

WIDER-Barcelona news

Director: J.R. Armengol-Miró

Number 13 • May 2020

13th INTERNATIONAL NOTES COURSE WIDER-Barcelona

NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY

Barcelona, 25 and 26 November 2019

C.G.A.

The 13th WIDER-BARCELONA International NOTES Course was held in the Teaching Pavilion auditorium of the Vall d’Hebron University Hospital, directed by José Ramón Armengol-Miró, Manuel Armengol Carrasco, Antonio José Torres García and Joan Dot Bach, and coordinated by Jorge Olsina, Joaquim Balcells, Monder Abu Suboh Abadía and Jordi Armengol Bertrolí, with the collaboration of Miquel Masachs, Ana Benages and Maria Dolores Castillo Cejas. As in previous years, the Course was supported by the WIDER-Barcelona Institute of the Vall d’Hebron University Hospital (Autonomous University of Barcelona), the Vall d’Hebron Research Institute (VHIR) and OLYMPUS EUROPE & CO, and had the invaluable assistance and collaboration of the “la Caixa” Foundation Social Project Fund.

The 13th WIDER-Barcelona International NOTES Course was held over two intensive days in the auditorium and in the Vall d’Hebron operating rooms, with the participation of illustrious national and international specialists from the world of endoscopy, gastroenterology, surgery and research. In their presentations these specialists covered, among many other topics, the possibilities and limitations of NOTES today, learning and familiarisation with new techniques and instruments, and they evaluated the possibilities of combining procedures and reviewed their various applications. The presence of artificial intelligence was notable in many of the lectures, plus it had its own dedicated symposium. For another year running, the presentations broadcast live over the two days drew maximum interest. The great novelty this year was the presentation of the robot Artis Pheno. The international experts invited to the Course were able to witness this novel equipment “in situ” as the Vall d’ Hebron Hospital Endoscopy Department is the first centre in the world to have a radiological robot with the capabilities of “Pheno”.



“Pheno” consists of a robotic X-ray arc, which is connected to a scanner that generates three-dimensional images that can be superimposed on those obtained by endoscopy during any chest and abdomen examination or intervention.

José Ramón Armengol-Miró
Director of WIDER-Barcelona.
Digestive Endoscopy Department
Research Institute VHIR
Vall d’Hebron University Hospital. Barcelona

“The general opinion of the attendees is that this course was, in all respects, one of the best so far”



Joan Dot Bach
Head of the Digestive
Endoscopy Department.
Vall d’Hebron University Hospital.
Barcelona

“We wanted all the participants of the course to become familiar with the new facilities that the new hybrid operating room has to offer.”

Naohisa Yahagi
Director, Department of Research and
Development for Minimally Invasive Treatment
Cancer Centre. Keio University.
Tokyo. Japan

“Duodenal resection is risky, but if we perform a very careful resection we offer a minimally invasive treatment to the patient.”



Antonio J. Torres García
Head of Surgery 2 and the
Thoracic Surgery Service.
San Carlos Hospital. Madrid

“We should implement advances with a little more robustness than we sometimes do at present.”

Sergey Kantsevoy
Director of the Therapeutic Endoscopy
Centre Institute for Digestive Health & Liver
Disease Mercy Medical Center. Baltimore,
Maryland (United States)

“Doctor Armengol-Miró has attended multiple conferences around the world and chooses the best researchers for his course.”



WB

WIDER-Barcelona

Institute for Digestive Endoscopy Research in Barcelona

Institut de Recerca Hospital Universitari Vall d’Hebron

www.wider-barcelona.org

“la Caixa”



José Ramón Armengol-Miró



Manel Armengol Carrasco



Xènia Acebes



Joan Dot



Albert Salazar



Joan X. Comella

Day one. Monday

NOTES. PRESENT AND FUTURE

Official Inauguration of the Course

Participating at the opening of the 13th WIDER-BARCELONA International NOTES Course, were doctors Armengol-Miró, Armengol Carrasco, Pavlov, Dot, Comella and the director of the Vall d'Hebron Research Institute, Dr Salazar and Dr Xènia Acebes, director of the Medical Area of the Catalan Health Department, welcomed all participants to the course.

Dr Pavlov announced that, on the occasion of the 75th anniversary of the creation of Yaroslavl State Medical University (YSMU), the University had conferred an honorary degree to Professor Armengol-Miró for his significant contribution to the evolution of the specialty, awarding him the diploma and the commemorative medal during this presentation.

Dr Dot then thanked all the attendees and the speakers for their interest, and he gave special thanks to Professor Armengol-Miró for the enthusiasm he places on organising this course every year. Dr Armengol-Carrasco pointed out that the evolution of the course, with the attendance of endoscopists and other specialties, is a reflection of the present clinical reality, with multidisciplinary approaches to the patients. Dr Comella, director of the VHIR, noted the great international prestige of the course, and that Professor Armengol-Miró is one of the most important members of the scientific community.

He explained that thanks to the major involvement of the Professor and the support of the "la Caixa" Foundation, last summer, the hospital inaugurated a new operating room with important infrastructure for interventional radiology that will change the way the endoscopy is performed.

Professor Armengol-Miró welcomed all participants to the Course, a meeting that aims to share the latest developments in endoscopy. He thanked Dr Armengol Carrasco for his support, as well as that of Dr Dot, who he considers to be like a son. In conclusion, he thanked Mr Isidre Fainé, President of the "la Caixa" Foundation, and the Government of Catalonia for their generosity and continued support both to the WIDER Project and to the Hospital.

The event ended with words from the director of the Vall d'Hebron Hospital, Dr Salazar, who showed his respect for professor Armengol-Miró and remarked that the Vall d'Hebron is the largest university complex in Catalonia and one of the five main hospitals in Spain and that this Course is a clear example of translational medicine, that is, a collaboration between research and clinical practice, which is also one of the strengths of the hospital. Barcelona and Catalonia have always been welcoming with a very open mindset and great capacity for innovation, so this Course could not be held in a better place.



Antonio J. Torres García



Alexey Pavlov

SESSION 1. NOTES. PRESENT AND FUTURE

The course was presented by Professor Armengol-Miró, who highlighted the important attendance of specialists from around the world, mainly from Asian and Latin American countries, stressing the importance of advances in transluminal endoscopic surgery and surgical techniques that will be exhibited throughout this course. In this regard, he initiated the first session of the day and of the course dedicated to:

EXPERIMENTAL NOTES

The first presentation was given by Marina Ivantcova (Russia) who stressed the importance of teamwork, especially in the area of digestive endoscopy, as it "facilitates a global vision for obtaining satisfactory results and otherwise uncommon outcomes." She also highlighted the document recently published by the European Society for Gastrointestinal Endoscopy (ESGE) indicating that it is one of the most extensive and comprehensive published so far on the specialisation, it ensures quality and



Marina Ivantcova (Russia)

safety in endoscopy and will help obtain a common language among all specialists.

Next, in his presentation, Xu Mei-Dong (China) indicated that endoscopic surgery is a safe, effective, and minimally invasive procedure for the treatment of mucosal, submucosal, and various gastrointestinal disorders. Since the beginning of the 21st century endoscopic submucosal dissection (ESD) en bloc has been considered the standard treatment for lesions >2 cm,

though it is not free from complications, the most common being abdominal pain, bleeding, perforation and stenosis. He reviewed the causes and possible ways to prevent these complications, which may appear immediately or later. He concluded his presentation indicating that to minimise complications it is necessary to know very well the indications for the procedure, evaluate the patient thoroughly before the surgery and have a good technique. During the procedure one must be very careful and patient.



Mei-Dong Xu (P.R. China)



Robin Ahmed (P.R. China)

Next, Robin Ahmed (China) noted that clinical guidelines recommend endoscopic resection in stage M1 and M2 cancer cases and in select cases of stage M3 (10% metastatic nodes) and SM1 (20% metastatic nodes). Surgery is recommended in stage SM2 cancer (with 50% of affected nodes) and SM3 with more than 50% of affected nodes), though it has high mortality and may also worsen the quality of life. Transoesophageal NOTES access to the mediastinum may be easier than conventional surgery.

Moreover, nodal mapping with carbon nanoparticles has been shown to be safe and effective in detecting metastatic nodes in different cancers. He presented the experience of using carbon nanoparticles to detect periesophageal nodes and endoscopic resection of these in animals, the results of which demonstrate the safety of this method, though he noted that further studies are needed to confirm the results.

Endoscopic suturing techniques; past, present and future. Concerning prototypes and patents was the title of the presentation by Álvaro Martínez-Alcalá García (Madrid). After reviewing the history of clips for endoscopic suturing, he presented the results of the only study comparing the different types of existing clips, based on rotating capacity (with better results for Resolution 360®), lateral tension (Quick Clip Pro®), closing force (DuraClip 16mm® and Hard Clip 11mm®) and height and closure accuracy (Instinct® and Resolution 360®). He reviewed the limitations of clips indicating that in his opinion new functions such as movement should be introduced on the three axes.

A device is needed that is easy to use and useful in small lesions, that is manoeuvrable, precise and fast, that can be used without losing the field of vision and which allows closing plane to plane. He then introduced various prototypes of devices that are being tested worldwide and can provide these features.



Álvaro Martínez-Alcalá (Madrid)

SPECIAL CONFERENCE

Ping-Hong Zhou (China) gave a conference focused on the new advances in EFTR (Endoscopic Full-Thickness Resection). EFTR for subepithelial gastrointestinal tumours is a minimally invasive technique, performed through natural orifices, which has so far provided hopeful results for this type of tumour. The speaker presented his hospital's experience with this technique, indicating that it is used mainly in children. His experience covers gastric tumours, colon tumours and oesophageal defects. He also addressed the new suture systems that are beginning to be used in Asia, noting that globally it is the area where EFTR is most performed. While these new suture systems simplify and improve closure, endoscopic metal clips are still mainly used in Asia, probably due to a lack of development and promotion of new devices and the need for significant learning for frequent use.



