

REPORT FOR THE 2006 SSAT TRAVELING FELLOWSHIP FOR SURGEONS IN ACADEMIC PRACTICE

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Fellowship Period: November 10-17, 2007

Preceptor:

Laureano Fernandez-Cruz, MD. Professor of Surgery, Chairman Department of Surgery, University of Barcelona, Hospital Clinic. Barcelona, Spain.

Associated Meeting: Advanced Laparoscopic Colorectal Surgery, November 16th and 17th. Institut de Recherche contre les Cancers de l'Appareil Digestif. (IRCAD)

Purpose : Travel to an international center to learn about the techniques of laparoscopic hepato-biliary pancreatic surgery and understand the infrastructure involved in developing such a program.

I would like to formally thank the Society for Surgeons of the Alimentary Tract for affording me the opportunity to travel abroad and experience this outstanding fellowship. I would also like to thank my preceptor; Dr. Fernandez-Cruz for the kind hospitality he provided me during my visit making it such a worthwhile experience.

As a minimally invasive surgeon with a specific interest in laparoscopic solid organ surgery, and particularly hepato-biliary pancreatic surgery, Dr. Fernandez-Cruz was an ideal preceptor to visit. Dr. Fernandez-Cruz is an accomplished hepatobiliary pancreatic surgeon with extensive publications in both open and laparoscopic approaches to these disease processes. He is also a pioneer in the field of laparoscopic pancreatic surgery. He has made extensive contributions to the technical aspects of laparoscopic pancreatic resections with particular expertise in laparoscopic splenic preserving distal pancreatic resections. He has recently published the largest single institution experience of laparoscopic pancreatic surgery in Journal of GI Surgery. Aside from his outstanding technical skills, he is an excellent educator and kindly accepted my request to observe his institution and watch him perform several laparoscopic pancreatic resections during my visit.

After arriving in Barcelona and adjusting to the time zone, I met Dr. Fernandez-Cruz at the Hospital Clinic de Barcelona. This clinic is located in the heart of Barcelona, amidst the hustle and bustle of this major metropolitan city. Dr. Fernandez-Cruz has established an outstanding academic surgical unit of busy clinical hepatobiliary pancreatic surgeons who have developed a system in which academic pursuits join outstanding patient care. During my initial meetings with Dr. Fernandez-Cruz his spirit of education and focused patient care became immediately apparent to me. Shortly after

introductions, Dr. Fernandez invited me on morning rounds. One of the most interesting things I observed on these rounds was the way in which he had organized his divisions. Like many American institutions he has taken a disease based approach to the divisions within his department. But unlike most other American units, he has taken things one step further, in that he has combined the department of gastroenterology and surgery into a digestive disease unit. This digestive disease team consisted of Dr. Miguel-Angel Lopez-Boado another hepatobiliary surgeon, and a surgical resident and a gastroenterologist and gastroenterology resident. While I have heard this concept discussed in many American centers I have yet to see it in action. In Barcelona, I was able to see first hand the clear advantages of this approach, and based on my experience I plan to enact a similar unit at my own institution. A perfect example is the patient we sat around the unit and discussed: a young gentleman with a history of acute pancreatitis and a 12 cm pseudocyst. This patient had undergone an attempted endoscopic drainage at an outside institution and was referred to Dr. Fernandez-Cruz. Imagine the streamline of care that having both the surgeon and the gastroenterologist look at the CT scan and discuss what the next most appropriate step would be for the patient. This resulted in the decision to perform a laparoscopic drainage procedure which I was fortunate enough to observe the next day. This system also showed me how the collegial nature between GI and surgery can result in improved patient care pathways. With this knowledge upon my return to my institution I plan on having multi-disciplinary rounds with the GI team and the surgical team on a weekly basis.

As rounds continued, Dr. Fernandez-Cruz introduced me to a patient who had undergone a “Fernandez-Cruz” procedure. Not entirely sure what that meant and I think

him seeing that in my eyes, he said I'll explain that to you later, but it is a new procedure that we have developed to decrease the morbidity of pancreaticoduodenectomies. When we returned to his office to prepare for the operating suite, he showed me a video of this exciting new procedure. He then went on to go over the results of his prospective randomized trial comparing the outcomes of a standard pancreaticoduodenectomy to the "Fernandez-Cruz" procedure. Without going into any of the details of his procedures as they are being reviewed for publication, the take home message to me was the importance of combining a vast clinical experience to allow us to always try and find ways to improve patient outcomes, and then to carefully study them in well designed prospective randomized trials. In further discussions with Dr. Fernandez-Cruz his careful and diligent manner of scientifically evaluating all that we do as surgeons through appropriate prospective studies was very impressive to me.

