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The First Experiences With Colorectal Laparoscopic Surgery in Spain. Valencia, November 1991☆

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ABSTRACT

The development of laparoscopic colon surgery in Spain has spread quickly since its beginnings at the end of 1991. Colorectal minimally invasive surgery is widely implemented and has changed the way we treat our patients, specially due to the short-term advantages such as lower morbidity with a better quality of life with the same oncological outcomes in the long term. A huge number of Spanish surgeons have contributed to the implementation of techniques and spreading the knowledge of these concepts by means of courses, controlled randomised studies, scientific papers, and books, and have obtained international recognition.

Las primeras experiencias en cirugía laparoscópica de colon en España. Valencia, noviembre de 1991

Palabras clave:
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RESUMEN

El desarrollo de la cirugía laparoscópica de colon en nuestro país ha sido muy rápida desde su comienzo a finales de 1991. La resección de colon y recto por cirugía mínimamente invasiva ha cambiado desde sus inicios la manera de tratar a nuestros enfermos, debido esencialmente a las ventajas a corto plazo sobre la cirugía abierta, por su menor morbimortalidad y mejor calidad de vida con igualdad a largo plazo en los resultados oncológicos. En la enseñanza y difusión de estos conceptos en forma de cursos, estudios aleatorizados, artículos científicos y libros han participado y participan un ingente número de cirujanos españoles que gozan del reconocimiento internacional.

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The Beginning of Advanced Laparoscopic Surgery

The initial experiences with laparoscopic surgery of the colon in our country were during the 4th Post-Graduate Training Course organised in Valencia by the General and Digestive Surgery Department at La Fe University Hospital, whose Chief was Dr. David Rodero. The symposium had 3 different parts: the 2nd Theoretical-Practical Course on Laparoscopic Surgery, the 4th International Course on Laparoscopic Surgery and the 2nd Symposium on Nursing and Postgraduate Course on Nutrition in Surgery. The programme was scheduled for 20–22 November, 1991.

Dr. Rodero had personally telephoned Dr. Cuesta to invite him to perform live laparoscopic surgery on Wednesday the 20th in the morning. He had proposed conducting anti-reflux surgery in a patient with severe oesophageal reflux or laparoscopic splenectomy in a patient with idiopathic thrombocytopenia. As in Amsterdam in June 1991 laparoscopic resections had been done of the sigmoid and right colon, it was suggested that he perform minimally invasive surgery in a patient with this pathology. He reacted enthusiastically and asked what instruments were necessary for the procedure and a detailed plan of what was to be done. He was given details about the patient position on the operating table, instruments, and whether it was necessary to use an endoscopic stapler for the bowel resection.

The Endostapler had not yet arrived in Spain, but we were collaborating with Mr. Mario Correia, a Director at Autosuture, so the device was brought to Valencia from the United States with sufficient reserve cartridges for the scheduled day.

In the international course on laparoscopy, besides all the staff from Dr. Rodero's unit, including Drs. Francisco Pacheco Ferrer, Rafael García Espinosa and Manuel Planells Roig who aided in the bowel procedure, other invited guests included Dr. Phillipe Mouret from Lyon, pioneer in the world of laparoscopic surgery since 1989, Dr. Namir Katkhouda from Nice and Dr. Enric Laporte Roselló, initiator of laparoscopic surgery in Spain.

Live laparoscopic surgery was initiated with a cholecystectomy by Dr. D. Rodero, who followed the French method with the surgeon situated between the legs of the patient. Afterwards, the laparoscopic surgery for sigmoid cancer was performed. The patient was a 73-year-old male with adenocarcinoma of the sigmoid colon, located 22 cm from the anus by colonoscopy. The barium enema detected the lesion in the sigmoid colon but also a repletion defect at the base of the appendix. In the extension study, abdominal ultrasound showed no liver metastases or other lesions.[1] After abdominal insufflation and trocar placement, abdominal exploration revealed abundant mucous fluid in both paracolic gutters and in the Douglas space. Immediately, mucocele of the appendix was thought of as a possible cause, apart from the detected sigmoid adenocarcinoma. Indeed, there was a double tumour, and the 5 cm mucocele of the appendix was perforated.

The surgery proceeded with resection of the appendiceal tumour and the base of the cecum, using the Endostapler. The tumour was placed in a bag and the mucous fluid was suctioned, followed by washing of the site. Afterwards, the sigmoid tumour was located and resected with a lateral-to-medial approach with initial mobilisation of the sigmoid colon and later vascular control of the inferior mesenteric artery with the aid of clips. The left ureter was identified without problems. After partially mobilising the descending colon, the superior rectum was divided at the promontory with the help of the Endostapler, and the specimen was removed through a left McBurney incision. Once the specimen had been removed, the appropriate resection was done and the 31 mm circular Anvil was placed. After re-introducing the colon and the Anvil in the abdomen, the left McBurney incision was closed and the end-to-end anastomosis was done by inserting the circular stapler transanally. The anastomotic ends were complete and the anastomosis was tension-free. Blood loss was 50 cc and the surgical time was 200 min. After leaving in an abdominal drain tube, both surgical specimens were examined and the entry ports for the trocars were closed. The pathology study showed a moderately differentiated adenocarcinoma with involvement of 5 out of the 18 lymph nodes, stage C of the Astler-Coller classification, and the appendicular tumour was a mucinous cystadenoma. The postoperative period transpired without complications. The entire surgery, both intraabdominal and extracorporeal, was recorded.