Ping-Hong Zhou (P.R. China)

LECTURE

Sergey Kantsevov (United States) gave a lecture on a new platform for endoscopic endoluminal surgeries in the large intestine, presenting the results of the first 500 surgeries. He introduced the DiLumenal® platform, a new innovative medical device that serves as an accessory to standard endoscopes. This system, which contains two balloons that can swell (one at the distal end and one a few centimetres before) enables moving the colonoscope through the colon, stabilises the colonoscope, allows

dynamic multidirectional retraction, creates a therapeutic area within the intestine that provides improved visualisation and allows extraction of multiple samples. His experience with this platform began in November 2017, and as of November 2019, 519 surgeries had been carried out, of which 87.7% were ESD interventions. The average time to reach the lesion was 11 minutes and the total mean time of the surgery was 92, significantly shortening the total time of the procedure.



Sergey Kantsevov (USA)

A TOPICAL KEYNOTE ADDRESS

Endoscopic intervention for paediatric oesophageal stenosis and fistulas was the subject of the talk by Li Liu (China). She indicated that the treatment for oesophageal stenosis is performed with dilation (balloon or Savary-Gilliard dilator) though there is no consensus regarding its duration, repeated if needed at three weeks with a dilator with a larger diameter and dilation can be helped with pharmacological measures. She noted that oesophageal stents can achieve between 50-80% dilation in children with stenosis, though these can also be treated with endoscopic incisions. Regarding new techniques for oesophageal atresia she pointed to bilateral submucosal lengthening endoscopic myotomies (BSLEM), inverted mucosal-submucosal sleeve transposition graft (IMSTG), magnetic compression strictureplasty which is an emerging procedure, combined antegrade-retrograde endoscopic dilation with gastric access and endoscopic mucosal transplantation. In addition, endoscopic treatment of oesophageal perforations/fistulas will depend on the size of the lesion, its edges, and the presence of bleeding, including surgery, endoscopy, biomaterials and more. She then presented the case of a 1-year-old patient who was given endoscopic treatment for a fistula.



Li Liu (P.R. China)



Nadan Rustemovic (Croatia)

Subsequently, Nadan Rustemovic (Croatia) began his presentation on the implementation of the virtual biopsy and robotics in gastroenterology, indicating that the future of gastroenterology and endoscopy is going through the advantages of technology in the form of new types of endoscope and endoscopy robotics that will help in the diagnosis and graduation of pathology and increase the quality of therapeutic intervention. All of this will be linked to artificial intelligence (AI). Among the advances, the use of virtual chromoendoscopy, elastography with endoscopic ultrasound, and confocal laser endomicroscopy were noted. The use of robotics applied to endoscopy will allow, among other things, a 3D image that will facilitate the intervention. He finished his speech by pointing out that, in order to have all the advantages that technology offers, it is necessary to work in multidisciplinary teams.

SESSION 2. EXPERIMENTAL AND CLINICAL NOTES

KEYNOTE SPEECH

Jesús García-Cano Lizcano (Ciudad Real) reviewed the 25-year experience of Endoscopic retrograde cholangiopancreatography (ERCP) at the Virgen de la Luz Hospital in Cuenca. He indicated that they are currently conducting an average of 121 successful procedures annually. The first step is biliary cannulation, then insertion of a pancreatic stent. This technique requires a large learning curve, as there are significant potential complications. After presenting the results of studies with small samples, the author concluded that, while there are units that don't reach the 200 annual ERCP procedures, the results obtained by these are acceptable. However, the technique should be further improved in order to achieve the best possible results.



Jesús García-Cano (Ciudad Real)

ERCP is the main pillar of pancreatic duct drainage with a high success rate, though there is a small proportion of patients in which it fails, Rajesh Gupta (India) said.



Presentation of the title of Dr Honoris Causa's by Yaroslavl State Medical University to Professor Armengol-Miró for his significant contribution to the evolution of the specialty. Dr Alexei Pavlov, rector of the YSMU, presented the award

Gupta said that in these cases it is possible to use for cannulation EUS-BD (endoscopic ultrasound-guided biliary drainage), PTBD (Percutaneous transhepatic biliary drainage), or EUS-PDD (EUS-Pancreatic Duct Drainage) and surgery. He showed the results of his experience with EUS-PDD indicating that this is a very effective technique representing a good alternative in cases where the papilla is inaccessible or in which another technique has failed.



Rajesh Gupta (India)



Milutin Bulajic (Serbia)

Milutin Bulajic (Serbia) then stated that, after a liver transplant, one of the most frequently observed complications is biliary stenosis. These should be catalogued according to the Bismuth classification. Many of the more severe cases of stenosis can also be treated with endoscopy with a more aggressive approach than traditional endoscopy, thus avoiding new surgeries based on the results of any of the studies presented and the results of his personal experience. To this end, he stressed the importance of deep knowledge of intrahepatic biliary anatomy, concluding that endoscopy plays an important role in the management of postoperative biliary complications, and its results improve with a more aggressive approach.

The presentation by Mei-Dong Xu (China) focused on the applications of submucosal tunnel endoscopic resection (STER). This expert, after describing this technique and showing the good results obtained at his centre, indicated that this technique is different from traditional endoscopy and NOTES, as the STER technique uses the submucosal space. He noted as advantages the favourable rates of en bloc resection, the ability to preserve the integrity of the mucosal layer, the reduced risk of post-surgery GI infections, and the length of hospitalisation. The main complications he noted were tunnel perforation, bleeding and pneumothorax. He noted that the STER technique will likely serve in future for cancer diagnostics and staging and for the implantation of submucosal devices. Though this is an effective and safe method for submucosal tumours of the upper GI tract, it should be used by experienced surgeons/endoscopists.



Naohisa Yahagi (Japan)

CONTROVERSIES BETWEEN ENDOSCOPIC SURGERY AND ENDOLUMINAL SURGERY

At this roundtable, Naohisa Yahagi (Japan) addressed the endoscopic treatment of superficial duodenal neoplasia. It is a rare condition and its treatment varies depending on the size of the adenoma. If it is less than 5 mm its treatment is with CFP (Cold forceps polypectomy) and if it is larger but less than 10 mm it is done with CSP (cold snare polypectomy). If the lesion is less than 20 mm and without fibrosis, EMR (endoscopic mucosal resection) is recommended, while UEMR (Underwater EMR) is useful in the same cases, but regardless of fibrosis. If the lesions are so large that they cannot be resected with EMR or UEMR, ESD (Endoscopic Submucosal Dissection) is recommended, though this is a complex technique in the duodenum, but very useful in large tumours.



Alberto Montori (Italy)

Following this, Alberto Montori (Italy) indicated that treatment of duodenal adenocarcinoma has so far, been with pancreatoduodenectomy and presented his experience of more than 450 cases with this procedure. However, he indicated that a new endoscopic approach known as the 3rd space, which is created through dissection and expansion of the layer existing between the mucosa and the muscle itself, allows endoscopic access. With this technique the expert showed his experience in the treatment of subepithelial tumours, highlighting the need for good training to obtain satisfactory results.



Mohammad Al Haddad (USA)

Mohammad Al Haddad (USA) provided an update to knowledge on gastric peroral endoscopic myotomy (G-POEM) for the treatment of gastroparesis. In recent years, a significant increase has been detected in hospitalisations for this disease, which is chronic and impairs the quality of life of patients. This expert conducted a review of the treatment, which includes nutritional, surgical and pharmacological measures plus special pylorus treatments such as administration of botulinum toxin, pyloroplasty, transpyloric stent placement and G-POEM. Patients who had this last technique showed significant short-term improvements in gastric emptying and quality of life. He stressed the importance of the correct patient choice for the success of the procedure and the need for clinical trials in comparison with standard treatments.



Rastilav Hustak (Czech Republic)

Continuing with endoscopic treatment of gastroparesis, Rastilav Hustak (Czech Republic) indicated that one of the causes of this pathology is pylorospasm. He noted that EndoFLIP® is a new technique for exploring the capacity of the pyloric sphincter, and that due to the controversial results observed with Botox, this should only be used in highly selected cases.

Hustak cited balloon dilation as another treatment to consider in some patients with gastroparesis post-surgery, while G-POEM should be considered in patients with refractory disease.



Rita Conigliaro (Italy)

Plastic and metallic stents, though effective for benign GI stenosis, are not problem free, Rita Conigliaro (Italy) said. To avoid them stents made from biocompatible and biodegradable material such as SX-ELLA® have been developed and are used in benign oesophageal stenosis (BES) with better results than the classic ones. This expert indicated that sequential placement of stents may be a valid option for avoiding serial dilations. She concluded that SX-ELLA® is indicated in refractory benign oesophageal stenosis, with an optimal rate of technique success and with great safety. In addition, the use of serial stents may be a valid option to avoid dilations and to be the bridge to surgery.

SPECIAL LECTURES

Mei-Dong XU (China) noted that endoscopic treatment of early oesophageal carcinoma and precancerous lesions may be performed with resection techniques (EMR and ESD) or with non-resectable techniques (RFA, PDT, cryotherapy).

Complete responses have been obtained with EMR in more than 90% of cases of Barrett's oesophagus neoplasia and its variants. However, it is not free from complications which include bleeding (intraoperative and delayed), perforation, fistulas, infections, stenosis, and gas-related complications. Endoscopic submucosal tunnel dissection (ESTD) is useful in a wide variety of lesions, with advantages such as a short procedure time, reduced mucosal lesions, and reduced use of coagulation.

Jana Krajciová (Czech Republic), said that surgery is the standard recommended treatment for patients with initial oesophageal cancer with submucosal invasion (T1b) and in high-risk T1a. Endoscopic resection modalities for the T1a state without risk of metastasis are endoscopic mucosal resection (EMR), endoscopic submucosal dissection (ESD), and radiofrequency ablation (RFA) after resection. According to the European Society of Gastrointestinal Endoscopy (ESGE) guidelines for 2015, endoscopic treatment of adenocarcinoma is curative in stages m1 to m4 and sm1, whereas for squamous cell carcinoma it is in stages m1 to m3. She concluded by saying that endoscopic treatment is effective in early stage oesophageal cancer T1a and is an alternative to oesophagectomy in high-risk patients. When oesophageal cancer invades the submucosa (sm1), it can be treated with endoscopy.



