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### **Original papers**

#### **Esophageal Motility Disorders in Diabetes Mellitus: a Manometric Study**

Corina Moldovan<sup>1</sup>, Dan L. Dumitrascu<sup>2</sup>, Carmen Cruciat<sup>2</sup>, Ofelia Anton<sup>2</sup>, Monica Marin<sup>2</sup>, Diana Dumitrascu<sup>2</sup>, Brândusa Truta<sup>2</sup>, Doru Dejica<sup>2</sup>

#### **Abstract**

**Aim.** The investigation of the esophageal motility in diabetes mellitus.

**Material-methods.** 31 patients were investigated by water-perfused stationary esophageal manometry. Data were correlated with symptoms and with endoscopic and roentgenologic findings.

**Results.** 65% of the patients suffered from esophageal symptoms. They showed manometric abnormalities in 71% of cases. Symptoms suggesting gastroesophageal reflux disease (GERD) were associated with manometric findings corresponding to this disorder and with the presence of esophagitis at endoscopy. Simultaneous contractions at manometry correlated with the roentgenologic appearance of tertiary contractions, even in the absence of symptoms. Symptoms and manometric abnormalities did not correlate with RR variability on electrocardiography.

**Conclusions.** Patients with diabetes mellitus frequently have esophageal symptoms and manometric abnormalities. Patterns consistent with GERD are most frequent, while patterns of hypercontractility were less frequently encountered.

#### **Key words**

Autonomic neuropathy - diabetes mellitus - esophagus- manometry - motility

## **A Study of Intrapulmonary Arterio-Venous Shunts in Patients with Liver Cirrhosis**

Djordje Āulafiæ1, Mirjana Perišiæ1, Predrag Rebiæ2, Smiljana Pavloviæ3

### **Abstract**

Hepatopulmonary syndrome is defined by the existence of chronic liver disease, hypoxemia, the increase of the alveolar-arterial gradient during the breathing of room air and intrapulmonary vascular dilatation. The pathoanatomical substrate of intrapulmonary vascular dilatation includes: dilated pre-capillaries, direct arterio-venous communications and dilated pleural blood vessels resembling spider-like naevi, so called 'pleural spiders'. The deterioration of arterial oxygenation in patients with liver diseases is a poor prognostic sign and, for this reason, hepatopulmonary syndrome could be included in indications for liver transplantation. Our prospective study in the period 1998 - 2000 included 50 patients with liver cirrhosis, at the Clinic of Gastroenterology and Hepatology, Institute of Digestive Diseases, Clinical Center of Serbia. Hepatological studies included laboratory liver function tests, Doppler ultrasonography of portal blood flow and histopathological diagnosis. Two groups of pulmonary function tests were applied: the measurement of respiratory gas concentration in the arterial blood and ventilation tests (spirometry, flow-volume curve and body plethysmography). Orthodeoxia (the fall of PaO<sub>2</sub> during the position change, from supine to sitting) had been confirmed in all patients with intrapulmonary shunts. Perfusion pulmonary scintigraphy using albumin macro aggregate, labeled with radioactive technetium (99mTc-MAA) was performed for the visualisation of intrapulmonary shunts. The scanning of extrathoracic organs was used for the measurement of the total number of the brain and kidney impulses, to confirm intrapulmonary arterio-venous shunts. The functional and morphological studies established the diagnosis of hepatopulmonary syndrome in 9 (18%) patients with liver cirrhosis. The majority of these patients (6) belonged to the Child C class, while 3 patients were categorized as Child B. The patients with prominent oxygenation disorders caused by intrapulmonary arteriovenous shunts tended to have more severe liver insufficiency. In the case of mild hypoxemia, intrapulmonary shunts are absent and the Va/Q mismatching of multifactorial genesis in such cases primarily causes oxygenation disorders. In patients with liver cirrhosis and prominent hypoxemia, intrapulmonary left-to-right shunts represent a major pathogenetic mechanism in the development of severe respiratory disorders. Perfusion pulmonary scintigraphy using 99mTc-MAA and the method based on the application of 100% oxygen are valid in the diagnosis of intrapulmonary shunts in liver cirrhosis.