Afterwards, in February 1992, at Bellvitge University Hospital with Dr. Joan Martí Ragué, 2 sigmoid resections were carried out for adenocarcinoma with very good postoperative results. A third case that was planned for the third day of the course was not done because the patient was not considered an ideal candidate for laparoscopy as she had undergone previous gynaecological abdominal surgery. In both courses, the audience was numerous and the discussion about the approach and technical problems was considered important. Participants also discussed the future of the approach, which was considered promising given the possible reduced morbidity versus open surgery. In the discussion at Bellvitge about the possibilities for study and the scientific evidence of this approach, mention was made of a randomised clinical trial that was being conducted at 5 hospitals in Holland, in which 150 patients were to be randomised to each arm of the study. In 1992, however, the Dutch commission for clinical studies did not consider the project interesting enough for funding, and the Dutch study was finally carried out years later under the name of COLOR I, but this time with financial aid received from industry.[2]

Our initial experience with endoscopic (and colon) surgery were published in Cirugía Española in 1992.[3] That same year, a video was created by our department (with subtitles) explaining sigmoid cancer resection in the *Revista de Videocirugía* by Dr. C. Ballesta López. Also in 1992, Dr. J. Martí Ragué published a book with Drs. H. Ortiz Hurtado and E. Laporte Roselló, entitled *Mechanical sutures and laparoscopy in surgery (Suturas mecánicas y laparoscopia en cirugía)* in which, for the first time in Spain, there is a chapter about laparoscopic colon surgery by Drs. M.A. Cuesta, P.J. Borgstein and J. Martí Ragué.[4] Dr. C. Ballesta López also published another book that same year, entitled *Surgical Laparoscopy (Laparoscopia quirúrgica)*, which was a collaborative text with several international surgeons, including G.B. Cadiere, J.L. Dulucq, R. Fitzgibbons, N. Katkhouda, M.A. Cuesta and W. Pinotti, which discussed different aspects of laparoscopic surgery in several chapters.[5] Likewise, the book *Minimally invasive surgery in gastrointestinal*

cancer, which was the first of its kind, was written by our group and published by *Churchill and Livingstone* in English in 1993.[6] In 1993, Dr. E. Laporte Roselló also published the book *Laparoscopic Surgery (Cirugía laparoscópica)*, with a prologue by Dr. J.L. Balibrea, which provides, in addition to traditional laparoscopic surgery of the gallbladder and inguinal hernias, chapters on colon surgery by Drs. J. Martí Ragué, A. Lacy and J.C. García Valdecasas, a chapter on laparoscopic surgery of the solid organs by Drs. L. Fernández Cruz, A. Sáenz, G. Benarroch, E. Astudillo and E. Torres, as well as a chapter of ours about ''Laparoscopy and digestive tract cancer: Diagnostic and therapeutic strategies'', which discussed laparoscopic hepatic and oesophageal resections, and a chapter by Drs. P. Parrilla Paricio, J.A. Luján Mompeán and R. Robles Campos about the complications of laparoscopic surgery.[7]

In 1994, the laparoscopic surgery programmes for colon cancer were slowed down or suspended in Holland due to the publication of a letter in *Lancet* by Frits Berends about the dangers of the laparoscopic approach for colon cancer and the appearance of port-site mestastases.[8] This news instigated an important current of clinical and experimental studies initiated by Dr. H.J. Bonjer *(Experimental Laparoscopy Surgery Group)* until it was finally demonstrated that port-site metastases were probably due to incorrect tumour manipulation techniques during laparoscopic dissection. In 2002, *Lancet* published the Barcelona study by Dr. A.M. Lacy, which demonstrated that the laparoscopic approach was safe, more advantageous than open surgery in terms of reduced morbidity, and that, even in stage III tumours, the laparoscopic approach offered better survival than the open approach.[9] This publication by a Spanish group created a world-wide revolution and confirmed that there was no turning back for the implementation of laparoscopic colon surgery and that the technique should be taught and developed.[10] Fortunately, the technique is still being used today, and in 2015 the *New England Journal of Medicine* has recently published the COLOR II study, with long-term rectal cancer surgery results from a clinical trial in which several Spanish workgroups have participated.

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Conflict of Interests

The authors have no conflicts of interests to declare.

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