First Pancreatic Days Romania 2007 – 5th Meeting of Pancreas Club Cluj Romania

Contents

Brief Meeting Report  
Barbu, S.T. (Cluj); Andrén-Sandberg, Å. (Stockholm) 402

Selected Abstracts  
Abstracts 1–15 405

Author Index 411
The Romanian Association for Pancreatology Study – ‘Pancreas Club Cluj Romania’ (PCCR), one of the youngest national Pancreatic Clubs in Europe, reached its Fifth Annual Meeting, called ‘First Pancreatic Days Romania 2007’ in October. After the previous four meetings with a specific topic for discussions (2003 – ‘Advances in diagnosis and management of pancreatic tumors’, 2004 – ‘Chronic pancreatitis: new trends in diagnosis and treatment’, 2005 – ‘Diabetes mellitus secondary to pancreatic diseases’, and 2006 – ‘Pancreatic exocrine insufficiency and gastrointestinal surgery’), the 2007 conference was the first international pancreatology meeting in Romania, and its main goal was to provide an overview of the current knowledge of pancreatic diseases by internationally recognized experts.

And indeed, renowned pancreatologists from all over the world accepted our invitation and gave us the benefit of their knowledge in state-of-the-art lectures and discussions: David Whitcomb (Pittsburgh), Paul Lankisch (Lüneburg), Jakob Izbicki (Hamburg), Colin Johnson (Southampton), Peter Layer (Hamburg), Enrique Dominguez-Munoz (Santiago de Compostella), Isto Nordback (Tampere), Christos Dervenis (Athens), Claudio Pasquali (Padova), Julia Mayerle (Grefiswald), Alexander Schneider (Mannheim), Stefano Crippa (Verona), Gyula Farkas (Szeged), Attila Olah (Györ), Åke Andrén-Sandberg (Stockholm), and from Romania: C. Ionescu-Tirgoviste, I. Popescu, (Bucharest), C. Dragomir, L. Lefter (Iasi), A. Saftoiu, V. Surlin (Craiova) and A. Buzoianu, R. Badea, M. Cazacu, T. Ciuceanu, A. Mihailov, D. Munteanu, P. Mircea, M. Tantau, I. Veresiu, S.T. Barbu (Cluj-Napoca).

The meeting was held in Cluj-Napoca, the cradle of the Romanian Association for Pancreatology Study, an old town built on the ruins of the Roman city Napoca. During the Austro-Hungarian Empire the city was called Clausenburg, and before World War Two, its surname was ‘the little Heidelberg’. The University of Cluj was founded in 1872, by the Austrian Emperor Joseph II. At this time, there were 21 students in Medicine. Now, the University of Medicine has more than 4,000 students. The city is a major conference venue and visitors can enjoy many attractions, including opera, theatres, art galleries, museums, the Botanical Garden, and much more. The city known as ‘the heart’ of Transylvania (northwestern part of Romania) became, during the meeting, the heart of Romanian pancreatology.

The Conference was a 4-day meeting and the scientific program has been arranged in such a way to create an interesting and stimulating environment, leading to a better understanding of pancreatitis and pancreatic tumors, and providing important steps forward in our endeavor to further improve prevention, diagnosis and therapy of pancreatic diseases. There were 48 state-of-the-art lectures and oral presentations, 34 posters, 119 registered participants and a successful social program (including a one-day trip to Vlad Dracula Castle). PCCR is accredited by the Romanian College of Physicians to provide continuing medical education, and participants were awarded with 24 CME credits. All congress delegates returned home scientifically and socially enriched. The meeting ended with the workshop ‘Pancreas 2007 – A Working Party on Romania’s Pancreatology Future’, aiming to build a national pancreatology network, and to establish professional relationships all over Europe.

The aim of this postgraduate educational conference was twofold. Firstly, it was focused on the marked progress in the understanding, diagnosis and management of pancreatic diseases that has been achieved within the last two decades. Secondly, it emphasized the numerous, clinically relevant problems which are still unsolved.

During the official opening of the Conference, welcome speeches were addressed to participants by M. Cazacu (Honorary President of the meeting), P. Mircea (Vice-Rector of the University of Medicine Cluj), P. Lankisch (IAP’s secretary), I. Popescu (President of the Romanian Society of Surgery) and S.T. Barbu (PCCR’s President).
was underlined that progress in pancreatology is based primarily on a close cooperation between gastroenterologists, visceral surgeons, radiologists, endoscopists and basic scientists. Unfortunately, one important discipline of the team – pathology – is not sufficiently present, since the pancreas is not as accessible to routine biopsy as other organs are. On the other hand, basic science has recently made major contributions for an improved understanding of the pathobiology of pancreatic diseases. In pancreatology like in physics, we have to recognize the idea which was expressed by the physicist and Nobel laureate W. Pauli (1900–1958): ‘The question is never: will the present theory remain or not, the question is always: in what direction will it change?’