Jana Krajciová (Czech Republic)

SYMPOSIUM. ENDOLUMINAL ENDOSCOPY AND EUS JOINT PROJECT

Leonardo Sosa Valencia (Venezuela) gave the first presentation of this symposium. In his talk he indicated that at present it is not possible to know whether there is a tumour in the submucosa unless a histological sample is taken. According to published case series, the probability of lymphovascular/submucosal invasion in early stage cancer is 20-37%. To check whether this lymphovascular invasion can be detected by endoscopic ultrasound, he presented the results of an animal study, conducted at his site, in which fine needle biopsy guided by EUS confocal laser was used. The results of his study led him to conclude that preoperative evaluation of the submucosa with EUS is necessary in early gastric cancer to determine the extent of the surgery to be performed.



Leonardo Sosa (Venezuela)

Luis Carlos Sabbagh (Colombia) spoke about the present and future of EUS. He highlighted the use of EUS-guided transluminal interventions in drainage of pancreatic pseudocysts and WON (walled-off necrosis), their effectiveness and safety having been demonstrated. The efficacy and safety of this technique has also been demonstrated in biliary drainage, indicating that the extrahepatic approach is safer than the intrahepatic. Among applications of new devices, he highlighted obtaining tissue with EUS using FNB needles, and presented some of these. Advances in brachytherapy, photodynamic therapy and radiofrequency ablation were highlighted.



Luis Carlos Sabbagh (Colombia)



Fan Zhining (P.R. China)

One of the major complications after ESD or radiation therapy in oesophageal cancer is stenosis, which may be refractory or recurrent, according to Fan Zhining (China). The first therapeutic option is dilation in more than 80-90% of patients. Drug treatment, usually oral prednisolone, is also used in Asia. Local injection of triamcinolone has been shown to be effective in dilation and in reducing the number of treatment sessions. He indicated that steroids have recently been administered in the form of gel and anti-cancer drugs such as mitomycin C. Fan Zhining presented his experience of some cases in which patients have been treated with gastric, oesophageal, and autologous skin transplants.



Appearance of the Teaching Pavilion auditorium of the Vall d'Hebron University Hospital



Mikhail Burdyukov (Russia)

Burdyukov stated that this procedure is associated with better clinical outcomes, fewer post-procedural adverse effects and fewer repeat operations, as well as reduced time of hospital admissions.

Rajesh Gupta (India) focused on radio frequency ablation (RFA) for biliary pancreatic disease. He indicated that it is one of the local ablation treatments, in addition to photodynamic therapy and brachytherapy. The goals of ablation are to improve survival and quality of life. Following a review of the existing literature, it can be concluded that pancreatic and biliary RFA is safe and

effective, with increased survival and stent permeability having been observed.

EUS-GE is a minimally invasive, safe and effective treatment and represents an alternative to surgery in patients with gastric cancer, Xiang Liu (China) indicated in her presentation. It is a complex procedure that must be performed by expert and well-trained endoscopists and surgeons, she said. She then demonstrated the experience with this technique applied to the jejunum, indicating that it is research on animals, though some small series of cases in humans have already been published.



Xiang Liu (P.R. China)



COFFEE BREAK



Mei-Dong Xu and José Ramón Armengol-Miró



Julius Spicak, Jana Krajciová, Rastislav Hustak and Jan Martinek



Quanlin Li and Joan Dot



Francisco Pellicer, Pedro Menchén, Manuel de la Iglesia, Enrique Castillo, Germán Alonso and Carlos Giménez



Josep Ramon Armengol-Miró, Seda Dzhantukhanova and Yuri Starkov



Mariano Giménez, Stavros Stavropoulos and Miquel Masachs



Rajesh Gupta, Mohamad Al Haddad and Michele Diana



Jaime Ardila-Arz, Antonio Torres and Albis Hani

COURSE PRESENTATION

Graphic report of the presentation of the 13th WIDER-Barcelona International NOTES Course, held at the new facilities of the Digestive Endoscopy Department of the Vall d'Hebron University Hospital, on Sunday, 24 November 2019. Doctors Armengol-Miró and Dot, co-directors of the Course, welcomed the invited speakers, showed them the new department giving special attention to the "Pheno" robot and explained the details of the scientific programme to be developed.



Ángeles Bresca and José Ramón Armengol-Miró



Francisco Valdovinos, Joan Dot, Eduardo Piñeiro, José Ramón Armengol-Miró, Louis de Giau, Fernando Rojas and Nereo Guillermo Salas



What the "Pheno" Robot visit looks like



Seda Dzhantukhanova, J.R. Armengol-Miró, Denis Gusev, Alexey Pavlov, Sergey Kashin, Mikhail Burdyukov and Yuri Starkov



Alberto Montori, Maurizio Zilli and Giuseppe Galloro with his wife



Leonardo Sosa with his wife and Antonio J. Torres



Practical demonstration of "Pheno's" working



Bing-Rong Liu and Jesús Ortiz



Mariano Giménez with his wife and Roque Sáenz Fuenzalida



José Ramón Armengol-Miró, Marco Frascio and Manuel de la Iglesia



Bing-Rong Liu, Antonio González and Jordi Armengol



Guillermo Domínguez, J.R. Armengol-Miró and Michele Diana



Members of the Digestive Endoscopy Department Vall d'Hebron University Hospital



Eduardo Segal and Roque Sáenz



Fan Zhining, Roberto Fogel, Li Liu and Campo Elías Lindado



S. Yamamoto, J. García-Cano and E. de la Morena



Sergey Kantsevov and Aleksey Balalykin



Alexey Pavlov with his wife, Marina Ivantcova and Aleksey Balalykin



Jesús García-Cano, Jesús Espinel, Emilio de la Morena and Guillermo Cacho



Carlos Giménez and Raquel Morán



Miguel Muñoz Navas, J. R. Armengol-Miró and Lucía Marín



José Ramón Armengol-Miró and Joan Dot with speakers from China



A.J. Torres, J.R. Armengol-Miró, J. Escourrou, J. Cordova and L. de Giau



S. Rodríguez, M. El-Khattabi, M. Muñoz Navas, J. Escourrou and J.R. Armengol-Miró



Pedro Menchén, Enrique Castillo, José Carlos Salord and Germán Alonso



Julius Spicak, Jana Krajciová, Rastislav Hustak and Jan Martinek

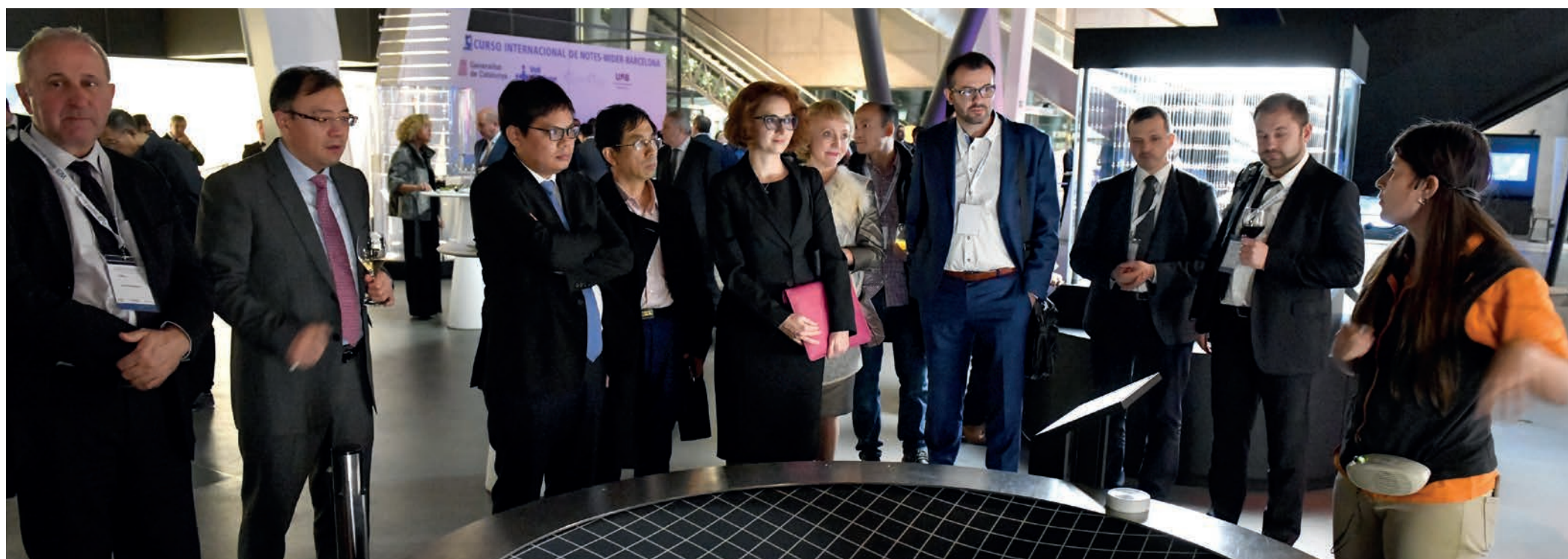
WELCOME DINNER-SYMPOSIUM

Photo report of the Welcome Dinner for participants of the 13th International WIDER-BARCELONA NOTES Course held at the CosmoCaixa Museum. The scientific symposium of this edition was chaired by José Ramón Armengol-Miró (Spain) and Alberto Montori (Italy), and moderated by Rajesh Gupta (India) and Marco Frascio (Italy). The speakers were Sergey Kantsevov (USA), who presented a new way of performing submucosal endoscopic dissection, and Naohisa Yahagi (Japan), whose presentation covered recent advances in ESD in difficult gastrointestinal neoplastic lesions.

