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**Abdominal compartment syndrome
secondary to acute necrotizing
pancreatitis**

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SEPO

Editorial
Celiac disease: bleeding. Have we identified the risk factors for massive bleeding yet?
J. W. Berca Valencia 65

Trabajos Originales
Risk factors for severity and recurrence of colonic diverticular bleeding
N. Aragón, P. Cabero, A. Arduas, M. Escobar and N. Guzmán 67

Manosquepilot and inflammatory bowel disease: the other diagnosis?
J. Bermejo, A. Rojas, S. López-Castaño, J. Cuervo, M. Acuña-Barca, M. Hernández-Serna,
C. García, M. de la Cruz, D. Barrio and A. López-Castaño 69

Influence of sustained 48-hr response on the regression of fibrosis and portal hypertension in cirrhotic HCV patients treated with antiviral therapy
A. Riera, J. Cabero, W. J. López-Alas, I. L. Fariña, M. T. Arce, A. Galván, F. Castiella, E. Fabrega and J. Crespo 70

Malnutrition risk questionnaire combined with body composition measurement in malnutrition screening in inflammatory bowel disease
A. A. Cortés, A. Muñoz, Z. Pri, I. Pall and P. Muñoz 71

A survey-based analysis of endoscopic quality indicators compliance among Spanish endoscopists
I. Fernández-Cruz, F. Argüelles, P. Alonso, J. Salas and B. Soriano 72

Revisión
Endoscopic resection of colonic polyps in patients on antiplatelet therapy: an evidence-based guideline for clinicians
G. Plaza, M. Bustamante-Salán, C. Salinas, F. Díaz and M. J. Cuervo 73

Indicadores en Patología Digestiva
Neutrofilos de la arteria mesentérica superior: una causa infrecuente de obstrucción intestinal
J. Sempere Jaquea, P. Abellán-Serna y J. C. García-Pérez 74

Neumotórax agudo intratorácico
A. F. Romero-Muñoz y R. Barrio-Zalaga 75

Tumores de Wilms a cinco años de diagnóstico
C. Oña-Solís, C. C. Hernández-Seg, J. Pineda-Rodríguez y A. N. González-Fernández 76

Endoscopic retrieval of trichobezoars in a schizophrenic patient
J. L. Bermejo-Hernández, M. E. Torres-Castro and M. Trujillo-Rodríguez 77

All that glitters is not gold. A different cause for an "obscure colitis"
A. Pineda, W. Shu, J. Vila-Buen and G. Navarro 78

Lesión de Bowdler: diagnóstico por gastroscopia
R. Barrio-Solís, M. N. Barrio-Solís, M. del Pozo J. J. E. Domínguez Muñoz 79

Notas Clínicas
Celiac crisis in adults: a case report and review of the literature focusing in the prevention of relapsing syndrome
M. de Alarcón-Naranjo, V. L. Barrio-Cabral and S. L. Lopera 80

Hemangiomas: benign pathosis. Una localización infrecuente de tumor vascular?
I. Abellán, J. M. García-Cerdillo, L. Aguirre-Duque, A. W. Quintana-Rivera y A. Collado-Arce 81

Hemotilia por erupción papilar intracolónica
C. Pérez-Carpas, A. Escobedo-Sánchez, M. A. Paredes-Capó, J. Arangul-Arribas y C. García-Delgado 82

Endoscopic removal of intubated large nasogastric tubes: a case report
M. Quintana-Rivera and S. López-Muñoz 83

Mesenteric schwannoma: an unusual cause of abdominal mass
A. Tapia-Palacio, M. R. Ramos-Vázquez, J. C. Cortés-Ramón, J. Cornejo-Laraño and L. Cortés-Pérez 84

Cartas al Editor
Neoplasia neuroendocrina intestinal, un tumor poco habitual
M. de Barrio-Solís, J. Barrio-Solís and M. N. Barrio-Solís 85

Prevalencia intestinal de infección por helicobacter pylori en gastroenterología y cirugía de Barroet, patología infrecuente y poco conocida
V. Pineda-Vargas, D. W. Acosta y L. A. Abellán 86

Perforación endoscópica iatrogénica en un paciente con múltiples divertículos
Y. Su, H. Zhu and D. Liu 87

Actinobacillus baumannii: un patógeno infrecuente en el diagnóstico diferencial de abscesos agudos
C. Sánchez-Sánchez, L. Guevara-Nieto y J. A. Abellán-Paredes 88

Perforación iatrogénica de divertículos de intestino delgado en paciente con síndrome de Ulceras de Crohn
R. Hernández-Cabrera, A. Burgos-Cabrera y E. Palencia-López 89

Altoplexia anal: una manifestación paraneoplásica de un adenoma actínico gástrico
J. L. Barrio-Solís, F. Hernández-Solís y J. de la Fuente-Aguado 90

Revisores 2016 91

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Abdominal compartment syndrome secondary to acute necrotizing pancreatitis

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Key words: Abdominal compartment syndrome. Acute pancreatitis. Decompression. Intra-abdominal pressure. Intra-abdominal hypertension. Necrotizing pancreatitis. Surgery.

