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Cancer Mortality in Romania, 1955-2004. Digestive Sites: Esophagus, Stomach, Colon and Rectum, Pancreas, Liver, Gallbladder and Biliary Tree

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Abstract

Aim: Until recently, gastric cancer was the most frequent digestive neoplasia in our country. Our study presents the first synthesis of data regarding mortality rates from digestive cancers, for a period covering 50 years, in Romania. **Methods:** Age-standardized mortality rates /100,000 population, general and/or per gender, concerning six digestive cancers, were identified from the statistics of IARC/OMS (Lyon, France) (years 1955-2002) and of the Ministry of Public Health (Bucharest, Romania) (year 2004). For 2002, incidence and mortality rates per sex from digestive cancers were available and case fatality ratios could be calculated as an approximation of survival rates, as well as sex ratio. **Results:** Age standardized mortality rates per sex and cancer site registered the following changes: esophageal cancer increased from 2.03/0.62 (M/F) to 2.8/0.5; gastric cancer registered a decrease, from 33.14/18.77 to 17.0/6.6; colorectal cancer increased from 4.65/4.57 to 13.6/9.0; pancreatic cancer increased from 5.50/2.92 to 8.1/4.2 and liver cancer (including peripheric cholangiocarcinoma) increased from 1.77/0.83 to 8.8/3.9. In our population, the case fatality ratio appeared to be better only in colorectal cancer, 0.61 in males and 0.62 in females, respectively. Sex ratio was highest for esophageal cancer (males/females 5.8/1) and lowest for colorectal cancer (1.5/1). **Conclusions:** Our study found opposite trends in the mortality rates from digestive cancers, with gastric cancer rates decreasing and the other five digestive cancers increasing. A new hierarchy of digestive cancers has been drawn up, with colorectal cancer as the main cause of death, and gastric cancer in second position, followed by pancreatic, liver, esophageal, and gallbladder and biliary tree cancers. **Keywords** Mortality - cancer - esophagus - stomach - colon and rectum - pancreas - liver - gallbladder and biliary tree

Endoscopic Ultrasound-guided Fine Needle Aspiration Biopsy in the Diagnosis of Gastrointestinal Stromal Tumors of the Stomach. A Study of 17 Cases

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Abstract

Aim: The gastrointestinal stromal tumor (GIST) is an uncommon tumor usually diagnosed by endoscopic biopsy or surgical resection. We evaluated the efficacy and accuracy of endoscopic ultrasound (EUS)-guided fine-needle aspiration (FNA) biopsy in the diagnosis of GIST.

Method: Seventeen patients with gastric GIST diagnosed by EUS-guided FNA were included in this study (from 2005 to 2007). A single endosonographer performed all procedures. An attending cytopathologist was present on site to assess specimen adequacy. All tumors were reviewed for EUS, cytomorphologic, histologic and immunohistochemical features. **Results:** Eleven patients (64.7%) were male and six (35.5%) were female, with a median age of 60.7 years. The clinical indication for EUS-FNA procedure in all patients was the evaluation of submucosal tumor. EUS revealed a solid hypoechoic tumor in all cases with the largest diameter being from 9.5 mm to 70 mm (median diameter 31.9 mm). Cytologic specimen was adequate upon on-site evaluation in all cases, with an average of two passes performed. Spindle cells were present in the cytologic material in all cases and epithelial cells in two cases. Nuclear irregularities and mitoses were not observed. Immunohistochemical (IHC) stain in cell blocks confirmed the c-kit and CD34 positivity in all cases. There were no false negative or false positive findings. **Conclusions:** This is the first study of EUS-guided FNA procedure in the diagnosis of gastric GIST in Greece. We demonstrated that EUS-FNA provides accurate diagnosis of GIST in combination with IHC reactivity for c-kit, performed in adequate cytology specimens obtained by FNA.

Keywords Endoscopic ultrasound - fine-needle aspiration biopsy - gastrointestinal stromal tumors - stomach

Angiotensin II Type 1 Receptor Antagonist Improves the Prognosis in Rats Displaying Liver Cirrhosis Induced by a Choline-Deficient Diet