The event concluded with a speech by the Corporate Director of Research and Strategy of the “la Caixa” Banking Foundation, Ángel Font, who thanked all the attendees for participating in the course. He congratulated Dr Armengol-Miró on his success and reiterated the support and commitment of “la Caixa” to the WIDER-Barcelona project. The ceremony was closed by Dr Armengol-Miró who thanked Mr Font for his words, asking him to extend that thanks to Mr Isidro Fainé, president of the “la Caixa” Banking Foundation. Then, in a display of memory power, he cited the majority of the speakers one at a time, thanking them for their collaboration, friendship and support over all these years. He concluded by convening the 14th edition of the course, to be held 23 and 24 November 2020.



Appearance of the room



Nadan Rustemovic, Ping-Hong Zhou, Quanlin Li, Bing-Rong Liu, Jana Krajciova, Marina Ivantcova, Rastilav Hustak, Mikhail Burdyukov and Denis Gusev, during the guided tour of CosmoCaixa Museum



Presidential table of the Symposium: Marco Frascio, José Ramón Armengol-Miró, Alberto Montori and Rajesh Gupta



Sergey Kantsevov during his speech



Marco Frascio and José Ramón Armengol-Miró



Naohisa Yahagi during his speech



Antonio J. Torres and Manel Armengol Carrasco



Jorge Olsina and his wife, Joaquim Balsells and Ramón Vilallonga



Michele Diana (centre) and Mariano Giménez and his wife



Jordi Armengol Bertrolí and Joan Dot



Jan Martinek and José Ramón Armengol-Miró



Elena Zucchi, Maurizio Zilli, Rita Conigliaro and Giuseppe Galloro with his wife



Mohammad Al Haddad and Monder Abu Suboh



Felipe Martínez Alcalá, Manuel de la Iglesia and his wife, Álvaro and Pablo Martínez-Alcalá and Ignacio Suárez



Lluís Bracons, Jordi Balaguer, Isabel Gregorio and Ramón Martori



Manuel Morales and Fernando Rojas with their partners



Aleksey Balalykin, Marina Ivantcova, Denis Gusev, Mikhail Burdyukov, Lada Shumkina, Seda Dzhantukhanova, Yury Starkov and Nadan Rustemovic



Joan Dot beside Louis de Giau, Eduardo Piñeiro and Francisco Valdovinos with their wives



Jaime Ardila-Arz and Albis Hani



Lucía Marín, Miguel Muñoz Navas and Jesús Ortiz



Germán Alonso, Pedro Menchén, Francisco Pellicer, Enrique Castillo, Jaume Boix, José C. Salord, Marco Frascio and Manuel de la Iglesia and his wife



Ferrán Solana, Pablo de la Torre, Leonardo Sosa and his wife, Milutin Bulajick and his wife, Sergey Kashin, Michele Diana and Guillermo Domínguez



Joan X. Comella, Àngel Font and José Ramón Armengol-Miró



Ling-Jian Kong, Mei-Dong Xu and Ji Tao Song



José Ramón Armengol-Miró and Xiang Liu



Franz Reutter, Elena Zucchi and Maurizio Zilli



José Ramón Armengol-Miró, Ángeles Bresca and Albert Salazar



Quanlin Li, José Ramón Armengol-Miró and Mei-Dong Xu



Siran Zhou, Deyu Zang and Deliang Li



Montse Giménez, Joan X. Comella, José Manuel Fort, José Ramón Armengol-Miró, Carles Civit and Manel Armengol Carrasco



Lucía Marín, M. Muñoz Navas, S. Rodríguez, J. García-Cano, E. de la Morena, C. Giménez, I. Suárez, Beatriz Búrdalo, Raquel Morán and Ana Murillo



Emilio de la Morena and Jesús García-Cano



Robin Ahmed, Bing-Rong Liu, Stavro Stavropoulos and Mohammad Al Haddad



Carles Civit, Manel Armengol Carrasco, Àngel Font, Albert Salazar, Valentí Farràs, J.R. Armengol-Miró and Montse Giménez



Alexey Pavlov and his wife, Aleksey Balalykin, Denis Gusev, Nadan Rustemovic, Mikhail Burdyukov and Marina Ivantcova



Senol Carilli, Mohamed El-Khattabi, Jean Escourrou, Alberto Montori and José Córdova



Ramón Vilallonga, Jordi Armengol. Mario Pascasio, Miquel Masachs, Monder Abu Suboh, Ana Benages, M.ª Dolores Castillo and Marc Pigrau



Álvaro Martínez-Alcalá and Shunsuke Yamamoto



Naohisa Yahagi, Joan Dot and Antonio J. Torres



Campo Elías Lindado, with his daughter and wife, Carlos Giménez and Raquel Morán



Miquel Masachs, Pablo de la Torre, Nereo G. Salas, Louis de Giau, Ferrán Solana, Mario Pascasio and Dani Baiget



Ping-Hong Zhou, Luis Carlos Sabbagh, Stavros Stavropoulos, Leonardo Sosa and his wife and Rajesh Gupta



Ping-Hong Zhou and José Ramón Armengol-Miró



Angel Font during his speech



José Ramón Armengol-Miró closing the symposium dinner



Raquel Morán, Sarbelio Rodríguez, José Ramón Armengol-Miró, Ángeles Bresca, Beatriz Búrdalo and Carlos Giménez

Day two. Tuesday

CLINICAL NOTES

SESSION 3. SESSION ON CLINICAL NOTES

Keynote speech

Mariano E. Giménez (Argentina) broke down the most important aspects of the first international consensus on image-guided surgery, navigation systems and hybrid operating rooms, developed in 2018 with the participation of experts from 14 countries to be published shortly. The consensus defined the concept of computer-assisted surgery as the broad use of information technologies to improve physicians' skills and increase knowledge and execution through robotics to provide simpler and safer procedures. The consensus also defined guided surgery focusing on the accuracy of the processes, and what is understood by a flanged operating room, all concepts that needed to be defined according to the expert. He stressed that robotic and guided surgery are the present, while molecular medicine, genetics, nanotechnology and AI are the future, and all these techniques will require a hybrid operating room.



The Clinical NOTES Table: Senol Carilli, Marco Frascio, Alberto Montori and Antonio J. Torres



Mariano Giménez (Argentina)

Michele Diana (France) explained the NICE (Near-Infrared Coating of Equipment) project, of which he is a part, which is funded by the company SATT (Sociétés d'Accélération du Transfert de Technologies). Last year they published the augmented vision classification, which consists of three levels. The first level corresponds to the ability to visualise with transparencies (including CT scans, MRIs, etc.), the second level is microscope visualisation (confocal microscopy, optical tomography, etc.) and the third is visualising the invisible, which would correspond to near-infrared optics. This last section includes optical image-guided surgery, which is a fast, appropriate, non-invasive imaging technique for visualising deep tissue structures. It can be useful in diagnostics, tumour localisation and assisted surgical procedures.

Then Dr Diana explained hyperspectral imaging, a non-invasive imaging technique that provides quantitative assessment of tissue physiology and characterisation and is a promising intraoperative tool which enables tissue recognition with a high degree of accuracy, including tumour identification and margin resection. This technique has already been used for the first pilot tests in colon resection, evaluation of intestinal ischaemia, gastric duct creation and tumour detection.



Seda Dzhantukhanova (Russia)

Virtual reality in real surgery: Is this our future? This was the subject developed by Seda Dzhantukhanova (Russia). Virtual reality is an artificial environment that creates "illusions" for the senses, and interaction with these illusions is very complicated, so sometimes it can be difficult to differentiate it from reality, she said. There are now virtual reality programmes created especially for surgery. She defined the potential uses of virtual reality as the best and most comprehensive intervention planning, training programmes for both specialist and resident physicians, and the important role it can play in patient communication/information. In conclusion, in her opinion, the future of medicine and surgery is virtual reality.



Michele Diana (France)



Guillermo Domínguez (Argentina)

After this, Guillermo Manuel Domínguez (Argentina) presented an articulated robotic clamp (Imanlap®) for laparoscopic surgery. Based on his personal experience, this requires a short learning curve and reduces surgery time. As advantages he stressed that it is reusable and achieves "invisible" surgery, that is, it leaves no scars, is safe and cost-effective, plus it can be used in children.



Senol Carilli (Turkey)

Senol Carilli (Turkey) addressed single incision endoscopic surgery (SIE), which, though a relatively recent technique, is widely accepted. Published studies indicate that the cost of this intervention is no greater than that of traditional laparoscopy or open adrenalectomy surgery, there are no more complications nor is more time needed for

the intervention, so according to his experience, this is a better procedure than the usual procedures.

To conclude this session, Gianluca Pellino (Barcelona) focused on minimally invasive trans-anal surgery, indicating that its use has increased greatly in recent years. Some of the notable advantages were full thickness resection of the piece, full excision of the piece and full closure of the defect, enabling operating on polyps a distance of up to 20 cm from the anal margin, benign tumours after discussion with the multidisciplinary committee and malignant polypoid tumours in patients not needing radical surgery.



Gianluca Pellino (Barcelona)

SESSION 4.

NOTES IN LATIN AMERICA

José Cordova (Mexico) commented on the need for endoscopy teaching and its ongoing updating, stating that the learning of endoscopy cannot be done solely as a complement to another specialty, as it requires absolute dedication and must be carried out by highly qualified specialists, who are able to select, analyse and evaluate the medical literature and the entire learning process, as well as constantly update their knowledge. It is very important to recognise the usefulness of simulators, and artificial intelligence is very useful in this regard.



José Cordova (Mexico)



Fernando Rojas (Mexico)

According to Fernando Rojas (Mexico), the prevalence of gastro-oesophageal reflux disease (GERD) has increased in recent years and a percentage of patients will not respond to treatment with proton pump inhibitors. Endoluminal techniques have introduced the possibility of performing incisionless procedures capable of creating an anti-reflux barrier either by strengthening the lower oesophageal sphincter, or with reconstruction of the gastroesophageal junction such as transoral incisionless fundoplication (TIF). Regarding the latter, studies indicate its short-term effectiveness, which decreases in the long term.