The meeting began with pancreatic diseases epidemiology – from demography to molecular biology. Incidence of acute and chronic pancreatitis as well as the number of hospital admissions are increasing, and are associated with a substantial use of health care resources. For pancreatic cancer, international incidence rates vary in different countries, implying that environmental factors and genetic heritage are both important.

The session ‘Diagnosis in pancreatic diseases’ began in the field of imaging technology, which made marked advances over the last 10 years. Discussions focused on the cost-effective method to be used in everyday practice for each disease. It is clear that molecular markers aiming to identify pancreatic cancer should target on patients with early stage of the disease. Serum markers currently available are not sensitive enough for the detection of resectable tumor. Many molecular markers have been proposed, but most are not ready to be included as part of the routine diagnostic algorithm because they still lack sensitivity, specificity or reproducibility. CA 19-9 still remains the most useful molecular marker for the diagnosis and follow-up of clinically and radiologically evident pancreatic cancer. The session was closed by a classical clinical challenge with practical implications: patients with slightly elevated pancreatic enzymes and abdominal complaints. The physician must stratify diagnostic procedures according to acuteness and severity of symptoms, in order to differentiate between pancreatitis, pancreatic cancer or extrapancreatic causes, and choose the right treatment.

Acute pancreatitis was discussed during three long sessions. The opening was made by David Whitcomb, who presented the results of the North American Pancreatitis Study 2, a prospective, 5-year, 20-center molecular epidemiology study enrolling 1,006 patients with recurrent acute and chronic pancreatitis. Among the conclusions, it was stated that severe complications of acute pancreatitis are related to the immune response, which varies greatly, depending on factors as genetic variations, alcohol consumption, obesity, etc. Our future ability to predict the type and severity of complications in acute pancreatitis will be critical in limiting or preventing prolonged illness and death. After discussing what is evidence-based on alcohol and pancreatitis, definitions of severity, diagnosis and staging were reviewed. The proposed revision of the Atlanta Classification of acute pancreatitis was presented. Moreover, conservative, endoscopic and surgical treatment options for acute pancreatitis (why, when, how) were discussed. The session ended with Paul Lankisch’s lecture ‘Acute to Chronic Pancreatitis’, analyzing unpublished data from the Lüneburg group, where 532 patients with a first attack of acute pancreatitis were followed-up for a 20-year period. The conclusion was that acute pancreatitis evolves to chronic pancreatitis especially in alcoholics, 20% after a single acute episode, and 40% after recurrent attacks.

The chronic pancreatitis session was opened with a keynote lecture on pathogenesis, demonstrating that gene-environment interactions are triggering the disease. Unfortunately, we do not have gold standards for early chronic pancreatitis yet, and laboratory methods (both sensitive and specific) are lacking. We need Information about histology at early stages and its correlation with imaging findings. After discussing the M-ANNHEIM classification, we tried to answer the question: ‘How to avoid surgery in autoimmune pancreatitis?’ To do that, we must, first of all, think of the autoimmune form, after that, try to get the diagnosis, and try the corticosteroid therapy, but with a close patient monitoring, in order to avoid a missed diagnosis of cancer. Natural history of chronic pancreatitis was reviewed and a series of 136 Romanian patients, with an average follow-up of 15.6 years were analyzed, concluding that in the northwestern part of the country, the disease is characterized by early onset, and an evolution with multiple, severe complications, leading to repeated surgery. Endoscopic and surgical treatment for pain and complications were discussed and compared. The session was finally closed with a discussion on diabetes management aspects in operated and non-operated pancreatic patients, problem that requires a close collaboration between professionals.

Pancreatic cancer sessions focused mainly on the treatment options available for this devastating disease. As radical surgical resections offer the only chance for cure, most of the lectures referred to the surgical treatment: staging laparoscopy, evidence-based techniques with their results and complications (fistulas, hemorrhage), and finally, how we can achieve the best quality of such extended operations in specialized centers. Discussing the term of palliative pancreaticoduodenectomy, it was agreed that it can be used when: (a) a radical resection is undertaken, but the resection margins are microscopically involved, (b) tumor infiltration is encountered after the ‘point of no return’ was reached.
and (c) there is bleeding from the tumor. They are not to be used deliberately, and are not the equivalent of a debulking procedure. Colin Johnson commented that due to the short survival in pancreatic cancer even after resections with curative intent, all treatment options available for the moment can be regarded (from a philosophical point of view) as palliatives.