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Abstract

Background. Angiotensin II type 1 receptor (AT1) antagonists are known to suppress TGF β and lipid peroxidation. An experimental rat model made by feeding rats a choline-deficient diet (CDD) showed severe steatosis, fibrosis and infiltration of inflammatory cells in the liver resembling nonalcoholic steatohepatitis (NASH). NASH causes fibrosis by lipid peroxidation. In this study, we assess whether AT1 antagonists and angiotensin II type 2 receptor (AT2) antagonists can suppress the hepatic fibrosis and lipid peroxidation in CDD rats that lead to the development of NASH. **Methods:** Both study groups received subcutaneously aqueous solutions of AT2 antagonist (PD123319 – 1 mg/kg/day) and AT1 antagonist (L158809 – 1 mg/kg/day), respectively, 6 times per week. On day 90, some rats (5 /group) were sacrificed by excision of the liver under anesthesia, in order to assess the hepatic hydroxyproline (HP), malondialdehyde (MDA), total glutathione, superoxide dismutase (SOD) activity and TGF β -1. The remaining rats were maintained to observe the survival rate. **Results:** All CDD rats developed liver cirrhosis. However, the tissue TGF and HP decreased in AT1 antagonist group in comparison with the other two groups. All groups of CDD rats showed strong adipose hyperoxidation. The AT1 antagonist group demonstrated a markedly improved survival rate in comparison to the other two groups. **Conclusion:** Hepatic fibrosis progression in the AT1 antagonist group was slower than that in the other groups. This observation suggests that AT1 antagonists delayed the progression of liver failure, which thus led to an improved survival rate.

Keywords Angiotensin II receptor - choline-deficient diet - nonalcoholic steatohepatitis - lipid peroxidation – hepatic fibrosis

Postprandial Walking but not Consumption of Alcoholic Digestifs or Espresso Accelerates Gastric Emptying in Healthy Volunteers

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Abstract

Background: Postprandial consumption of alcoholic beverages with high ethanol concentration (so-called digestifs) is a widespread custom to alleviate dyspeptic symptoms after comprehensive meals. Alcoholic beverages preprandially ingested inhibit gastric emptying rate of solid meals. However, the effect of a postprandial intake has never been studied in a controlled manner. **Methods:** In 10 healthy male subjects gastric emptying was repeatedly studied by ultrasonography after the intake of a 576 kcal meal. Immediately after the meal subjects received in a randomized order 40 ml of the following liquids: brandy, herb flavored liqueur, Williams pear brandy, aquavit (each 40 % (v/v) ethanol concentration), espresso, water, 40% (v/v) ethanol and 70% (w/v) glucose. Postprandial satiety, fullness and bloating were determined on a visual analogue scale every 10 minutes. On another occasion subjects received 40 ml of water and walked afterwards slowly (4 km/h) on a treadmill. **Results:** Gastric half emptying time ($t_{1/2}$) of the meal with water was 123 ± 5 min, while with brandy (119 ± 9 min), herb flavored liqueur (123 ± 10 min), aquavit (125 ± 9 min), Williams pear brandy (126 ± 6 min) or espresso (125 ± 9 min) $t_{1/2}$ it was not significantly different. Postprandial walking accelerated $t_{1/2}$ significantly (107 ± 5 min, $p=0.02$). Dyspeptic symptoms were unchanged. Blood ethanol concentrations were under the level of detection (< 5 mg/dl). **Conclusions:** Postprandial consumption of alcoholic digestifs did not affect gastric emptying rate of a solid meal nor postprandial dyspeptic complaints. However, postprandial walking accelerated gastric emptying of the meal but this had no effect on dyspeptic symptoms.

Keywords Gastric emptying - ultrasound - alcohol - coffee - walking

Clinical and Surgical Profile and Follow Up of Patients With Liver Hydatid Cyst from an Endemic Region

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Abstract

Aim: The aim of this study is to present the changes in the treatment of liver hydatid cyst during the last 20 years in our clinic according to literature data. **Material and methods:** Clinical, laboratory and operational findings and pre- and postoperative complications of 650 from 700 patients with liver hydatid cysts, examined and treated at Selcuk University Meram Medicine Faculty, General Surgery Department, between 1985-2005, were evaluated in two groups: 1st period (1985-1995) and 2nd period (1995-2005). **Results:** 436 of the cases were females (67.1%)

and 214 (32.9%) males. The mean age of the females was 35 years (ranges 10-73) and of the males 46 years (ranges 12-76). Surgical treatment comprised radical and obliterative conservative techniques in the first period, while non-oblitative conservative techniques and percutaneous puncture and aspiration of the cyst, injection of scolex eliminating substance and reaspiration (PAIR) were preferred in the second period. During the follow-up (498 cases were followed for a mean period of 32 [12-72] months), recurrence occurred in 12 in the first period and in 9 in the second period, a total of 21 patients (4.21%). **Conclusion:** We consider that regardless of the surgical treatment used in liver hydatid cyst cases, combination with chemotherapy is the safest and most effective approach.