Roberto Fogel (USA/Venezuela)

Roberto Fogel (USA/Venezuela) noted that the ideal procedure for endoscopic bariatric surgery should be technically easy, short, with few materials, reproducible, endoscopic, safe and effective. The new ASPIRE® technique has been shown to reduce weight more than 25% in more than 50% of treated patients. Other new techniques were presented such as the whole-enteral magnetic bypass, composed of two magnetic rings, NiTiNOTES®, which consists of simplified gastric resection and Endozip® which is a gastroscopic suturing system.

Subsequently, Albis Hani (Colombia) reviewed the role of endoscopic therapy in Barrett's oesophagus with early dysplasia or cancer and appropriate follow-up of these patients. He noted that therapeutic endoscopy in Barrett's disease is useful when high-grade dysplasia or intramucosal cancer is detected and it may have some utility in submucosal cancer without nodal involvement. Endoscopic therapy has shown less morbidity and mortality from adverse effects than esophagectomy. In conclusion, he stressed the importance of multidisciplinary team work that includes an experienced pathologist.



Albis Hani (Colombia)



Francisco Valdovinos (Mexico)

Francisco Valdovinos (Mexico), for his part, pointed out that patients with Barrett's oesophagus included in surveillance protocols have a better prognosis as any adenocarcinoma is detected at early stages. Endoscopic resection techniques are currently the standard treatment in the early stages of oesophageal cancer from Barrett's oesophagus, preserving the oesophagus and reducing morbidity and mortality associated with oesophageal resection. He also noted the importance of a histopathological study for TNM staging, and disaggregation of endoscopic resection techniques of the mucosa and submucosa, indicating that both are equally effective for endoscopic termination. Finally, he noted that, in Asia, resection techniques are combined with ablation techniques, mainly in patients with residual Barrett's, highlighting the efficacy of radiofrequency ablation and cryoablation, and pointed to the resurgence of hybrid argon therapy in submucosal injection.

SPECIAL LECTURES

Mikhail Burdyukov (Russia) spoke about his ten years' experience of celiac plexus block with the consequent neurolysis in patients with chronic abdominal pain syndrome presenting his experience with 331 patients in his unit. Data indicate that about half of them were admitted for pancreaticobiliary cancer, and of these nearly 80% had pain syndrome.

Endoscopic ultrasonography-celiac plexus neurolysis (EUS-CPN) was needed in severe pain cases. The findings from their study indicate that this is a safe procedure to reduce pain. The assessment of this procedure during the first week was a prognostic factor in the evolution of pain in his study. He also noted that in the case of relapse or exacerbation of pain after eight weeks, the procedure can be repeated.



Deliang Li (P.R. China)

The current state of ERAT in China was developed by Deliang Li (China). Endoscopic retrograde appendicitis therapy (ERAT) began in 2009 and has since been very common in his country. Experience at his hospital indicates that following ERAT, there is immediate pain relief. With this simple and easy-to-learn technique, many patients can be treated on an outpatient basis and recurrence rates are relatively low.

SYMPOSIUM.
ARTIFICIAL INTELLIGENCE (AI)

This symposium was opened by Roque Sáenz Fuenzalida (Chile), who pointed to the enormous evolution of AI and its application in medicine in recent years. Artificial intelligence uses "Big Data" and "deep learning" and is applied in multiple facets of our daily life. Applied to gastroenterology, it has the advantage that there is no interobserver variability or fatigue. For endoscopists, AI helps detect and characterise all polyps, and has shown a reduction in the cost of the polypectomy. Nevertheless, there is still a long way to go, and in future we will have to integrate current endoscopic platforms, develop models to teach clinicians how to use it, and provide an ethical and legal framework for its use.



Roque Sáenz (Chile)

Sergey Kashin (Russia) commented on the existence of an AI system developed in Japan that, applied to the new endoscopic techniques and assisted by computer diagnosis, is able to detect subtle changes in the mucosa, showing the experience

obtained in patients with initial squamous neoplasia, patients with Barrett's oesophagus and patients with gastric cancer. AI will be very useful for proper database registration, the creation of new IA programmes, and integration with current endoscopic platforms and electronic medical histories. He concluded by indicating the importance of good quality control in all these processes.



Sergey Kashin (Russia)

Following this, Cesare Hassan (Italy) noted that there is enormous variability in human intervention related to diagnosis of a polyp which is dependent on the surgeon/endoscopist, though at present this bias can be avoided through the use of artificial intelligence. "Deep Learning" is the "training" system that the machine automatically learns. Hassan then presented the GI-GENIUS® polyp detection system, based on a large global polyp database. This system has been validated with retrospective studies of polyp recognition, having been demonstrated to have a sensitivity of 99.7%.



Cesare Hassan (Italy)



Shunsuke Yamamoto (Japan/Sweden)

Shunsuke Yamamoto (Japan/Sweden) presented a new, improved multi-image endoscopy, ELUXEO®. Combining different wavelengths, this technology facilitates easily switching between three image modes: White Light, Blue Light Imaging

(BLI) and linked Colour Imaging (LCI). BLI facilitates identification of lesions, inflammations and initial stages of colorectal cancers, makes diagnosis easier and more accurate and helps improve patient prognosis, the expert said. LCI enables differentiating the spectrum from the colour red and has been shown to be better than white light in colon adenoma detection. Both light spectra can be combined with acetic acid for sessile serrated lesions. Acetic acid removes mucus attached to the mucosal surface and improves the visualisation of lesions compared to the use of BLI alone, therefore, combined use can be a good method to improve visualisation of sessile serrated lesions and increase the possibility of complete endoscopic resection.

ENDOLUMINAL THERAPEUTIC
ENDOSCOPY

Jan Martinek (Czech Republic) began his presentation indicating that the first peroral endoscopic myotomy (POEM) treatment in humans was performed in 2008. He recalled that in the treatment of achalasia endoscopy is useful for injecting Botox, pneumatic dilation and to carry out POEM. He then presented the good results obtained at his centre with patients with esophagitis on whom he conducted POEM treatment. He then presented the results of a multicentre study in which he participated, which compared the efficacy of surgical myotomy with endoscopic myotomy in patients with primary achalasia. This study concluded that the surgical results obtained with POEM treatment were not lower than those obtained with laparoscopy, however, reflux/esophagitis at 2 years of the intervention was more frequent in patients treated with POEM.



Jan Martinek (Czech Republic)

Lada Shumkina (Russia) said that POEM surgery may be challenging when it is intended to be performed on patients previously operated on in the gastro-oesophageal junction, as the degree of fibrosis in the submucosa is directly related to the viability and safety of the tunnelling technique, though clinical studies indicate that submucosal fibrosis in achalasia patients rarely prevents POEM. During her presentation, she reviewed a new proposal for endoscopic classification of the oesophageal mucosa in patients with achalasia, capable of predicting the degree of fibrosis of the lesion. With the results of case studies from patients on whom POEM was performed for various pathologies, Shumkina concluded that the failure of previous interventions is not a contraindication to POEM and does not affect the evolution of the intervention, though the viability of re-operations will depend on the ability to perform tunnelling.



Lada Shumkina (Russia)



Quanlin Li (P.R. China)

According to Quanlin Li (China) the first case of POEM in his country dates from 2010. To review the long-term data on this intervention, he focused on a meta-analysis of five-year follow-up studies, indicating that less experience of the endoscopist was identified as an independent risk factor for procedural failure. In his country, he indicated that a learning curve of approximately 100 cases is needed. He also reviewed the new Zhongshan POEM classification for risk factors for clinical failure, which are duration of disease, previous treatments, mucosal lesion and reflux. He also presented the experience of his centre with a new technique for submucosal tunnel endoscopic resection for extraluminal tumours (STER-ET), since the submucosa is considered a surgical space that can be approached with POEM.

Following this, Denis Gusev (Russia) showed a clinical case previously presented at the Yaroslavl Endoscopy Symposium (YES) 2019, to discuss the treatment of complicated virsungolithiasis. He recalled that chronic pancreatitis occurs with pain in 80-90% of cases. He presented the case of a woman with a history of biliary lithiasis who needed a cholecystectomy and had type A pain due to short relapse episodes of acute pancreatitis. EUS showed an increased pancreatic duct with lithiasis up to 0.6 cm in ductal span.



Denis Gusev (Russia)

Gusev recalled that GESG guidelines recommend endoscopic/extracorporeal shock-wave lithotripsy (ESWL) as the first line treatment in uncomplicated chronic pancreatitis without obstruction of the main pancreatic duct (MPD) and ESWL in the event of an MPD obstruction greater than 5 mm. The case was very complex because the lithiasis was not accessible, though fortunately Professor Armengol-Miró was visiting the hospital and manipulated the devices used to gain access to the area with stenosis, obtaining its dilation and placing the stent. Regarding the duration of the stent, he reviewed the publications, which indicate an average duration of 23 months.

Next, Sergey Kashin (Russia) presented another clinical case also selected from YES 2019. This was a 64-year-old patient with severe pain from acute pancreatitis complicated with infected necrosis and a giant pseudocyst in the head of the pancreas. Endoscopic drainage is recommended in the case of pseudocyst related to pancreatitis and transpapillary drainage in the event that the pseudocyst communicates with the MPD in the head or body of the pancreas, with subsequent stent placement. This technique was performed with the EUS-guided Hot Axios® device, which, while expensive, is effective and safe.

Special conference

New developments in EFTR (Endoscopic Full-thickness Resection) was the subject of the presentation by Ping-Hong Zhou (China). EFTR for subepithelial gastrointestinal tumours is a minimally invasive technique, performed through natural orifices, which has so far provided hopeful results for this type of tumour. He presented his hospital's experience with this technique mainly in children, both in gastric tumours and colon tumours, as well as in oesophageal defects. The suturing systems that are appearing simplify the closure indicate, though at present, in Asia, which is the area where this technique is used most, that closure is mainly done with endoscopic metal clips. However, important learning is still required, as is the development and promotion of new devices.