Two pancreas Pot-Purie sessions included subjects like: the surgical treatment of periampullary tumors (each with its particular prognosis and technique characteristics), the pancreatic neuroendocrine tumors (diagnosis and treatment), the guidelines for IPMN and mucinous tumors of the pancreas, and the pancreatic resections in the settings of multivisceral, complex surgery for cancers invading the pancreas.

Closing the conference, a short, challenging session ‘Dreams for the future’ was organized. Each speaker exposed what he is dreaming to have in pancreatology during the next years. Thoughts like: a multidisciplinary network for European research in pancreatology, markers for early pancreatic cancer diagnosis, personalized medicine, specific medication for acute pancreatitis, genetic-based surgery, better control of the inflammatory-immune response, and many others were recorded. During the following meetings, we will note which of them are still dreams, or have already been reached.

The last day Workshop was a debate on the present status and future perspectives of Romanian pancreatology. Achievements in different medical centers (Bucharest, Iasi, Craiova, Cluj-Napoca) were discussed, focusing on centralization for pancreatic diseases. Preliminary results of a national survey on acute pancreatitis diagnosis and treatment were analyzed. Methods to implement national guidelines and work-up of national registries were planned. The electronic registry for pancreatic cancer (developed from a national grant) was presented, and methods for data collection were discussed. PCCR’s President closed the session pleading for a close collaboration between the Romanian medical centers with precise research tasks for every team, aiming to obtain a national pancreatology network able to initiate multicenter trials and to contribute to a better national health policy in pancreatic diseases.

In conclusion, the ‘First Pancreatic Days Romania 2007’ meeting provided an outstanding, clinically focused program for clinicians with interest in pancreatic diseases. The content, quality and usefulness of the Conference were reflected by the strongly positive feedback of participants and speakers. We wish the Romanian Association of Pancreateology to become stronger every year, and to be able to fulfill its objectives.

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1 Percutaneous Drainage of Pancreatic Fluid Collections

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Introduction: Pancreatic fluid collections (PFC) complicating acute and chronic pancreatitis represent a diverse group of lesions of various causes, significance and treatments, and are reflective of the dynamic nature of pancreatitis.

Purpose: To assess patient's selection, techniques and results of PFC treatment using ultrasound guided percutaneous catheter drainage (PCD); to find predictors of successful outcome.

Methods: Between 1999 and 2002, PCD was used in 32 patients with PFC complicating pancreatitis (21 alcoholic, 9 biliary, 2 hypertriglyceridaemic, 1 idiopathic). Indications were: 11 acute postnecrotic pseudocysts, 13 abscesses, 4 organized pancreatic necrosis, 3 infected acute fluid collections and 1 tuberculous peritoneal empiema. Twenty-nine patients had unilocular collections, 2 had multilocular abscesses and one had two neighbouring pseudocysts. Multivariate regression analysis determined predictors of PCD success. Variables entered into the analysis included: type, diameter, location, complexity of PFC, and drainage technique (Seldinger or Trocar).

Results: Trocar technique was used in 20 patients and Seldinger technique in 12. Twenty-five patients were successfully treated with PCD alone, without PFC recurrence during the follow-up period (mean = 36 months). Catheter drainage duration averaged 29.6 days. The tuberculous peritoneal empiema needed a second PCD for a left subphrenic abscess. Surgical treatment was necessary in 6 patients: 2 infected pseudocysts (after 2 and 3 days for inefficient drainage, but with stabilization of sepsis), one multilocular abscess, and all 3 infected acute fluid collections. Pseudocyst recurrence occurred in one patient after 9 months. Trocar drainage technique (p = 0.03) and single PFC (p = 0.04) were independent predictors of successful outcome.

Conclusion: PCD should be considered as the initial therapy in selected patients with PFC, and as a staging method for the resolution of sepsis prior to surgery. Selection of patients, time of PCD performance, and a skillful technique with multiple and adequate size catheters insertion is of critical importance.

2 Magnesium Deficit as a Favoring Factor for the Onset of Diabetes in Acute Pancreatitis Patients

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Introduction: Magnesium (Mg) ion is a cofactor of the insulin activity. Mg deficit increases the insulin secretion. Persistence of this deficit and, consequently, of the chronic hyper insulin secretion may produce, in time, complete consumption of the pancreatic beta cells secretion.