Keywords Echinococcus granulosus - liver hydatid cyst - surgical treatment.

Transthoracic Approach (TTA) for Subdiaphragmatic Liver Metastasectomy

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Abstract

Background. Hepatic and pulmonary recurrences are major determinants of survival for patients who have undergone curative resection of colorectal carcinoma. In a selected group of patients, resection of metachronous, liver and lung metastases prolongs survival despite the aggressive nature of these lesions. The experience from an exclusive transthoracic, transdiaphragmatic approach (TTA) is limited. We present our experience with metastasectomy in patients with metachronous liver and right lung metastases, in whom an exclusive transthoracic approach was performed. **Methods.** Between 2002 and 2007, seven patients with metachronous colorectal liver and right-lung metastases, underwent an exclusive transthoracic approach. There were five men and two women, with a median age of 69 years (range 55 to 78 years). Liver resections performed included segmentectomy of segments VII, VIII, or both. Previous operations, including colon resection, adhesiolysis, ventral hernia repair, or transabdominal segment V resection, were performed in all patients. **Results.** No peri-operative mortality was documented. Morbidity included pleural effusion (n=3) and post-operative pneumonia (n=1), which responded to conservative management. Median hospital stay was 8 days (range 5-12 days). With a median follow-up of 31 months, one patient died of generalized disease. **Conclusion.** The factors that led to the increase of performances in colonoscopy in our department were the use of proper sedation and analgesia, the permanent internal audit of the maneuver, as well as the motivation of the endoscopist to obtain good results.

Keywords Colorectal carcinoma - liver metastases - lung metastases; diaphragmatic plication - TTA

Postoperative Complications Linked to Pancreaticoduodenectomy. An Analysis of Pancreatic Stump Management

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Abstract

Aims. To analyze the role of different procedures in the management of pancreatic stump according to the incidence of postoperative morbidity derived from the data of a single center surgical population. **Methods.** From 1989 to 2005 we performed 76 pancreaticoduodenectomies (PD) and 26 distal pancreatectomies (DP). The surgical reconstruction after PD was as follows: 11 manual non-absorbable stitches closure of the main duct, 24 closures of the main duct with linear stapler, 17 occlusions of the main duct with neoprene glue and 24 duct-to-mucosa anastomosis. **Results.** In the PD group, the morbidity rate was 60%, caused by: pancreatic leakage in 48% of patients, hemorrhagic complications in 10% following surgical procedure and infectious complications in 15%. After DP we recorded: leakage in 3.9%, haemoperitoneum in 15.4% and no complications in 80.7%. The multivariate analysis showed that the in-hospital mortality was linked to the surgical procedure (PD, $p=0.003$) and to the following complications: pancreatic leakage ($p=0.004$), haemoperitoneum ($p=0.00045$) and infectious complications ($p=0.0077$). Bleeding complications, biliary anastomosis leakage and infectious complications were consequences of pancreatic leakage ($p=0.025$, $p=0.025$ and $p=0.025$ respectively). **Conclusion.** Manual non-absorbable stitch closure of the main duct and occlusion of the main duct with neoprene glue should be avoided in the reconstructive phase.

Keywords Pancreaticoduodenectomy - postoperative complication - anastomotic leak - Whipple's procedure

Combined-Modality Therapy with Sphincter-Preserving Total Mesorectal Excision for Locally Advanced Rectal Cancer: Patient's Age and Long-term Outcome

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Abstract

Background. In rectal cancer patients anterior resection with total mesorectal excision (TME) results in good functional outcomes, optimal local control and improved survival. However, patients with locally advanced tumours still have a high risk of oncological relapse and may benefit from neo- or adjuvant therapy. **Aim.** The purpose of this study was to identify the clinico-pathological features related to poor prognosis after sphincter-saving curative combined-modality therapy for rectal cancer. **Material and method.** Forty-eight consecutive patients with UICC stage II and III rectal carcinoma operated on with TME were studied prospectively. Fifteen patients received neoadjuvant radiotherapy and postoperative chemotherapy; for the remainder combined adjuvant chemoradiotherapy was given. **Results.** Five-year cancer-specific survival rate was 49%. Patient's gender, tumour location, grade, mucinous histology, direct tumour spread, type of growth margin and lymphocytic tumour infiltration were revealed to be factors without statistical importance. Only the positive nodal status (31.6 ± 11.0 vs 61.5 ± 9.7) and the patient's advanced age (38.5 ± 9.7 vs 63.2 ± 11.4) were significantly related to decreased survival rate ($p=0.038$ and 0.048 , respectively). In multivariate analysis both parameters independently influenced poor prognosis ($p=0.045$ and 0.038 ; Relative Risk 2.26 and 2.13; Odds

Ratio 4.21 and 1.07, respectively). **Conclusions.** An elderly patient's age seems to be an independent prognostic factor associated with poor survival after curative treatment for locally advanced rectal cancer even when non-cancer causes of death are excluded. Thus, for older patients adjuvant therapy should be an integral part of treatment with the careful benefit-toxicity analysis.

