE	expanded Poly-tetra-fluoro-ethylene
ET	Endotheline
Fc	Fragment Crystallizable
FDA	Food and Drug Administration
FHF	Fulminant Hepatic Failure

List of Abbreviations

GABA	Gamma Amino Butyric Acid
GGT	Gamma Glutamyle Transferase
HBcIgG	Hepatitis B core antigen
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus
HCC	Hepato-Cellular Carcinoma
HCV	Hepatitis C virus
HCV Ab	Hepatitis C virus antibody
HE	Hepatic Encephalopathy
HESA	Hepatic Encephalopathy Scaling Algorithm
HRS	Hepatorenal syndrome
HSCs	Hepatic stellate cells
HVPG	Hepatic Venous Pressure Gradient
ICP	Intracranial pressure
INR	International normalization ratio
IV	Intravenous
KPa	Kilo-Pascal
LKM Ab	Anti-Liver Kidney Microsomal antibody
Ln	Natural logarithm
MAO	Mono-aminoxidase
MELD	Model for End Stage Liver Disease
MHE	Minimal Hepatic Encephalopathy
MRA	Magnetic Resonance Angiography
MRI	Magnetic Resonance Imaging
NAFLD	Non Alcoholic Fatty Liver Disease
NASH	Non Alcoholic steatohepatitis

List of Abbreviations

OV	Oesophageal varices
PEI	Percutaneous Ethanol Injection
PEG	Polyethylene glycol
PHG	Portal Hypertensive Gastropathy
PTBR	Peripheral type benzodiazepines Receptors
PUV	Para-umbilical vein
SBP	Spontaneous bacterial peritonitis
TACE	Trans catheter Arterial Chemo-embolization
TGF-β1	Transforming Growth Factor Beta 1
TIBC	Total Iron Binding Capacity
TIPS	Trans-jugular Intra-hepatic Porto-systemic Shunt
UNOS	United Network for Organ Sharing
US	Ultrasonography

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Introduction

Hepatic encephalopathy is defined as a spectrum of neuropsychiatric abnormalities in patients with liver dysfunction, after exclusion of other known brain disease. It is characterized by personality changes, intellectual impairment and depressed level of consciousness ***(Cabral and Burns, 2011).***

In the world congress of gastroenterology 1998 in Vienna, hepatic encephalopathy was classified into 3 types; Type A (= acute) describe hepatic encephalopathy associated with acute liver failure.
Type B (= bypass) is caused by portal-systemic shunting without associated intrinsic liver disease.
Type C (= cirrhotic) occur in patient, with cirrhosis.
In addition, the duration and characteristics of hepatic encephalopathy were classified into episodic, persistent, and minimal ***(Ferenci et al., 2002).***

According to West Haven classification system the severity of hepatic encephalopathy is measured on a 5 point scale:
Grade 0: is indicated by minimal changes in memory, concentration, intellectual function, and coordination.
Grade 1: is characterized by increasing confusion and disorientation, forgetfulness, impaired intellectual function, decreased attention, agitation, lack of coordination, and disturbed sleep patterns (often day-night reversal).
Grade 2: involves drowsiness, disorientation, loss of ability to perform mental tasks, personality and behavior changes, and increased motor symptoms such as asterixis.

Grade 3: is characterized by lethargy, somnolence (sleeping), loss of mental function, profound confusion, amnesia, aggression, asterixis, and hyperactive reflexes.

Grade 4: is indicated by coma. In the coma stage, respiratory or cardiovascular failure may occur ***(Bajaj et al., 2011).***

In people with otherwise stable liver disorders, hepatic encephalopathy is triggered by a number of independent factors; the common precipitating factors are as follow:

- Gastrointestinal bleeding.
- Excessive diuresis.
- Sedatives, tranquilizers, analgesics.
- Excess dietary protein.
- Renal disease.
- Infection.
- Constipation ***(Maqsood et al., 2006).***

In Egypt, we still do not have a satisfactory database about gastrointestinal bleeding versus infection as risk factors for of hepatic encephalopathy in patients with liver cirrhosis. Therefore we try to have a local database about gastrointestinal bleeding versus infection as risk factors of hepatic encephalopathy in internal medicine departments of Ain Shams University tertiary Referral Hospital.

Aim of Work

The aim of the work is to compare between gastrointestinal bleeding and infection as risk factors for hepatic encephalopathy in patients with liver cirrhosis in Ain Shams university hospital.