Material and Method: We studied a number of 50 patients who were admitted with the diagnosis of acute pancreatitis in the Clinical Hospital of Oradea, during four years period 2000–2003. During the hospitalization, plasma glucose and the insulin blood level were measured in all patients. Insulin blood levels were decreased in 40% of the patients and 56% of them presented increased plasma glucose levels. Some of these patients (68%) needed insulin administration during the hospital stay. All patients were followed-up, each year within the next 5 years, and the following parameters were measured: fasting plasma glucose, insulin blood level, and levels of blood, erythrocytes and urinary Mg.

Results: Presence of Mg deficit (expressed by the decrease of plasma Mg and/or erythrocyte Mg and the increase of the urine one) was noted in 62% of the patients with pathologic history of acute pancreatitis. During the 5 years of follow-up after the acute pancreatitis episode, diabetes was diagnosed in 54% of the patients with Mg deficit and in 31% of the patients with normal Mg levels. The plasma insulin blood levels during those 5 years were initially normal or lower than normal, sometimes even higher, but, during the time, they had a descending trend.

Conclusions: Knowing the effect of Mg deficit on the glucose metabolism, our results suggest that substitution therapy can be considered in patients with history of acute pancreatitis. This therapy could reduce in time the onset of diabetes mellitus.

3 Hereditary Pancreatitis Age-at-Onset is associated with Multiple Genetic Risk Factors

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Summary Background Data: Hereditary pancreatitis (HP) is an autosomal dominant disorder of recurrent acute and chronic pancreatitis. HP is an autosomal dominant disorder of recurrent acute and chronic pancreatitis.

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pancreatitis. The age of onset and disease severity differ widely between individuals and families. The variability of phenotype expression in hereditary pancreatitis may be determined by genetic or environmental factors.

Methods: Subjects with HP and controls were prospectively ascertained under IRB approved protocols. Fifty-five HP subjects with established age-at-onset were classified into one of four 5-year intervals (a. 0–4y; b. 5–9y; c. 10–14y; d. 15 ≥ y). All subjects and 50 unrelated controls were genotyped for PRSS1 (exon 2 and 3), SPINK1 (N34S/exon2) and CFTR intron 6a, 8, 9 and exon 3, 10, 14a and 24 polymorphisms by PCR and sequencing.

Results: All HP patients had at least one mutation in PRSS1 gene (R122H, N21I, A16V, and R122C). SPINK1 N34S was detected in 11 HP patients and in two controls (p = 0.018). In HP subjects, CFTR gene variants were identified in exon 3 (R75Q), intron 6 (875 + 40A > G), exon 10 (delF508, 1540A > G) and intron 9 (1522-51A/G), intron 8 (GT repeats and polyT sequence), exon 14a (2694T > G) and exon 24 (4521G > A). The number of mutations per patient (including PRSS1) was (a) 2.68, (b) 2.09, (c) 1.75, (d) 1.5, while controls averaged 0.32 mutations/patient.

Conclusion: Gain-of-function mutations in the PRSS1 gene are associated with hereditary pancreatitis. The clinical feature, including age-at-onset is strongly influenced by other factors including genetic risk factors in SPINK1 and CFTR genes.

5 Surgical Treatment in Pancreatic Ascites without a Direct Approach to the Duct Disruption
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Introduction: Pancreatic ascites is an uncommon but well-recognized complication of chronic pancreatitis. Surgical treatment (either resection or permanent internal drainage) addresses the duct disruption, or the ruptured pseudocyst.

Case Report: A 51 years old male patient with chronic alcoholic pancreatitis was admitted with well-documented pancreatic ascites. After 3 weeks of unsuccessful conservative therapy, a severe duct disruption in the pancreatic neck area was shown by endoscopic retrograde cholangiopancreatography (ERCP). Endoscopy failed to place a transpapillary stent across the leakage site (the guide-wire went out through the duct disruption and failed to cannulate the pancreatic duct to the tail). Post-ERCP-pancreatitis develops, ascitic fluid became bloody and surgery was needed. At laparotomy, a 4 cm acute pseudocyst in the hilus of the spleen was found, with little, but continuous hemorrhage, which imposed a distal pancreatectomy with splenectomy. Because we could not find the leakage site, situated on the posterior wall of the pancreatic neck, we used a 6F tube (with multiples holes and guide-wire) to cannulate the 2 mm main pancreatic duct across the leakage site to the duodenum. The tube was brought out to the abdominal wall through the Roux-en-Y loop of a pancreatico-jejunostomy and was maintained for 3 weeks. Postoperative pancreatitis showed no leakage of the pancreatic duct. The patient recovered uneventfully, without recurrence of ascites (5 years follow-up).