Keywords Rectal cancer - total mesorectal excision - anterior resection - combined-modality therapy

Recurrence Pattern of Fistula-in-Ano in a Chinese Population

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Abstract

Background and aims: Fistula-in-ano is a common colorectal complaint. Despite of the advancement in preoperative imaging and surgical techniques, recurrence is not uncommon in this disease entity. We aimed to determine the recurrence pattern and predictors of FIA in Chinese population. **Methods:** Setting: single regional hospital serving a 300,000 population. Design and Participants: A systematic retrospective review of inpatient and follow up records and operation records in patients with diagnosis of fistula-in-ano (ICD code - 565.1) from January 2001 to December 2004 was performed. Intervention: Surgery for fistula-in-ano. **Results:** 135 out of 137 Chinese patients received anal fistula operations. 14 patients (10.4%) had high type anal fistulas and 27 patients (20%) had perianal sinus. The most common operation was combined fistulotomy-fistulectomy (78 patients, 57.8%). 18 patients (13.3%) had recurrence with a median time to recurrence of 7.5 months. Six factors including: 1) positive history of perianal abscess, 2) previous perianal operation, 3) complex fistula, 4) perianal sinus, 5) absence of an internal opening, 6) surgical procedure of sinus tract excision were significantly associated with recurrence in univariate analysis. Sinus tract excision was the only independent factor to predict recurrence in logistic regression ($p=0.002$, 95%CI=1.29-3.27). **Conclusion:** Fistula-in-ano carried a significant risk of recurrence in perianal sinus with sinus tract excision performed. No difference was found between Chinese and Caucasian in recurrence pattern of fistula-in-ano.

Keywords Fistula-in-ano - recurrence - endoanal ultrasound

REVIEWS

Principles and Applications of Gene Therapy in Colon Cancer

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Abstract

Colorectal cancer is one of the leading causes of mortality and morbidity. Mutations and aberration of some of the genes may lead to colon cancer. With advancing knowledge, more and more defective genes can be identified. Theoretically, correction of these defective genes, selective overexpression of certain genes may lead to not only prevention of cancer development but also regression of existing cancer. Carcinogenesis is a multistep process and more than one gene may be altered. At present, the success of gene therapy as a stand alone therapy is limited by poor expression and long-term non-expression of transferred genes, immunological effect on the viral vectors, viraemia, leukaemia and occasional deaths. Further experiments and trials are underway to modify the vectors and genes to make sure gene therapy is safe, effective and long-lasting before it can be used in day-to-day practice.

Keywords Gene - gene therapy - oncogene - colon cancer - vectors - plasmid

Updating the Management of Rectal Cancer

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Abstract

In the last 25 years rectal cancer has changed from a surgically managed disease into a multidisciplinary treatment model. Accurate staging has a critical role in the decision-making process of patients with rectal cancer. The four most commonly used imaging modalities in the pretherapeutical staging include endoscopic ultrasound, computerized tomography, magnetic resonance imaging and positron emission tomography.

Locoregional tumor control in rectal cancer surgery has improved significantly over the last 15 years, after the introduction of total mesorectal excision (TME), which leads to the complete removal of the intact mesorectum including the lymphatics, lymph nodes, nerves, and vascular supply.

At the present time, given the improved local control, acute and long-term toxicity profile, and sphincter preservation rate, patients who require combined modality therapy should receive concomitant radiochemotherapy preoperatively. Recently, the novel ‘targeted’ therapies have been incorporated into a multidisciplinary approach for rectal cancer.

