بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / مني مغربي أحمد

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

15 Years Survival of Budd-Chiari Patients in a Single Center Study

Thesis

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Tropical Medicine

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بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ
﴿قَالُواْ سُبْحَٰنَكَ لَا عِلْمَ لَنَآ
إِلَّا مَا عَلَّمْتَنَآ صلے إِنَّكَ أَنتَ
ٱلْعَلِيمُ ٱلْحَكِيمُ﴾
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Ahmed Hesham Khalil Dabbous

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List of Abbreviations

Abb.	Full term

AC: .....Anticoagulants
ANA: .....Anti- nuclear- antibody
APS: .....Antiphospholipid syndrome
AST& ALT: .....Serum aspartate and alanine Aminotransferases levels
AT: .....Antithrombin
BCS: .....Budd-Chiari Syndrome
BIL: .....Bilirubin
BM: .....Bone Marrow
CBC: .....Complete blood count
CT: .....Computed Tomography
DDLT: .....Deceased donor liver transplantation
DOACs: .....Direct oral anticoagulants
ET:.....Essential thrombocytosis
FVLM: .....Factor V Leiden mutation
GERD: .....Gastro-Esophageal reflux disorder
HBV: .....Hepatitis B virus
HCC: .....Hepatocellular carcinoma
HCV: .....Hepatitis C virus
HVOTO: .....Hepatic venous outflow tract obstruction
INR: .....International normalised ratio
IRHV: .....Inferior right hepatic vein
IVC: .....Inferior vena cava
JAK2: .....Janus Kinase 2
LCF: .....Liver cell Failure
LDLT: .....Living donor liver transplantation
LFTs: .....Liver function tests
LHV: .....Left hepatic vein
LMWH: .....Low molecular weight heparin

List of Abbreviations (Cont...)

Abb.	Full term

LT: .....Liver transplant
LTHV: .....Left Hepatic vein
MELD: .....Model for End-Stage Liver Disease
MPN: .....Myeloproliferative neoplasms
MR:.....Magnetic resonance
MRI:.....Magnetic resonance imaging
MTHFR: .....Methyl tetra hydro folate reductase
OLT:.....Orthotopic liver transplantation
OV: .....Oesophageal varices
PC def:.....Protein C deficiency
PGM: .....Prothrombin gene mutation
PHG: .....Portal Hypertensive Gastropathy
PNH: .....Paroxysmal Nocturnal Hemoglobinuria
PS def: .....Protein S deficiency
PT: .....Prothrombin time
PTFE: .....Polytetrafluoroethylene
PV: .....Polycythemia rubra vera
PVT:.....Portal vein thrombosis
RTHV: .....Right hepatic vein
TIPSS: .....Transjugular intrahepatic portosystemic shunt
VK: .....Vitamin K

INTRODUCTION

Budd-Chiari syndrome (BCS) is defined as the obstruction of hepatic venous outflow regardless of its causative mechanism or level of obstruction. This obstruction can be traced to the small hepatic venules up to the entrance of the inferior vein cava (IVC) into the right atrium ***(Valla, 2009).***

Hepatic outflow obstruction related to cardiac disease, pericardial disease or sinusoidal obstruction syndrome have different pathophysiological and clinical implications and are excluded from this definition ***(Hernández-Gea et al., 2019).***

Up to 50% of all cases of BCS are due to chronic myeloproliferative disorders like polycythemia vera (PV) ***(Valla, 2002)*** or coagulopathies like factor V (Leiden) gene mutation ***(Deltenre et al., 2001),*** and some showed the inherited deficiency of protein C,S and antithrombin 3 ***(Valla, 2009).***

The clinical presentation is highly variable but may be categorized as acute and perhaps fulminant hepatic failure, as subacute without evidence of cirrhosis or as chronic with evidence of portal hypertension and cirrhosis ***(Zahn et al., 2010)***.

It was empirical to highlight the Egyptian experience in BCS and evaluate the long term outcome of the disease in a single Egyptian university center in Cairo.

Aim of the Work

The idea of this work was to report the results of a vast clinical experience over 15 years presented by Tropical medicine department Ain Shams University through analysing the patient and disease characteristics, outcome, complications and innovations in therapeutic intervention.

Ultimately this should throw lights on the understanding of the pathophysiology causes and clinical consequences of BCS among Egyptian patients.

Chapter 1

BUDD- CHIARI SYNDROME

Budd–Chiari syndrome (BCS) is an uncommon condition, caused by obstruction to hepatic venous outflow. It is largely underdiagnosed, and a high index of suspicion is required for any patient with unexplained portal hypertension. The understanding of its etiology and pathology is improving with advances in diagnostic techniques ***(Sharma et al., 2021).***

BCS is classified as primary when the obstruction to hepatic venous outflow is related to a primary venous problem, such as thrombosis, stenosis, or webs, and as secondary when it is related to extrinsic compression, such as that caused by abscess, tumor, cyst, or hyperplastic nodules ***(Aydinli and Bayraktar, 2007).***

Causes

Common causes of BCS include inherited and acquired hypercoagulable states ***(Menon et al., 2004).*** Inherited hypercoagulable states such as factor V Leiden mutation, protein C deficiency, protein S deficiency, the prothrombin G20210A mutation, and antithrombin III deficiency are common causes of hepatic vein thrombosis resulting in BCS. Acquired prothrombotic states such as myeloproliferative disorders (e.g., polycythemia vera, paroxysmal nocturnal hemoglobinuria, essential thrombocytosis, agnogenic myeloid metaplasia, and

myelofibrosis) account for more than 50% of BCS cases ***(Menon et al., 2004; Plessier et al., 2008 & Cura et al.,2009)*.** Other conditions have been proposed as risk factors for the development of BCS, including Behçet disease, hypereosinophilic syndrome, and ulcerative colitis ***(Plessier et al., 2008)*** and pregnancy, malnutrition, and the use of oral contraceptives ***(Cura et al., 2009 & Pati et al., 2009).***

Pathophysiology

Once the hepatic veins occlude, the liver venous outflow is compromised, the sinusoidal and portal pressures increase, and the portal flow decreases; if this process continues, it leads to hepatic congestion; formation of ascites; and, in certain cases, portal vein thrombosis ***(Menon et al., 2004).*** Hepatocytes undergo hypoxic damage that eventually evolves into noninflammatory centrilobular cell necrosis ***(Valla, 2002; Aydinli and Bayraktar, 2007).*** If this hepatocellular damage is massive, the patient will present with a fulminant form of BCS, which is a potentially fatal condition ***(Washburn et al., 2006).***

Epidemiology:

There is no evidence for a difference in incidence of BCS between the West and East. Throughout the world, nearly all cases /HVOTO appear to be caused by hepatic venous obstruction, associated or not associated with involvement of parts of the IVC. India, Pakistan, the Middle East, the