Keynote speech

Leonardo Sosa Valencia (Venezuela) spoke about evaluation of the lymphovascular space using endoscopic ultrasound: a new histological and optical dimension. At present it is not possible to know whether there is a tumour in the submucosa unless a histological sample is taken. The possibility of this invasion existing in an initial cancer is 20-37% depending on the publication. He presented the results of a study conducted in animals (pigs) in which gastric cancer was induced, and that were biopsied with EUS-guided fine-needle aspiration with confocal laser endomicroscopy. With these results he concluded that in a pre-operative evaluation of gastric cancer a preoperative evaluation of the submucosa is needed to determine the extent of the surgery to be performed.



Sarbelio Rodríguez (Madrid)

SPECIAL LECTURES

The first talk was by Sarbelio Rodríguez (Madrid), who focused on colonic mucosectomy. He indicated that the prevalence of sessile colorectal lesions larger than 1 cm detected with colonoscopy increases progressively. Treatment varies between western and eastern countries, such that endoscopic resection of the mucosa is performed in the west, with lower morbidity and mortality than surgery and allowing hospital discharge on the same day. In the east, however, the main technique is submucosal endoscopic resection, which allows en bloc resection in 80% of cases.

While this is a complex technique, its results are excellent, obtaining en bloc cure rates of about 90%. Sarbelio Rodríguez reviewed the rates of en bloc resection in both Europe and Spain. He then presented the results of a cooperative series of patients who underwent mucosectomy which show that almost 7% of them had malignant histology and all relapses presented were treatable. The technical success of mucosectomy in this study was 99.5%, and it concluded that submucosal endoscopic resection should be offered to all patients with this type of lesion.



Jean Escourrou (France)

Jean Escourrou (France) then spoke about endoscopic management of ampullary carcinoma. He recalled that the incidence of sporadic ampullary neoplasia is 36% in resected pancreatic-duodenal tumours and 5% in GI tract tumours, while in the familial form it is 80-100%. The importance of treating these adenomas is that 30-60% can evolve into malignant forms, and in 30% of cases biopsies can hide undetected cancer cases. He recalled the types and locations of different types of ampullary carcinomas, noting the importance of endoscopy for the correct staging of the disease and to avoid unnecessary pancreaticectomies, noting that endoscopy can be used for complete resection of an early stage cancer. EUS differentiates between stage T1 and T2 tumours with 90% efficacy. The IDUS (intraductal ultrasonography) has greater precision, as it is able to distinguish

between whether the duodenal submucosa has been invaded or not. The results of a French multicentre study were presented in which an ampullectomy was performed on a single piece, obtaining cure rates in 83% of the cases. Escourrou concluded that endoscopic ampullectomy is a good alternative to open surgery and that en bloc resection should be performed, the extent of the tumour carefully evaluated, and appropriate follow-up conducted for early recurrences.

Leonardo Sosa Valencia (Venezuela) said the images obtained by EUS are difficult to interpret, so computers are now available that help the doctor see, think and make decisions. This is the basis of the work developed by his team over the last two years, and with which they have managed to create a computer program capable of transforming the ultrasound image into a 3D image which enables visualising and precisely locating the tumours. Sosa showed the whole work process that has been carried out, and, which has already been tested in live animals. For the future, we are working on EUS for tumour recognition, chronic pancreatitis, and to detect the needle puncture track.

SESSION 7. OBESITY SESSION

KEYNOTE SPEECH

Antonio J. Torres (Madrid) focused his lecture on the ethics of the new endoscopic/surgical procedures for bariatric/metabolic surgery.



Antonio J. Torres (Madrid)

The lack of systematic research and surveillance on new endoscopic procedures and bariatric and metabolic surgery is indefensible. In this regard, he indicated that surgeons should conduct systematised clinical studies, though he pointed out that clinical studies with too strict criteria can stifle innovation.

While randomised clinical trials are considered the standard format for generating new knowledge, other ways of learning and generating knowledge must not be closed off, noting the importance of registry studies in the area of bariatric/metabolic surgery/endoscopy. He added that clinical research is as important as sharing experiences, especially when complications arise, and avoiding dangerous attitudes on the part of professionals. Therefore, the new procedures should be subject to the same processes as the new drugs, including randomised clinical trials. In addition, the techniques already in place should be further improved and evaluated, bearing in mind that the most important thing is to do no harm to the patient.



Ramon Vilallonga (Barcelona)

To end the course, Ramon Vilallonga (Barcelona) spoke about new robotic platforms. He indicated that robotics improves surgeons' movements by differentiating them through a digital platform, which is a system of performing more functions than those of movements. Today, there are many companies working on robotic devices related to any part of the human body. Some of these are presented below as the already known Intuitive Surgical® platform, which uses the Da Vinci surgical system and is used in all hospitals in the USA. The most evolved version of this system is now available – the Da Vinci X® and Da Vinci single site®. The platform Verb Surgical® is expected in the immediate future, a result of a partnership between Johnson and Johnson and Google and which provides a better interface between technology and the patient. He also commented on Medtronic's FierceBiotech® platform, indicating that it is a universal modular system that will be updated regularly; on CRM Surgical®, an already-existing robot with 1 to 3 arms; Senhance® by TransEnterix, and Rob Surgical® by Bitrack developed in Barcelona and reviewed the characteristics of each of these.

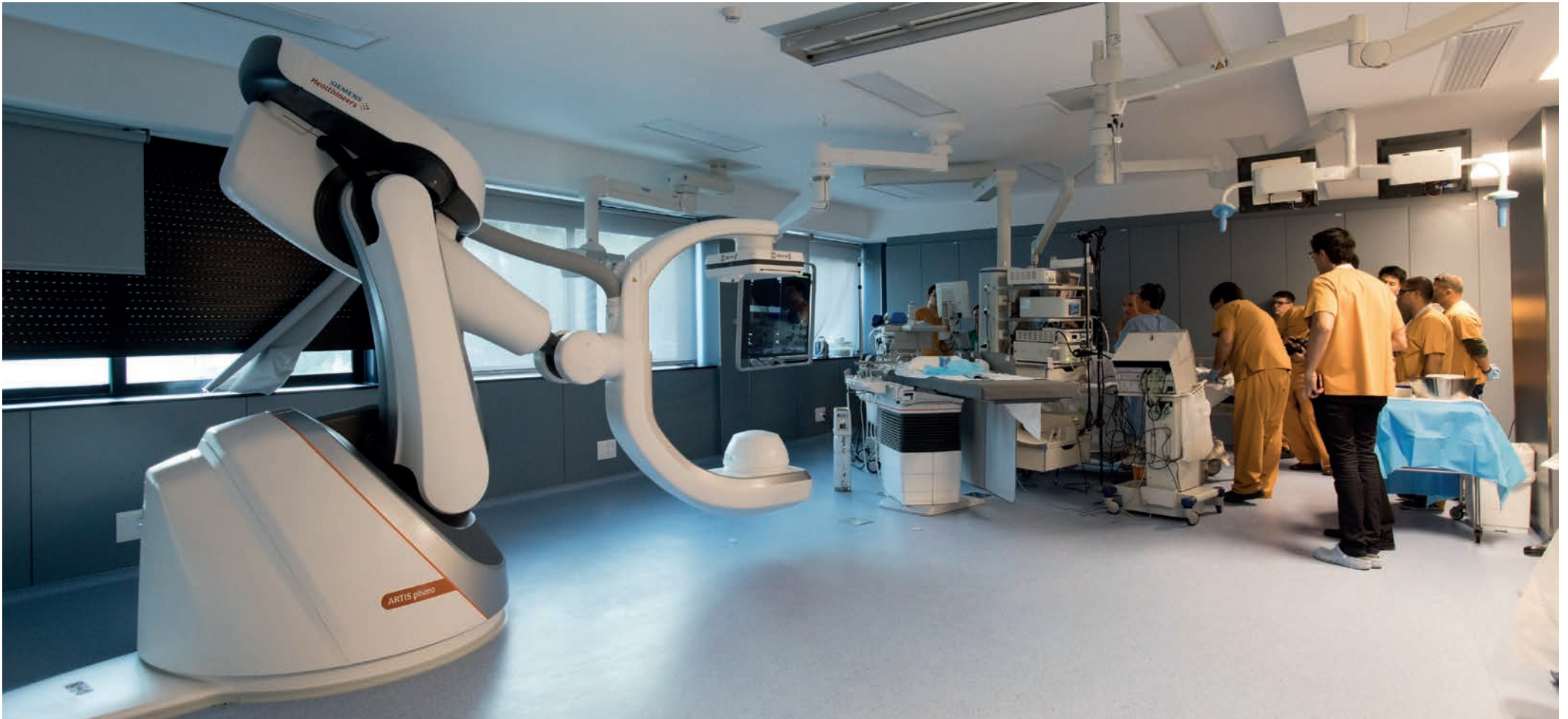


Artificial Intelligence Symposium: Shunsuke Yamamoto, Roque Sáenz, Cesare Hassan, José Ramón Armengol-Miró y Sergey Kashin

This edition of the course finished with the Obesity Roundtable and the 14th WIDER-Barcelona International NOTES Course was convened, which is to be held on 23 and 24 November 2020.

WB
WIDER-Barcelona

LIVE BROADCASTS FROM OPERATING THEATRES



Appearance of room "Dr. Josep Ramon Armengol-Miró de Guimerà"



Bing-Rong Liu



Stavros Stavropoulos



Xiaoguang Zhang and Ping-Hong Zhou

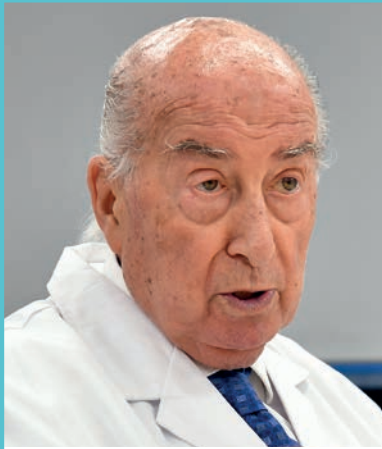


Joan Dot, Deliang Li and Bing-Rong Liu



Sergey Kantsevov and Ana Benages

INTERVIEWS



Doctor José Ramón Armengol-Miró

Director of WIDER-Barcelona
Digestive Endoscopy Service
Vall d'Hebron Hospital. Barcelona.
Research Institute VHIR
Associate director of the 13th International
WIDER-Barcelona NOTES Course

«One of the interventions with Artis Pheno, which has had the most impact is post-hepatectomy treatment of a bilio-cutaneous fistula which was transmitted live in Seoul, during the International Meeting of the Society of Gastrointestinal intervention»

How would you rate this 13th edition of the WIDER-Barcelona International NOTES Course?