### **Key words**

Hepatopulmonary syndrome (HPS) - intrapulmonary shunts - liver cirrhosis - orthodeoxia - pulmonary scintigraphy

## **Surgical Denervation Influence on Hepatocellular Oxidative Stress in Brain Death and Living Donors\***

Octavian Bud<sup>1,2</sup>, M. Golling<sup>1</sup>, H. Kellner<sup>2</sup>, Th. Kraus<sup>1</sup>, M.M. Gebhard<sup>2</sup>, Christian Herfarth<sup>1</sup> and E. Klar<sup>1</sup>

### **Abstract**

Aim of the study. Liver function following brain death (BD) is mainly influenced via central action of sympathetic nerves and changes in systemic and portal perfusion. We examined the specific influence of surgical denervation on the intrahepatic oxidative stress (reduced [rGSHL] and oxidised [GSSGL] glutathione) in cardiocirculatory stable BD animals compared to living donors [LD] in a porcine model.

Methods. BD (n=8) was induced via continuous NaCl inflation of an epidurally placed Tieman-catheter (1 mL/5 min) and compared to the control group (n=6) of living donors. Measurements of the hepatic microperfusion (thermodif-fusion probe: ml/100g/min), and the glutathione [rGSHL, GSSGL ; nmol/mg protein] were performed 2 h following BD and 2 h following denervation of the liver. For statistical analysis the Wilcoxon and Mann-Witney U-Test was used. Overall significance was set at  $p < 0.05$ .

Results. In comparison with LD, BD animals showed a reduced rGSHL ( $19 \pm 1.5$  [BD] vs.  $32 \pm 1$  [LD];  $p < 0.01$ ); GSSGL ( $1.7 \pm 0.4$  [BD] vs.  $0.7 \pm 0.5$  [LD];  $p < 0.01$ ) and a severe reduced redox potential (GSHL/GSSGL:  $11.5 \pm 1.0$  [BD] vs.  $43.1 \pm 0.08$  [LD];  $p < 0.001$ ). Surgical denervation resulted in reduction of oxidative stress in the BD group [BD: rGSHL:  $31 \pm 1$  ( $p < 0.01$ ); GSSGL:  $0.96 \pm 0.02$  ( $p < 0.05$ ); GSHL/GSSGL:  $31.3 \pm 0.006$  ( $p < 0.01$ )] while it increased in the living donors [LD: rGSHL:  $15 \pm 0.7$  ( $p < 0.01$ ); GSSGL:  $1.1 \pm 0.02$  ( $p < 0.05$ ); GSHL/GSSGL:  $13.8 \pm 0.05$  ( $p < 0.01$ )].

Conclusion. Intrahepatic oxidative stress is increased in cardiocirculatory stable BD animals compared with LD. Surgical denervation of the liver will reduce the oxidative stress only in BD animals while it increases in living donors.

The results imply a potential benefit of surgical denervation of the liver before explantation in BD donors only.

### **Key words**

Liver transplantation - oxidative stress \_ brain death \_ living donors

**Acute Abdominal Pain Associated with Primary Cecal Cancer**

Ion Păun, Dan Mogos, Ion Vasile, Mihai Florescu, Mariana Păun, Dan Dumitrelea & Copernicus Study Group

**Abstract**

**Objective.** Our aim was to investigate the problems of diagnosis and management raised by primary cecal cancer patients with acute abdominal pain as their main symptom.

**Study design.** We reviewed records and histopathology slides of 246 patients with malignant neoplasm of the colon diagnosed and treated in our clinic from 1980 to 1996.

Sixteen of the 246 patients (6.5%) had acute abdominal pain as the presenting symptom of cecal malignancies (100% adenocarcinomas) complicated by peritumoral inflammation (5 patients) or acute obstruction (2 patients) and/or perforations (9 patients).

Thirteen patients (97.3%) underwent the standard right hemicolectomy with the total excision of the involved lymphatics and bowel continuity reconstruction. In 3 high-risk patients with multiple hepatic and peritoneal metastases or local advanced cancer, ileotransverse anastomosis was performed.