Conclusion: Our procedure implies a minimal resection of the tail (with preservation of the spleen if possible) and a pancreatico-jejunostomy with anterograde pancreatic duct stenting. Patients with pancreatic ascites, no dilated pancreatic ducts and a duct disruption in the head, neck, or body area which can not be localized, will benefit from our procedure, in order to avoid an extensive resection (usually followed by pancreatic insufficiency) or an external drainage which will transform pancreatic ascites into a pancreatic fistula.

4 Endoscopic Retrograde Colangiopancreatography in Pancreatic Diseases: Results and Complications
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Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is a procedure used in the diagnosis and treatment of a wide variety of biliary and pancreatic diseases. Since its development, it has gained wide spread use and has become a valuable therapeutic tool in that field. Therapeutic ERCP is preferable to open surgery in terms of a lower risk of morbidity and mortality and at a lower cost. The purpose of this study is to assess the results and complications of ERCP during the period 2005–2006, when the method has been introduced in Targu-Mures Hospital.

Material and Methods: ERCP was performed in 201 patients, with a mean age of 52.3 years; 117 (58.2%) of the patients were males.

Results: ERCP procedure diagnosed: 59 choledocholithiasis (29.35%), 28 chronic pancreatitis (13.93%), 15 pancreatic cancer (7.46%), pancreatic lithiasis 7 (3.48%), pancreatic pseudocyst 4 (1.99%), biliary malignant stenosis in 19 patients (9.45%), biliary benign strictures in 4 patients (1.99%), and others (32.33%): odditis, biliary sludge, hydatid cysts, peripancreatic tumors etc. Gallstone removal accounted for most (29.35%) of the therapeutic ERCP indications and in 10 cases (7.29%) mechanical lithotripsy was used. In patients with gallstone acute pancreatitis, large endoscopic sphincterotomy was made. In 3 patients, biliary dilations were performed, and in 7 patients stents were inserted. Complications: there were high level amylases in 24 patients, 1 (0.49%) case of severe acute pancreatitis, and one patient with Dormia basket impacted in the main biliary duct containing a big stone – solved by surgery (0.49%).

Conclusions: Starting the therapeutic part of ERCP with small steps gives a reduced number of complications: there were 2 major complications: one severe acute pancreatitis and one patient who needed surgery for a captured Dormia basket. Urgent therapeutic endoscopic retrograde cholangiopancreatography should be performed in patients with acute pancreatitis caused by suspected or proven gallstone etiology.
6

**Psychosomatic Peculiarities in Patients with Chronic Pancreatitis**

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**Introduction:** Chronic pancreatitis (CP) is accompanied quite often by secondary psychosomatic disorders. These disorders aggrate CP clinical manifestations.

**Aim:** To study peculiarities of psychosomatic status in CP.

**Material and Methods:** 82 patients suffering from CP were examined. Patients’ psychosomatic status was assessed with the help of the follow tests: questionnaire CAM (condition, activity, mood), test of Spilberger-Hanin (level of situation and personal anxiety), method of evaluation of level of subjective control, modified Lusher’s color test, psychogeometrical test. 30 healthy persons were also examined.

**Results:** Examined patients had reliably decreased results of CAM questionnaire. Patients assessed their condition as 45 ± 4 units, activity – 43 ± 3 units, mood – 42 ± 5 units (in healthy correspondingly – 61 ± 3, 58 ± 4, 60 ± 4 units; for all data p < 0.05). Test of Spilberger-Hanin revealed, that 42 patients (51.2%) had high level of situation anxiety, its moderate level was revealed in 28 patients (34.2%) and minimal — in 12 patients (14.6%). In healthy correspondingly: 2 (6.7%), 4 (13.3%) and 3 (10.0%). High level of personal anxiety was revealed even more often – in 45 patients (54.9%), moderate – in 30 patients (36.6%), minimal – in 7 patients (8.5%). In healthy correspondingly: 3 (10.0%), 4 (13.3%) and 4 (13.3%). The following data was received evaluating level of subjective control: low data on score of general self-concept – in 45 patients (54.9%), of self-concept in the area of achievements, of self-concept in the area of failures, family and work relations (in control group – 5 persons – 16.7%). As by results of Lusher’s test patients with CP have low activity and motivation of achievements, indifference to possession of life goods, passive life attitude in comparison to the control group.

**Conclusion:** During CP evolution, intensive psychosomatic disorders are revealed. These disorders require a special attention, a psychological monitoring and administration of specific medication.

7

**Pancreatic Cancer in Patients with Chronic Pancreatitis: Incidence and Risk Factors**

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**Introduction:** Patients with chronic pancreatitis (CP) have an increased risk for pancreatic cancer (PCc), a malignancy with late diagnosis and fatal outcome.