The general opinion of attendants was that this course was, in every way, one of the best so far, as there were excellent speakers, novel scientific presentations and magnificent live case demonstrations. We put enormous effort into its organisation, with great enthusiasm and dedication, and we were rewarded with the success achieved.

There is consensus among attendees that this course is of excellent scientific quality. What criteria do you use to select the speakers who attend the WIDER Barcelona NOTES?

Well, it is clear that in the selection of speakers there are a considerable number of teachers who have been at the course for years, as they are the greatest experts in the field and all of them are of recognised international prestige. Any topic related to technical developments or future perspectives that come to our attention is a reason to invite an expert to report on and update us with any experimental or clinical innovation, whether it's a regular speaker or an emerging expert attending for the first time.

What has the new X-ray robot Artis Pheno installed last July in the Digestive Endoscopy Service led to?

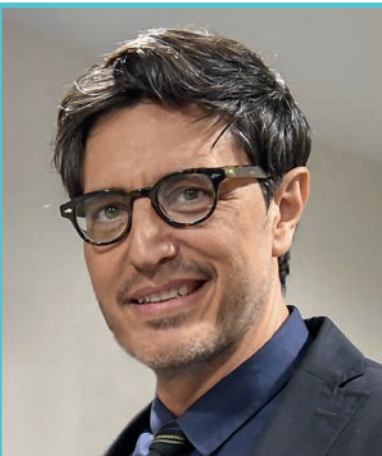
The truth is that we have almost passed the training phase, which never ends given the many applications we have in the pipeline. We have already performed many interventions on patients with complex pathologies that required combined treatment with the endoscope and a 3D scanner support with excellent results. One of the most significant effects has been the post-hepatectomy treatment of biliary-cutaneous fistulas, which could not be resolved with other treatments. This intervention was carried out and transmitted live to Seoul during the International Meeting of the Society of Gastrointestinal intervention and the use of the Artis Pheno was a resounding success.

The 7th edition of the Guide will soon be published, which reviews the terminology, definitions and therapeutic and diagnostic classifications in Digestive Endoscopy, where you are listed as an editor. What is the history and purpose of this Guide?

The first edition by Professor Zdenek Maratka appeared in 1984. There were three principles of endoscopic terminology: description, interpretation and final diagnosis, including histological and cytological results. Today the guide meets the main objective of using a common language among the working teams in different countries, because without a common language and proper terminology we cannot understand each other and that is how difficult it is to make further progress.

What are the dates for the 14th edition of the WIDER-NOTES course? Are you preparing any new features?

We are going to try to schedule the next course for 23 and 24 November 2020. It will have notable changes from the previous courses; it will incorporate the new technologies and their applications.



Doctor Joan Dot Bach

Head of the
Digestive Endoscopy Department
Vall d'Hebron Hospital. Barcelona.
Associate director of the
13th International WIDER-Barcelona
NOTES Course

How would you rate this 13th edition of the WIDER-Barcelona International NOTES Course?

First, the inauguration of the expansion of the Digestive Endoscopy Department. We wanted all the participants of the Course to become familiar with the facilities that the new hybrid operating room has to offer, featuring a surgical robotic X-ray arm. I have the honour of being able to say that we are the first digestive endoscopy department in Europe that has a room with these features.

Second, and linked to the first, is inclusion of a roundtable on artificial intelligence in the course, a field we have been exploring recently, and which I think should be incorporated into endoscopy units in general, especially units where population screening for colon cancer is performed.

What is your assessment of the X-ray robot Artis Pheno after having it installed at your department these months?

In endoscopy units where tertiary care is crucial, having the new Siemens Artis Pheno robot allows us to take a step further. We have a system that can obtain 4D images in real time, while we are performing endoscopy on patients. This has enabled us to successfully solve, with minimally invasive solutions, complex pathologies of patients in which other methods have already been rejected. This is why, as we already anticipated last year and as Dr Armengol-Miró predicted, it is extremely useful to have this technology at our facilities.

Is there a project to incorporate other technological advances in the digestive endoscopy/WIDER institute in the near future?

Yes, linked to the development of artificial intelligence in digestive endoscopy that will allow us to see more and better, and thus increase diagnostic performance and therapeutic success for our patients.

«In endoscopy units where tertiary care is crucial, having the new Siemens Artis Pheno robot allows us to take a step further»



Doctor
Antonio José Torres García

Head of Surgery 2 and
Thoracic Surgery Department.
San Carlos Hospital. Madrid.
Complutense University
Associate director of the
13th International WIDER-Barcelona
NOTES Course

You gave a lecture called “the ethics of new endoscopic and surgical procedures in bariatric and metabolic surgery”. Why was it important to address this aspect?

There is now so much development of new devices and new therapeutic and diagnostic options that it is necessary to reflect on what is best for the patient and the fact that “new” does not always mean “best”. To ensure that they benefit the patient, these new procedures and techniques must be implemented using evidence-based medicine and with supervision by different specialists. “Ultimately, we should implement advances a little more robustly than we sometimes do at present.

For example, new endoscopic procedures have been implemented in the treatment of patients with obesity which naturally lead to the saying to do no harm, but the benefit they offer is also likely questionable. What does no harm is not always progress and sometimes the least aggressive way is not useful. This is the controversy that I raised in my talk in this course.

«We need to reflect on what is best for the patient and the fact that “new” does not always mean “best” for the patient»

You are co-director of this course. Would you highlight any new developments in this edition?

One of the novelties is the implementation of a new radiological robot installed at the Digestive Endoscopy Department Vall d’Hebron-WIDER-Barcelona Centre which was donated by the “la Caixa” Foundation. This new device allows the assembly of radiological and endoscopic images to identify lesions more accurately and better treat patients. The implementation of this technology is a very important step forward. But even at this 13th WIDER we have seen that such a modern new device can be implemented ethically.



Doctor
Yury Starkov

Surgery Department.
Vishnevsky Institute of Surgery.
Moscow. Russia

You have moderated two roundtables. What is your impression of this 13th edition of the WIDER-Barcelona International NOTES Course?

I am very pleased to be able to participate by moderating and chairing some of the roundtables in this course. Every year Dr Armengol-Miró includes all the newest and most relevant topics in the scientific programme and brings together experts from different fields and from different countries from around the world with whom to exchange experiences.

One of the most rewarding aspects of this meeting is that every year young doctors and new stars come to present their findings. I am very pleased that many of them come from Russia. Dr Armengol-Miró attends our congresses every year and selects these young doctors and invites them to come here. I have been attending this course for eight years and every time the scientific quality is excellent. It is an achievement that leaders in this field around the world come to be part of this event.

«I have been attending this course for eight years and every time the scientific quality is excellent. One of the most rewarding aspects of this meeting is that every year young doctors and new stars come to present their findings»

You are familiar with the new technologies, because at the Vishnevsky Institute of Surgery in Moscow they use virtual reality. What do you think the new radiological robot that has been installed at the Vall d’Hebron WIDER-Barcelona digestive endoscopy department brings?

It will be a great step forward in the practice of endoscopy. The Artis Pheno robot is the newest thing in interventional radiology. The first time I visited the new department facilities I was impressed. We visited the department several times to watch endoscopic procedures. This new radiological robot brings an even higher level of technology and allows the team of professionals at the Vall d’Hebron Hospital to reach the “cosmos in clinical practice”.



Doctor
Cesare Hassan

Endoscopy Unit.
Nuovo Regina Margherita Hospital.
Rome. Italy

What is the main application of artificial intelligence in colonoscopy?

Its main application is to detect polyps. We know that one-third of polyps are not detected by endoscopists and artificial intelligence currently provides real-time diagnosis faster through a computer-aided system. This software allows the identification of any polyp. When endoscopists do this procedure, they see a green box on the screen which identifies, locates, and segments the polyp. This system decreases the risk of polyp under-diagnosis.

«Artificial intelligence in colonoscopy reduces the risk of underdiagnosis of polyps»

Have you already done studies with artificial intelligence in endoscopy?

We have already conducted the first retrospective study on artificial intelligence in colonoscopy that included 300 polyps. In addition, we have just completed a prospective randomised study that shows that the use of this system greatly increases the detection rate of adenomas.

On the other hand, we are currently working on a system, which will soon be available on the market, which allows the detection of tiny polyps and the differentiation between adenomas and hyperplastic polyps. We are also working on software capable of measuring the amount of the mucosa that has been explored, in software that automatically measures polyp size and in software that automatically writes the report including the level of bowel preparation and the number of polyps detected and removed, among other aspects.



**Doctor
Seda Dzhantukhanova**

Surgery Department.
Vishnevsky Institute of Surgery.
Moscow. Russia

What applications does virtual reality have in surgery?

There are numerous applications of new virtual technologies in surgery. They can be applied for intervention planning or for training in difficult cases. We apply these new technologies in real time during surgery, as a navigation system during the intervention. In this way it is possible to observe the anatomy, the large vessels and all the lesions that we do not usually see during the surgery. This allows the prevention of intraoperative complications. We also use virtual reality to train medical students and residents and to explain to patients their illness and the procedure to which they will be subjected. In short, these technological advances allow us to conduct faster and safer surgery.

Is virtual reality the future of surgery?

We don't yet know the answer to this question. The initial results are very promising, but we don't know whether we will routinely apply these new technologies in our consultations.

«We use virtual reality, among other applications, as a navigation system during surgery»



**Doctor
Michele Diana**

Medical Scientific Director
of the Research Institute against Cancer
of the Digestive System (IRCAD).
IHU-The Institute of Image-Guided
Surgery of Strasbourg.
Strasbourg. France

What is the NICE Project?