Dear Editor,

Severe acute pancreatitis occurs in around 20% of patients and is associated with mortality rates between 8-40%. Abdominal compartment syndrome is a fatal complication that is associated with new organ failure or acute worsening of existing organ failure and has an associated mortality of around 60%. Intra-abdominal pressure measurements are recommended in patients with risk factors for intra-abdominal hypertension or abdominal compartment syndrome. Management should be based on a step-up method and surgical intervention may be indicated when conservative treatment fails.

Case report

A 60-year-old man with a history of multiple episodes of mild acute gallstone pancreatitis was hospitalized due to a new episode of a suspected biliary origin. The patient was admitted to the Intensive Care Unit after eight days due to a deterioration in his condition. This included acute oliguric renal failure, leukocytosis of 19,940/mm³, metabolic acidosis (pH 7.3, base excess -4 mmol/l, bicarbonate 21.6 mmol/l), lactate at

2.2 mmol/l and creatinine at 2.1 mg/dl.

Seven days later, the disease progressed to necrotizing pancreatitis with diffuse extra-pancreatic necrosis. Percutaneous drainage of the largest necrotic collection was performed; the patient's response during the following days was unsatisfactory based on computed tomography (CT) results. A progressive worsening occurred with multi-organ dysfunction and hemodynamic instability (hemoglobin 6.8 mg/dl, pH 7.1, lactate 13.2 mmol/l) and a sustained intra-abdominal pressure of 21-22 mmHg. An urgent CT scan (Fig. 1) showed diffuse pancreatic necrosis, several collections with acute hemorrhage that reached the omental transcavity and associated gastric and liver compression with visceral infarctions.

An emergency decompressive laparotomy was performed with a compressive hematoma evacuation and necrosectomy including the majority of the pancreatic parenchyma. The disease progressed further with refractory multi-organ dysfunction and septic shock, and the patient died 20 days after the initial admission.

Discussion

Severe acute pancreatitis occurs in 20% of patients and is a risk factor for abdominal compartment syndrome (ACS) (1). ACS is a serious complication of acute pancreatitis associated with a mortality rate of around 60%. ACS is defined as a sustained intra-abdominal hypertension (IAH) (pressure over 20 mmHg) that is associated with new onset organ failure or acute worsening of existing organ dysfunction (3). IAH usually occurs within the first week after diagnosis of severe acute pancreatitis (1). Routine pressure measurements are recommended when any known risk factor for IAH or ACS is present, with a management approach based on a step-up method (3). Emergency surgery should be performed when conservative treatment fails.

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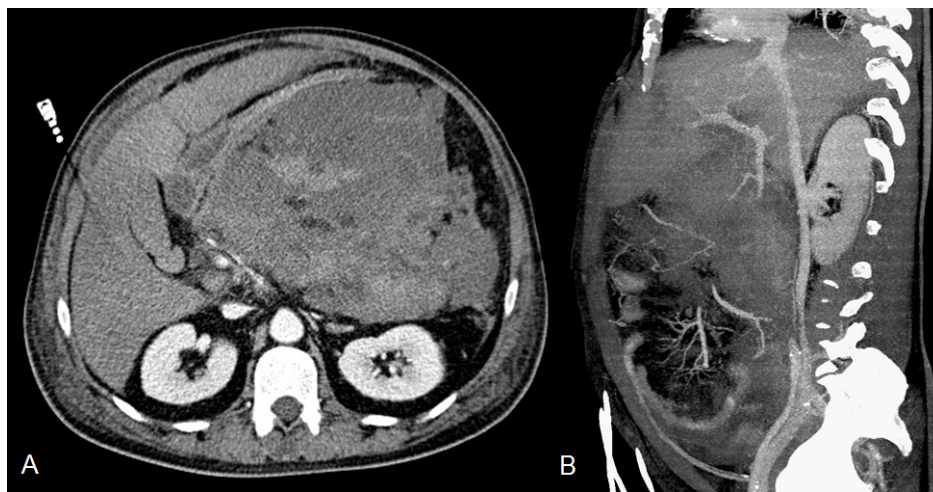


Fig. 1. Abdominal CT scan. A. Extra-pancreatic and acute hemorrhagic collections, gastric compression and collapse, severe hepatic artery stenosis and splenic parenchymal and left liver lobe hypodensities (visceral infarctions). B. Loss of normal pancreatic anatomy and inflammation containing the arterial tree and porto-spleno-mesenteric venous trunk.