**Results.** The postoperative morbidity consisted of 3 wound infections (18.8%) and 1 ileocolonoanastomosis dehiscence with generalized peritonitis which was also responsible for a mortality rate of 6.2% (1 patient). The differential diagnosis of the acute abdominal pain in our series required flexible pre-, intra- and postoperative investigations.

**Conclusions.** The diagnosis of acute abdominal pain complicating cecal malignancies requires a high index of suspicion and a diligent follow-up of symptoms and signs, especially in high-risk patients. The resectional management was the treatment of choice in the vast majority of complicated cecal cancer patients in our series.

**Key words**

Abdominal pain - primary cecal cancer

**Case reports**

**Nephrotic Syndrome, Idiopathic Thrombocytopenic Purpura and Systemic Lupus Erythematosus Induced by Interferon-Alpha**

Mihai Voiculescu<sup>1</sup>, Camelia Ionescu<sup>1</sup>, Mihaela Stefan<sup>1</sup>, Monica Hortopan<sup>2</sup>, Eugen Mandache<sup>3</sup>, Ileana Constantinescu<sup>4</sup>, Gener Ismail<sup>1</sup>

**Abstract**

We report the case of a 21 \_ year \_ old female patient with HCV chronic hepatitis treated with Interferon. Six months after starting antiviral therapy she developed systemic lupus erythematosus, nephrotic syndrome and thrombocytopenic purpura. The renal lesions, evaluated by kidney biopsy, were represented by type IV WHO lupus nephropathy. Thrombocytopenic purpura and nephrotic syndrome were remitted by treatment with corticosteroids and physical examination at 12 months after the end of prednisone therapy did not show relapse. During the treatment with prednisone, HCV infection was not activated. We discuss the relation between HCV infection \_ Interferon \_ autoimmunity and the presence of lupic syndrome, thrombocytopenic purpura and nephrotic syndrome.

**Key words**

Nephrotic syndrome - idiopathic thrombocytopenic purpura - systemic lupus erythematosus - interferon-alpha

**A Case Report of a Patient with Genetic Haemochromatosis**

Slobodan Ka#158;iæ1, Vladimir Vukèeviæ1, Miodrag Borzanovic2, Milutin Miriæ2, Dušan Djurdjeviæ1, Branka Dapèeviæ1

**Abstract**

We present a case of a 39-year old woman who was referred to us with symptoms of an advanced stage of heart failure, accompanied by latent diabetes mellitus and incipient liver cirrhosis. After the diagnostic tests which included laboratory investigation, endoscopy, heart catheterisation, biopsies of heart muscle and liver using the hepatic iron index, a diagnosis of genetic haemochromatosis was established. Although the prevalence of this disorder is relatively low, the possible existence of haemochromatosis must always be considered in the case of patients who are referred with signs of cardiomyopathy or liver cirrhosis of unknown cause, because the specific therapy which consists of phlebotomies may be lifesaving.

**Key words**

Genetic haemochromatosis - liver cirrhosis - myocardio-pathy

**Caroli's Disease and Caroli's Syndrome: CT Findings**

Horia Marin, Jorge Chain, Rafik Sakri, Phillippe Nusbaum, Catherine Turnani

**Abstract**

Caroli's disease is a congenital disease characterized by a non-obstructive, multifocal segmental dilatation of intrahepatic bile ducts. It may appear isolated or associated to congenital hepatic fibrosis and various renal anomalies. We present two patients: one with Caroli's disease (a 80 year old female) and the other with Caroli's syndrome (a 45 year old male), illustrated with suggestive CT images. The CT findings included, for the first patient, diffuse cystic dilatation of intrahepatic biliary tree with the presence of enhanced portal radicals (central dot sign). The second patient presented saccular dilatation of biliary ducts of the 7th hepatic segment with intraluminal protrusion representing enhanced portal radicals, dysmorphic liver, signs of portal hypertension, nephrolithiasis on medullary sponge kidney. Enhanced computed tomography gives not only a strong orientation for the diagnosis of Caroli's disease (segmental dilatation of intrahepatic bile ducts with central dot sign) but also may show many associated anomalies (liver dysmorphism in congenital hepatic fibrosis, renal anomalies) proving to be a powerful diagnostic tool.

**Key words**

Computed tomography - Caroli's disease - Caroli's syndrome