**Purpose:** To assess frequency and risk factors for PCc in our patients with non-hereditary CP.

**Material and Methods:** We performed a retrospective record analysis and a subsequent prospective follow-up of 136 patients operated in our clinic between 1993 and 2002 for non-hereditary CP. At laparotomy, 3 males (38, 51 and 56 years old) were found to have ductal adenocarcinoma developed on CP (final tissue diagnosis). Standardized incidence ratio (SIR) was calculated for 2,121 patient years of follow-up. To find risk factors for PCc, we applied a Pearson correlation test and a nonlinear estimation for the following factors: age, sex, occupation, alcohol intake (dose, years of drinking), cigarette smoking (number of cigarettes, years of smoking), coffee consumption, fat diet, CP duration, number of CP complications, presence of diabetes and calcifications. For significant associations, relative risk (RR) was calculated.

**Results:** SIR of PCc was 12.76. We found that male sex, cigarette smoking, fat diet, CP duration, alcoholic etiology and number of complications are strong risk factors for PC (p < 0.005). Factors association leads to higher RR.

**Conclusion:** CP is an independent risk factor for development of PCc. We describe a new risk factor for PCc in patients with CP: number of previous CP complications requiring operation, which possibly accelerates dysplasia. Presence of risk factors in CP patients suggests the need for closer follow-up and an aggressive surgical approach if malignancy is suspected.

8

**Pancreatic Pseudocyst, Diagnosis, and Therapeutic Consideration over 20 Patients**

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**Background:** Pancreatic pseudocyst represents a severe complication of both acute necrotizing pancreatitis and chronic pancreatitis.

**Material and Methods:** We reviewed the data of 20 patients with pancreatic pseudocyst admitted in our department between 2001 and 2006.

**Results:** There were 7 females with an average age of 53.7 (range 37 to 75) years and 13 males with an average age of 49.3 (range 34 to 68) years. The average duration between the episode of acute pancreatitis and pancreatic pseudocyst diagnosis was 21 days. The diagnosis was established by ultrasound and CT scan. The etiology of pancreatic pseudocyst was necrotizing acute pancreatitis in 18 cases (biliary – 9 cases, alcoholic – 8 cases and ERCP induced pancreatitis in one patient) and alcoholic chronic pancreatitis in 2 patients. The management of our patients was surgical approach in 15 cases and conservatory approach in 5 cases. Indications for surgery were: septic conditions (4 cases), pseudocyst which has been persistent over 2 month with a diameter > 5 cm (8 cases), compressive pseudocyst associated with painful and dyspeptic syndrome, regardless dimension (3 cases). The largest pseudocyst had 18 cm diameter. In 13 cases we found a single location and for 2 cases we found 2 pseudocysts. We disposed of two surgical approaches: external drainage (5 cases) and internal drainage in 15 patients (5 with the stomach, 4 with the jejunum and 1 with the duodenum). We achieved zero mortality. The postoperative evolution was favorable for all patients, except one case with external drainage who presented pancreatic fistula for 60 days with spontaneous healing.
Conclusions: Surgical treatment for pancreatic pseudocyst presents two different approaches regarding many considerations: the biologic status, the location of pancreatic pseudocyst and septic condition. The pancreatic pseudocyst may sometimes have an unpredictable evolution, therefore requires clinical, biological and ultrasound surveillance.

9 The Anatomo-Embryological Possibilities for Ventral and Dorsal Pancreatic Resections

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Background: Recently, ventral and dorsal pancreatic resections are considered the procedures of choice for low-grade malignant neoplasms. The anatomical structure of the head of the pancreas is currently controversial.

Material and Methods: The anatomy of the head of the pancreas was studied on 10 fresh and 10 fixed in formaline specimens, collected from cadavers with age between 18–85 years, without pancreatic injuries. Methods – anatomical macro-preparation, morphometry, histotopography were performed.

Results: The apex of the uncinate process was considered as orientation for separation and penetration into the interpancreatic fissure. The presence of a loose fissure between these two pancreatic structures facilitates their separation. The ventral portion is adhered to the dorsal portion by means of perforating vessels only. The ventral portion is connected to the dorsal portion by loose tissue. After separation, the dorsal and ventral pancreatic surfaces are smooth and shiny. The ventral portion can be removed without affection for the duodenal blood circulation. A complete fusion between the ventral and dorsal pancreas is determined only in the 1/3 superior part of the head of the pancreas. The main blood source for the ventral portion of the pancreas is presented by anterior pancreatoduodenal arcade.

Conclusions: The ventral and dorsal pancreatic resections are argumented anatomically and embryologically.

10 Results of Radial EUS Staging in Pancreatic Cancer

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Introduction: Accurate preoperative detection and staging of pancreatic cancer may identify patients with loco-regional disease amenable to surgical resection.

