Summary

The liver is one of the most important organs in the human body that performs a number of metabolic functions that are essential to human life. The liver is the largest gland in the body. It is the second largest organ in the human body. Only the skin, which is considered to be an organ, is larger. In a normal adult, the he liver weighs about 1.5 kilograms grams or 3-4 pounds (about 2 percent of the body mass of adults). It is wedge-shaped occupying most of the right hypochondrium, epigasteruim and extends to the left hypochondrium. It is supplied by the portal vein and the hepatic artery and drained by the hepatic veins into the inferior vena cava ***(Davies and Coupland, 1967).***

The liver has a double blood supply. The PV carrying venous blood from the intestines and spleen, and the HA coming from the celiac axis to supply the liver with arterial blood. These vessels enter the liver through the porta hepatis inside which, the PV and HA divide into branches to the right and left lobes. The HVs leave the liver via the posterior surface and run directly into the IVC ***(Elias et al., 1952).***

Among the liver diseases are the vascular disorders of the liver, the relatively low prevalence of which may have contributed to the slow progress in uncovering the mechanisms of disease for each category of these disorders. The categories of these disorders vary according to the location of the circulatory impairment and include: - The Budd-Chiari syndrome, BCS (obstruction of the hepatic portion of the inferior vena cava), portal vein thrombosis and sinusoidal obstruction syndrome (veno-occlusive disease, nodular regenerative hyperplasia and peliosis hepatis). In addition, two systemic cardiovascular diseases that impair hepatic

circulation; ischemic hepatitis and congestive hepatopathy ***(Laurie, 2003).***

The main disorders of the hepatic venous system are represented by BCS. Disorders of sinusoids frequently mimic the obstruction of the hepatic venous system and include a variety of rare conditions, namely SOS, sinusoidal dilatation, peliosis hepatis, sinusoidal fibrosis and infiltration of the sinusoids ***(Dominique_charles, 2007).***

Obstruction of the PV or its branches can be related to invasion or constriction by a malignant tumor, or to thrombosis. From a clinical point of view, PVT consists of two different entities, acute PVT and chronic PVT, which represent successive stages of the same disease and share similar causes, but differ as to their management ***(Condat et al., 2000).*** Likewise, PVT occurring in children, in patients with cirrhosis, and in liver transplant recipients has features and management differ from those in other groups of patients ***(Juan et al., 2008).***

Intrahepatic portal venopathy leads to various entities that are important causes of portal hypertension. NCPF occurs in India, whereas IPH occurs in Japan although the pathogenesis and presentation of both are similar. NCPF presents mainly with upper gastrointestinal bleeding; IPH presents with massive splenomegaly. WHVP is normal, but portal venous pressure is high indicating a presinusoidal block. Patients are best managed with endoscopic therapy or surgery, with better results than in patients with cirrhosis. NRH is a histological diagnosis characterized by development of nodules in the liver due to uneven perfusion of the portal venous blood. These patients may develop portal hypertension and if they bleed would require treatment as in NCPF/IPH. Schistosomiasis and

rarely sarcoidosis and chronic biliary obstruction may also produce portal venopathy ***(Yogesh and Radha, 2008).***

Each of these diseases causes portal hypertension, but the frequency of parenchymal dysfunction varies among them and it is a characteristic of the primary circulatory liver diseases that portal hypertension usually precedes liver dysfunction; however, this is not the case with the primary parenchymal liver diseases, in which liver dysfunction always progresses before portal hypertension is manifested ***(Laurie, 2003).***

Involvement of the liver occurs in several cardiovascular disorders, may be acute, such as myocardial infarction or shock, or a chronic, such as heart failure, constrictive pericarditis and pulmonary hypertension. In some situations, the manifestations of cardiac disease are subtle, and the liver abnormalities dominate. Hepatic complications may also arise after cardiac surgery. Medications used for the treatment of cardiac disease can induce specific abnormalities ***(Susan et al., 2007).***

Some congenital anomalies can affect the blood vessels of the liver, result mostly in abnormal shunting of blood through the liver that may be so severe as to cause symptoms, but most patients are discovered incidentally while undergoing ultrasonography or other imaging studies for other reasons. Except for liver involvement by HHT, symptomatic anomalies are usually diagnosed in infants or children ***(Guadalupe, 2007).***

Vascular tumors of the liver in adults include CH, a common benign tumor; epithelioid hemangioendothelioma, a rare, low-grade malignant tumor; and angiosarcoma, a rare and very aggressive tumor ***(Zafrani, 1989).***

Different techniques are available for assessments of the vascular system of the liver.some of them are invasive and others are not. With the development of radiological techniques, more non invasive techniques are developed as Doppler US, CT scan, MRI and angiography ***(lasser et al., 1997).***

Prompt recognition and treatment of underlying haematological disorders and other treatable causes of Budd Chiari syndrome may avoid the need of the surgical decompression procedures as side to side porto caval, mesocaval, mesoatrial shunt and TIPS (transjugular intrahepatic portosystemic shunt), finally liver transplantation is considered in cirrhosis and hepatocellular dysfunction ***(Lawrence et al., 2003).***