I was also fortunate enough to observe Dr. Fernandez-Cruz perform several laparoscopic pancreatic resections. His approach to pancreatic resection and master of minimally invasive techniques was technically impressive. Also in my discussions with him, he impressed upon me the importance of splenic preservation during pancreatic resections and I was able to observe many technical pearls from a true master pancreatic and laparoscopic surgeon. Our first patient was an obese gentleman (as Dr. Fernandez-Cruz put it an "American" type patient) with a mucinous tumor in the tail of the pancreas. Dr. Fernandez-Cruz uses a four port laparoscopic approach. This is a technically demanding procedure particularly given the constraints of splenic preservation. One of the best technical pearls in watching him perform this procedure was the vascular dissection he performed. After gaining access to the lesser sac, Dr. Fernandez-Cruz

laparoscopically dissected out the celiac trunk. In fact, he explained to me that not only is this important if one is doing the node dissection for pancreatic cancer, but also, particularly when performing the resection laparoscopically it provides clear identification of the appropriate landmarks for safe resections. Given the size of this patient the skeletonization of the common hepatic and splenic artery was very challenging. We also discussed his initial experience with splenic preservation with short gastric preservation versus preservation of the main splenic vessels. Interestingly, it appears that Dr. Fernandez Cruz rarely attempts main splenic vessel salvage due to the technical challenges that he and myself have noted. Instead, he now routinely divides these vessels. In doing so, he also routinely obtains a splenic duplex scan prior to discharge and in well over a 100 laparoscopic distal pancreatectomies with splenic preservation has only gone back for one subsequent splenectomy due to infarction. In fact after clipping the main splenic artery and seeing the spleen become somewhat ischemic, I probably would have given up splenic preservation. Instead, Dr. Fernandez-Cruz pointed this out to me and told me that if we just watched the spleen for the remainder of the procedure it usually improves, and in fact that was the case. This patient did not require splenic resection, and the next morning on rounds appeared quite well, with an intact spleen. The second day of my visit with Dr. Fernandez-Cruz was equally exciting. After completing morning rounds and going off to the operating room I was able to observe two more laparoscopic pancreatic surgeries. Interestingly, no matter where in the world laparoscopy is being performed, all surgeons suffer from the occasional poor image, or malfunctioning Ligasure. It was interesting to observe the dynamic between the surgeon, and his operative team in overcoming these challenges,

and realizing that there is fewer differences than one might expect from surgeon to surgeon or country to country. Once all of these technical mishaps were overcome, I observed another laparoscopic splenic preserving distal pancreatectomy, and the pseudocyst drainage. Again the imprints of careful dissection in the correct anatomic planes, and meticulous hemostasis were obvious to me. After another long day in the operating room I spent my last day in Barcelona site seeing. I walked through the busy Las Ramblas district, had lunch by the marina, and went into the Gothic district with its historic cathedrals and distinct European architecture.

In returning to my institution I plan to invoke a multi-disciplinary team consisting of laparoscopic surgeons, pancreatic surgeons, radiologists and gastroenterologists that can evaluate each patient with a pancreatic tumor prospectively and offer minimally invasive resections when appropriate. I would like to thank Professor Fernandez-Cruz for his kind hospitality, his infectious excitement for his continuing work on minimally invasive pancreatic resections, and for being an inspiration to young academic surgeons like myself.

After leaving Barcelona, I traveled to Strasbourg France, where I attended an advanced laparoscopic course at Institut de Recherche contre les Cancers de l'Appareil Digestif (IRCAD). This is an extremely impressive facility that in my opinion is unmatched in the United States. During the course there were multiple live surgical cases performed. This facility allows immediate interaction with the operating surgeon through microphones at each of the participant's stations, and makes for an excellent educational experience. I was able to watch a laparoscopic total mesorectal excision performed for a low rectal tumor in 51 year old female. This was a beautifully performed dissection,

wonderfully demonstrating the correct anatomical planes with preservation of the hypogastric nerves. However, as Dr. Fernandez-Cruz had pointed out several days before, this was not a typical “American” patient as the BMI was only 22. As the morning of live cases continued, one case was performed in a somewhat obese (BMI 34) woman with recurrent diverticulitis. Despite the challenges, the surgeon performed a medial dissection with resection of the IMV under the pancreas, the IMA at the aorta, and complete mobilization of the splenic flexure which was very impressive in just a little more than one hour. After the morning session of live cases, each of the surgeons detailed their experience with difficult cases and explained multiple surgical strategies to deal with many challenging laparoscopic dilemmas. The final day of the course included more lectures on several aspects of low pelvic laparoscopic surgery and strategies to improve your outcomes with advanced laparoscopic GI surgery. There was also a discussion of NOTES and its role in laparoscopic surgery, which may offer some unique advantages for specimen removal during colorectal surgery; however, more data is obviously needed. Overall my experience at IRCAD left me with a lot of enthusiasm for how I could incorporate a similar educational center in the United States. At my institution, Case Medical Center, we are developing an Institute for Surgery and Innovation. I feel that what I learned at Strasbourg will be directly relevant to my practice and future endeavors of bringing this elite type of educational facility to our institution.

In summary, this was an exceptional experience. In my travels abroad, I was able to witness how other surgeons in other countries were impacting the field of surgery through improving patient outcomes through technical improvements in surgery,

development of multidisciplinary teams to streamline patient care, and redefine the way in which we educate surgeons and teach advanced laparoscopic surgery in a controlled environment. I look forward to incorporating what I have learned on this trip into my clinical and academic practice. I would like to once again thank the members of the SSAT for kindly making this outstanding experience possible.