Aim: To assess the value of endoscopic ultrasonography (EUS) for preoperative staging of pancreatic adenocarcinoma and the influence of the endoscopist experience for the accuracy of the procedure.

Methods and Patients: Preoperative TNM staging by EUS was compared with surgical and histopathological TNM staging. This is a retrospective review of a cohort of 89 patients with focal lesions considered to be pancreatic tumors in radial EUS during three years (2004–2007) in a tertiary medical center. Sixty-two patients had surgery, with a histological diagnosis of: neuroendocrine tumors (5), benign lesions (6 chronic pancreatitis, 1 hydratic cyst), lymphoma (1) and adenocarcinomas (49). The weighted kappa statistic was used for assessing the EUS staging between the first half period of experience in EUS (250 total radial EUS) and the second half period of experience in EUS (320 total radial EUS).

Results: The global overall accuracy of EUS for T and N staging was 81.1% and 80%, respectively. The global sensitivity, specificity and accuracy for T3 and T4 was 75%, 100%, 86%, respectively 93%, 89%, 92%. T staging was better in the second period of experience in EUS (Accuracy 91% versus 71%, k = 0.83 versus 0.58), as well as for N staging (k = 1 versus 0.68).

Conclusions: In a tertiary referral center, EUS is accurate as previously reported in the T and N staging of pancreatic cancer. However, ongoing experience of the endoscopist may have major impact on the results.
while IOUS combined with palpation could identify all the tumors in all 23 patients.

Conclusions: IOUS combined with palpation had 100% sensitivity for the localization of NETs. The introduction of IOUS has revolutionized the surgeon’s ability to find the pancreatic neuroendocrine tumors.

12 Intraoperative Ultrasound in the Diagnosis of Multiple Pancreatic Insulinomas – Case Report
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Introduction: Insulinomas are pancreatic beta-cell tumors that usually develop as a single mass (<10% of the cases have multiple insulinomas). Usually, they are small tumors (<1.5 cm) quite difficult to locate by imaging methods – preoperative contrast enhanced CT and MRI are able to identify only 50–60% of these tumors. Moreover, complications associated with the blind surgical explorations are relatively high.

Case Report: We present a 46 years old female, admitted with a clinical history suggesting insulinoma: cold sweating, hand tremor, syncope, asthenia, pre-prandial hypoglycaemia (33–36 mg%) and a level of plasmatic insulin of 5.4 U/ml. Repeated abdominal ultrasound made by highly experienced examiners revealed no pathological aspects in the pancreas. Abdominal native CT scan identified a round hypodense mass of 1.3 cm, well delineated, located in the pancreatic tail. Contrast enhanced CT demonstrates a highly captionation, especially in the peripheral area of the mass. Surgery was performed. Intraoperative ultrasound identified the lesion described by CT examination and proximally of this one, another mass of 7 mm. The two masses appeared round, homogeneous, isoechoic with the surrounding parenchyma, well limited, with a prevalent peripheral vasculature and a retrograde dilated pancreatic duct. Splenectomy and left pancreatectomy (body and tail) were performed. Pathological examination confirmed the diagnosis of insulinoma for the two masses, with no vascular invasion or extrapancreatic extension. The patient lefted the hospital in good condition, with complete remission of the symptoms.

Conclusion: Insulinomas are quite difficult to locate preoperatively (especially if multiple), due to their small dimensions, and to their isoechoic aspect at US. Intraoperative ultrasound can accurately localize insulinomas, and delineate the tumor relationship with neighboring vital structures (pancreatic duct, common bile duct, and critical blood vessels). It can thereby help to increase the success rate of surgery, lower the number of complications, and avoid unnecessary blind pancreatectomy.

13 Romanian Pancreatic Cancer Registry – Facts and Ways to Improve
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Introduction: Recent data on pancreatic cancer reveal, for all stages, that the 1-year survival rate is 19% and the 5-year survival rate is close to 4%. An early diagnosis of pancreatic cancer is unlikely to be obtained without a thoroughly assessment of tumoral behaviour, the necessity of new curative, adjuvant or neoadjuvant specific therapies being an ever changing reality. To improve this grim picture it is required to impose a systematically multimodal approach as similarly seen in the European Union countries. The latter countries have been established several registries of pancreatic cancer working as a huge but perfect integrated database towards improvement of the quality of life for the affected people.

Material and Methods: The aim of this work is to align the Romanian medical practice to those of the UE concerning multimodal approach of pancreatic cancer. Therefore, we herein report for the first time establishment of the Romanian Registry for Pancreatic Cancer.

