

HPB CLINICS AROUND THE WORLD

HPB CLINICS

II. The Endocrine and Pancreatic Unit at the University of Verona, Italy

AA Gumbs

As a Junior Resident from an American Institution (Department of Surgery at Yale University School of Medicine) under the sponsorship of Dr Irvin Modlin, I had the opportunity to attend the Department of Endocrine Surgery at the Hospital of 'G.B. Rossi' of the University of Verona as a visiting Fellow for 2 years. Headed by Professor Paolo Pederzoli, who is the president of the Italian Association of the Study of the Pancreas (AISP), I worked under Assistant Professor Claudio Bassi who is a member of the Executive Committee of the International Association of Pancreatology and the International Hepato Pancreato Biliary Association (Figure 1). The autonomous Division of Pancreatic Surgery of the Department of Surgical Sciences

and Gastroenterology comprises 16 doctors, of whom 10 are residents and one is working towards a PhD. This service is the Italian reference centre for diseases of the pancreas and the Italian coordinator for multiple multi-centre national and international clinical trials [1].

The service admits 650 patients affected with pancreatic pathology per year. The number of patients with pancreatic neoplasia who require staging, inpatient pain management, outpatient medical treatment, surgical treatment or consultations at outside institutions is about 1000 per year. Sixty-eight percent of all admitted patients undergo a surgical procedure. Each year about 130 major pancreatic resections (duodenopancreatectomies, distal



Figure 1. Department of Endocrine Surgery at the 'G.B. Rossi' Hospital of the University of Verona. Seated from right to left: Massimo Falconi, MD; Paolo Pederzoli, MD; Claudio Bassi, MD; Hazem Abbas, MD. Standing from right to left, first row: Francesco Nacchia, MD; Isabella Frigerio, MD; Federica Damini, MD; Rosella Bettini, MD; Manuela Sargenti, MD; Valeria Parisi, MD. Standing from right to left, back row: Giuseppe Mascetta, MD; William Mantovani, MD. Not on photo: Roberto Salvia, MD and Giovanni Butturini, MD.

pancreatectomies and total pancreatectomies) are performed (also in the laparoscopic setting). The number of pancreatic operations averages four per week. The activity of the Outpatient Clinic accounts for about 250 admissions annually. Based on an allotment of 20 beds, the index of occupation is 121% and the mean hospital stay is 9.8 days. The DRG is 2.62. The extra-regional attraction index is 81%.

Scientific research is performed in strict collaboration with the Gastroenterology, Radiological, Pathological (which contains Molecular Biology), Oncological, Intensive Care and Pharmacological Departments, making the total number of participating doctors and researchers about 100. This multidisciplinary approach has led not only to numerous clinical research projects on new diagnostic and therapeutic techniques, but also to projects in molecular biology and genetics. Specifically, Professor Giuseppe Zamboni of the Pathology Department's work on mucinous cystic tumours has recently led to the new World Health Organization Histopathological Classification of Mucinous Tumours of the Pancreas [2,3]. Professor Carlo Procacci of the Radiological Department has published numerous articles on the diagnostic differentiation of pancreatic cystic lesions and has defined the role of CT in blunt trauma to the pancreas [4–12]. Professor Giorgio Cavallini of the Department of Gastroenterology has focused on the role of pharmacological prevention of acute pancreatitis during ERCP [13], and in collaboration with Professor Giorgio Talamini on the understanding of risk factors in pancreatitis and factors that affect quality of life in these patients [14,15]. Professor Aldo Scarpa of the Molecular Biology Division has helped to characterise the genetic events leading to pancreatic oncogenesis [16,22]. During my time in his laboratory I had the opportunity to principally work with pancreatic endocrine tumours (PETs). Benefiting from large frozen tissue banks of these rare tumours, I studied differing levels of gene expression of PETs compared with normal islet cells and pancreatic adenocarcinoma cell lines. I learned multiple modern molecular biological techniques including real-time PCR, cDNA-amplified fragment length polymorphisms and microarrays.

Clinical research on surgical issues initially focused on antibiotic pharmacokinetics within the pancreas and the role of intraperitoneal lavage and necrosectomy therapy in infected pancreatic necrosis and pancreatic abscess [23–27]. The clinical impact of antibiotic prophylaxis in severe pancreatitis has been tested in two clinical trials [28,29]. The efficacy of octreotide and surgical intervention in the

management of pancreatic fistulas was analysed [30–33]. The utility of chemoembolisation for synchronous hepatic metastases of pancreatic endocrine tumours was reported [34]. The vast experience with intraductal papillary mucinous tumours has been published recently [35,36]. Current projects include an examination of the feasibility and benefits of robot-assisted laparoscopic pancreatic resections, cellular motility in pancreatic adenocarcinoma and microarray analysis of tumour samples. Aside from my clinical duties, I reviewed the clinical experience with mucinous cystadenocarcinomas and studied the ability of tumour markers to determine invasion and prognosis in these tumours and the utility of tumour markers in differentiating mucinous cystic tumours from serous cystic tumours. I also participated in an international multi-centre trial examining the utility of procalcitonin in managing necrotising pancreatitis and peritonitis.

The didactic component of the Pancreatic Unit is not secondary. This is especially true with regard to the residents in general surgery, who in the course of 6 years of residency, are trained to perform all major pancreatic resections on their own. Each week there is one lecture given by residents and another given by the staff on a topic relating to HPB pathology. There is a weekly interdepartmental meeting, in which the following week's cases are presented and discussed by all of the departments. Morbidity and mortality conferences are held monthly.

The strength of the Endocrine and Pancreatic Unit at the University of Verona lies in its multidisciplinary approach to diseases of the pancreas. The centre at 'G.B. Rossi' Hospital contains leaders in their respective fields, and the atmosphere of such a large team of physicians interested in the pancreas has created a unit that is not only the national referral centre for pancreatic pathologies, but also an internationally renowned centre attracting patients and physicians from around the world.

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