Keywords Rectal cancer - surgery - radiochemotherapy

CASE REPORTS

Intestinal Pseudo-obstruction – a Rare Condition with Heterogeneous Etiology and Unpredictable Outcome. A Case Report

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Abstract

Intestinal pseudo-obstruction (IPO), either acute or chronic, is a condition including features of intestinal ileus in the absence of mechanical obstruction. We present such a rare case of idiopathic IPO in a 53-year old male patient in whom recurrent episodes of pseudo-obstruction were successfully resolved by anticholinesterase agents, motilin agonists or colonic decompression. However, subsequently total colectomy was required. Huge colonic dilatation was identified intraoperatively, while histology evidenced a neuropathic variant of chronic intestinal pseudoobstruction. IPO is a condition in which conservative treatment usually fails. Total colectomy with ileoanal pouch was the solution in our patient.

Key words Intestinal pseudo-obstruction - motilin agonists - colonoscopic decompression - total colectomy ileoanal pouch

Management of Boerhaave's Syndrome: Report of Three Cases

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Abstract

From 2000 to 2005, three patients with Boerhaave's syndrome were successfully managed in our Department. Two of them received the appropriate treatment belatedly, with primary closure and bolstering tissue wrap. One of them required further intervention with a cervical esophagostomy and exclusion of the perforated esophagus. The third patient with an esophageal perforation related disorder, was managed with surgical exploration and drainage alone. Primary suturing of the esophagus should be performed only in patients with an early perforation. In cases of prolonged delay between rupture and diagnosis, esophageal resection with cervical esophagostomy and gastrostomy is advocated as the safest therapy.

Keywords Primary esophageal perforation - Boerhaave's syndrome - current treatment

Bouveret Syndrome Associated with Acute Gangrenous Cholecystitis

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Abstract

An 89-year-old patient was hospitalized with signs of acute lithiasic cholecystitis and gastric emptying failure. The decision for surgery was taken and a subhepatic block was evidenced, caused by a perforated gangrenous cholecystitis with pericholecystic abscess, a cholecysto-antroduodenal fistula with two gallstones, 9/5 and 4/3 cm in size, impacted in the duodenum. It was necessary to perform an Y-en-Roux antroduodenojejunal anastomosis because an

antroduodenal parietal defect resulted after the removal of the gangrenous gallbladder. The immediate and long term postoperative evolution in terms of anastomosis functionality was good.

Keywords Gangrenous cholecystitis - Bouveret syndrome - Y-en - Roux antroduodenojejunal anastomosis

Retractile Mesenteritis Presenting with Malabsorption Syndrome. Successful Treatment with Oral Pentoxifylline

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Abstract

Retractile mesenteritis is a rare benign inflammatory disease of the mesentery. Computed tomographic findings usually suggest the diagnosis, which is confirmed by surgical biopsies. Conservative treatment is empirical, based on corticosteroids, colchicine, immunosuppressive agents and progesterone. Surgical resection is sometimes attempted for definitive therapy, although the surgical approach is often limited. This report describes a 62-year old man with histologically proven retractile mesenteritis presenting with malabsorption syndrome, who presented pulmonary tuberculosis after initial therapy with corticosteroids. He was subsequently treated with oral pentoxifylline (800 mg/day), with substantial clinical and radiological improvement.

Keywords Retractile mesenteritis - malabsorption syndrome - pentoxifylline

CLINICAL IMAGING

Confocal Endomicroscopy for in vivo Microscopic Analysis of Upper Gastrointestinal Tract Premalignant and Malignant Lesions

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Abstract

Confocal LASER endomicroscopy (CLE) is a new endoscopic technique which allows subsurface in vivo microscopic analysis during ongoing endoscopy, using systemically or topically administered fluorescent agents. It allows targeted biopsies to be taken, potentially improving the diagnostic rate in certain gastrointestinal diseases. Worldwide experience with CLE for upper gastrointestinal malignant and premalignant lesions is still reduced. Potential clinical applications are presented, including diagnosis of NERD, Barrett's esophagus, atrophic

gastriitis, gastric intestinal metaplasia and dysplasia, gastric adenomatous or hyperplastic polyps, gastric cancer.

Keywords Confocal LASER endomicroscopy – malignant / premalignant digestive lesions

Splanchnic Artery Aneurysms: the Diagnostic Contribution of Ultrasonography in Correlation with other Imaging Methods

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Abstract

Splanchnic artery aneurysms are localized vascular dilatations having a progressive evolution and leading towards severe complications (depletive rupture, distal emboli, organ ischemia). Treatment can be efficient when the condition is detected in time. The imaging techniques are highly efficient when it comes to detecting and locating splanchnic aneurysms. Each method has its own features. By knowing them, there is a better chance to track down the disease at an early stage.

Keywords Splanchnic aneurysm - imaging - ultrasonography - CT - MRI - digital angiography