Results: A number of 250 patients have been already registered and thoroughly analyzed. For those being at risk, several additional genetic investigations are scheduled. In the final step, the individuals considered at high risk for development of primary or secondary pancreatic cancer are further periodically monitored.

Conclusion: We expect a progressive improvement of the management of pancreatic cancer in Romania towards those seen in European Union.

14 Combined Vascular Arterial Resection for Pancreatic Cancer
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Introduction: The prognosis of ductal adenocarcinoma of the body and tail of the pancreas is still dismal despite the increased number of research centers for pancreatic cancer. Nowadays, the only potentially curative treatment for pancreatic carcinoma is surgical resection. However, most of the tumors of the body and tail of the pancreas are at an advanced stage at the time of presentation. In order to increase the resectability rate for locally advanced pancreatic body and tail carcinoma it was proposed en bloc resection of the pancreas along with vascular resection (including celiac trunk and common hepatic artery).

Material and Methods: We present the initial experience of the Center of General Surgery and Liver Transplantation from Fundeni Clinical Institute in four cases of pancreatic resections associated with arterial resections (3 cases with both celiac trunk and
common hepatic artery resection and one case with common hepatic artery resection alone).

**Results:** In all patients it was registered pain relief. No arterial reconstructions were necessary. There were no major postoperative complications related to the vascular resection.

**Conclusions:** When performed in trained centers in pancreatic surgery this types of complex procedures can be safely done with low morbidity and mortality rates but the impact of this type of surgery on survival remains to be established.

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**15**

**R0 Resection for Exocrine Pancreatic Cancer is Critical for Postoperative Long-Term Survival: A Retrospective Analysis of 119 Recent Cases**

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**Background:** The prognosis of pancreatic cancer is poor and surgery remains the only option for a longer survival. Therefore the details of surgery request analysis in respect with survival.

**Material and Methods:** An analysis of 119 cases in a prospective patient registry was made of the patients who underwent pancreaticoduodenectomy or distal pancreatectomy for pancreatic cancer at Karolinska University, Sweden during a specified time period. Prognostic variables were analyzed: TNM stage, tumor differentiation, type of resection (R0 vs. R1–2) and the extension of resection.

**Results:** The study included 61 female (51%) and 58 males, and the patients mean age was 66 years. Stage I disease was present in 31 cases (26%), stage II disease in 35 cases (30%), stage III disease in 37 cases (31%) and stage IV in 15 cases (13%). R0 resection was achieved in 56 cases (47%). Actual 1-year, 3-year, and 5-year survival rates were 50% (n = 60), 10% (n = 12), and 2% (n = 2). The univariate analysis showed a trend for better survival for women (p = 0.09). Cox regression analysis showed statistically significant associated with longer survival: R0 resection (p < 0.001), N0 stage (p < 0.04), G1 tumor differentiation (p < 0.03). Standard pancreatic resection had an equivalent survival compared with more extensive resections (p = 0.89).

**Conclusion:** The achievement of R0 resection represents an essential goal for pancreatic cancer surgery, aiming to obtain a long-term survival.
Author Index

Numbers refer to abstract number

Andrén-Sandberg, Å. 15
Barbu, S.T. 1, 5, 7
Badea, R. 10
Badea, V. 8
Barmada, M. 3
Bataga, S. 4
Cazacu, M. 1, 11, 12
Coltescu, C. 4
Costea, R. 8
Csutak, C. 12
Dinca, V. 8
Dumitrescu, T. 14
Dumitrescu, C. 8
Erdei, A. 2
Georgescu, D. 4
Ghidirim, Gh. 9
Gubergrits, N.B. 6
Havasi, N. 2
Iana, Gh. 8
Ionescu, M. 14
Kasabian, C. 3
Kelly, L. 3
Lamb, J. 3
Lefter, L.P. 13
Man, M. 11
Mocan, T. 10
Mosteanu, O. 10
Neagu, S. 8
Negrans, A. 4
Onaca, A. 2
Onaca, M. 2
Oniu, T. 11
Orasan, O. 12
Panescu, M. 8
Pavel, A. 13
Podubnai, I. 9
Pop, T. 10
Popescu, I. 13, 14
Rednic, N. 1, 11, 12
Rusu, O. 8
Seicean, A. 10
Seicean, R. 10
Sgarbura, O. 13
Shalayeva, I.V. 6
Suman, A. 9
Suman, S. 9
Timofte, D. 15
Tintila, C. 11
Torok, I. 4
Vasiliu, E. 8
Vlad, C. 1, 7
Vladescu, R. 8
Whitcomb, D.C. 3
Zarnescu, N.O. 3, 8, 15