NICE (Near Infrared Coating of Equipment) is a solution, basically a paint, which can be used to coat surgical instruments. It makes it possible to visualise these instruments even beneath the tissue, thanks to the high penetration power of the almost infrared light over white light. This prevents injury to anatomical structures and can make for more accurate and safer surgery. It is a promising and original technology which has multiple potential applications. Currently, it is pending approval for the first clinical trial in humans.

«NICE (Near Infrared Coating of Equipment) enables visualising surgical instruments beneath the tissue, making it possible to conduct more precise and safer surgery»

What is hyperspectral imaging technology?

Hyperspectral imaging is a fairly emerging technology, at least in the medical field. Hyperspectral technology "per se" is not new. It was developed by NASA in the 60s and had many applications, such as in agriculture and even for identification of crime scenes. Hyperspectral imaging is possible thanks to a spectrometer and a camera and it allows non-invasive chemical analysis of tissue. Light interacts with the tissue and this interaction enables capturing the spectrum that comes from the tissue as well as reveal its water and fat content, perfusion level and other parameters that enable distinguishing pathological tissue from normal tissue. So, it is a very precise technology and its application in the field of medicine is far-reaching.



**Doctor
José Ángel Córdova Villalobos**

Ex-President of the Mexican Association
of Digestive Endoscopy.
Former director of the Faculty of Medicine
of the University of Guanajuato. Mexico.
Former Secretary of Public Education and
Former Secretary of Health of the Government
of Mexico

«The proliferation of the endoscopy specialty requires a review of the type of training that endoscopists are required to have»

Is it necessary to review the objectives in the training of endoscopists?

The proliferation of endoscopy as a specialisation around the world, especially in developing countries, requires a review of the type of training that endoscopists required and the characteristics that the centres providing such training must meet. All this with the aim that an endoscopist is not one who can pay for an endoscope or a team but one who knows how to perform endoscopy and not put the patient's health at risk.

Previously, endoscopy was considered complementary to another specialty but now it has its own individuality. It has been developed so much that an endoscopist currently performs interventions very similar to those performed by a surgeon. This is why they not only need longer training, but ongoing permanent training also.

What resources are currently available for this ongoing training update?

There are currently biological and virtual simulators with which the endoscopist can test new procedures without harming the patient. When the endoscopist is well trained, he or she can already use the technique in the patient without any risk. As I noted earlier, that updating should be permanent and ongoing, otherwise it is very difficult to maintain the ability to do the procedures currently performed in endoscopy well.



**Doctor
Ping-Hong Zhou**

Endoscopy Centre.
Zhongshan Hospital.
University of Fudan.
Shanghai. China

You addressed the new advances in endoscopic full thickness resection in this course. What can you tell us about this?

With endoscopic full thickness resection (EFTR), we remove gastrointestinal wall tumours by resecting the mucosa, submucosa, muscle layer, and even the serous layer. Thanks to the improvement and development of closing techniques and devices, such as endoscopic suturing devices, endoscopists can now perform more aggressive procedures. It is therefore a very promising endoscopic technique that allows resection of a small piece of the full thickness of the gastrointestinal wall. EFTR is a procedure that is between surgery and endoscopy. We can even use EFTR to remove the appendix. This technique is really representative of NOTES (Natural Orifice Transluminal Endoscopic Surgery).

In my presentation I have presented some very interesting clinical cases treated with EFTR at our hospital. My advice to endoscopists is that this procedure should be done step by step.

«Endoscopic full thickness resection is a representative technique of NOTES surgery»



**Doctor
Sarbelio Rodríguez
Muñoz**

Head of the Digestive System
and Endoscopy Department.
Ruber Juan Bravo
Hospital Complex.
Autonomous University of Madrid

In this course you gave a lecture entitled “Mucosectomy in the Colon: a step back to look forward”. What message did you want to convey?

Endoscopists have chosen to treat early malignant and premalignant lesions of the colon in a very elegant way from a technical point of view but there are ways to care for our patients that are simpler, cheaper and more effective.

In 2008 I contacted Japanese specialists to learn the technique of endoscopic submucosal dissection (ESD). After having done 250 or 300 ESDs in Spain and the national cooperative group having done almost 1000, it is time to reflect on what we are doing.

ESD is a technique that requires a lot of training, a very long execution time, very expensive equipment and it is associated with a high number of complications. Furthermore, statistics indicate that approximately 65% of patients do not gain any benefit from ESD. Of the remaining 35%, those with invasive cancer do not benefit either. Therefore, few patients would benefit from ESD.

In view of this, I thought about returning to the previous situation and seeing what would happen if instead of treating all patients with ESD we treated them with endoscopic mucosal resection (EMR) or mucosectomy which is a much simpler, much cheaper technique and does not require hospital admission. Thus, we can compare the results of these 10 years of ESDs with the results of what I am currently doing, that I have reused EMR in the treatment of early malignant and premalignant lesions of the colon.

«Endoscopists have chosen to treat early malignant and premalignant colon lesions in a very elegant way from a technical point of view but there are ways to care for our patients that are simpler, cheaper and more effective»

You run the Advanced Endoscopy conference held annually in Madrid. How would you evaluate that meeting which was held for the tenth time this year?

The course has an upward trajectory and we have a growing number of attendees each year. We conduct a series of lectures designed to showcase the latest innovations. In other papers, which are part of the section entitled “How I do it and why I do it,” experts not only tell us how well they do it, but exactly how they do it and what little tricks they use to improve their technique. In addition, national and international super experts perform a good number of live interventions either using ESD, mucosectomy, etc. The next Advanced Endoscopy conference will be held in Madrid on September 24 and 25, 2020.



**Doctor
Mariano Giménez**

Professor of Surgery at the University of Buenos Aires. Holder of the Chair of Excellence in Percutaneous Surgery at the University of Strasbourg. Scientific Director of Percutaneous Surgery at the IRCAD Institute. University of Strasbourg, France

You gave the keynote lecture “Results of the first international consensus in image-guided surgery, navigation systems and hybrid operating rooms”. What did your talk focus on?

I discussed the latest definitions, about what a hybrid operating room is and the use of artificial intelligence in all our practices. I focused especially on the concept of image-guided endoscopic and surgical interventions and everything related to either endoscopic, percutaneous, or computer-related surgical-robotics.

As Professor Silvana Perretta of the University of Strasbourg says, the future of surgery is flexible, either with an endoscope or with flexible needles. The future is definitively robotic, with artificial intelligence, with a lot of technological burden and totally flexible.

Has technology come to stay?

Without a doubt. The near future lies in technology. And we’re seeing it in this course. It was always said that technology dehumanised medicine and surgery and this is not so. Technology allows us to make medicine more accurate. Now, I don’t treat just a tumour, rather I treat a tumour with certain characteristics in a particular patient and I have all this information before I begin to operate through whichever route: through the skin, through natural orifices, or through a robot or laparoscope. And not only do I have all this information beforehand to plan, I have it at the time of practice to treat the precise lesion without having to destroy the surrounding tissue. This has a number of benefits such as a better and faster recovery, less post-operative pain and a shorter hospital admission time. And most importantly, for example in the case of cancer, it obtains equal or better results.

«The future of surgery is definitively robotic, with artificial intelligence, with a lot of technology and it is totally flexible»



**Doctor
Rita Conigliaro**

Gastroenterology and Digestive
Endoscopy Unit.
Azienda Unità Sanitaria Locale.
Modena, Italy

What does the ELLA stent provide for the treatment of gastrointestinal tract stenosis and fistulas?

The ELLA stent is a new and special stent because it is biodegradable. It is not a metallic stent, rather it is made of polydioxanone which is a material that disappears in three months and therefore it does not need to be removed. At this time in 65–70% of the cases the problem is solved. When the result is not definitive it is a good way to bridge to another surgery or procedure. Another particularity of the ELLA stent is that because it stimulates tissue regeneration it enables resolving some difficult-to-treat fistulas or dehiscences. Though there is no tissue, the placement of this type of stent means that in three months the tissue can regenerate in order to solve very difficult cases.

Are you doing any studies with this type of stent?

We have published a clinical case with this stent. There are international studies with this stent but only for the treatment of stenosis. Not for dehiscences or fistulas. For fistulas there is nothing in the scientific literature because it is a new application. We have treated eight patients to date and will publish a number of clinical cases.

You are a real veteran of this WIDER-Barcelona International NOTES Course.

I have in fact been coming for many years. I am interested in all the issues that are addressed here. Every year we update our knowledge and learn new things. It is a high-quality international meeting and this is why it is very important for us to be here.

«Because it stimulates tissue regeneration, the ELLA stent facilitates resolving some difficult-to-treat fistulas or dehiscences»



**Doctor
Mei-Dong Xu**

Endoscopy centre.
Shanghai East Hospital.
University of Tongji.
Shanghai, China

You have had extensive participation in this WIDER-Barcelona NOTES conference. What issues have you addressed?

I gave four lectures. One on how to diagnose and resect submucosal gastrointestinal tumours and another on advances in endoscopic treatment of early oesophageal cancer and how to control complications. I also spoke about endoscopic management of the different complications of endoscopic resection and about the applications, training and challenges of submucosal tunnelling endoscopic resection (STER).

«Submucosal tunnelling endoscopic resection (STER) is a very simple and very safe technique for resecting submucosal tumours derived from muscularis propria»

What is submucosal tunnelling endoscopic resection (STER)?

I was the first in the world to be involved in this technique in the gastrointestinal tract. It is a very simple and very safe new technique for resecting some submucosal tumours, such as those derived from muscularis propria. The STER technique is different from traditional endoscopy and NOTES procedures: it uses the submucosal space between the mucosa and muscle layers. Some of its advantages are that it facilitates en bloc resection, it allows the integrity of the mucosa to be maintained and it reduces the risk of post-operative gastrointestinal complications. In addition, it is a minimally invasive technique which is associated with rapid recovery and shorter hospital admission time.

What are the complications of endoscopic resection and how can they be managed?

We have observed that endoscopic resection can be associated with many complications such as abdominal pain and distension, chest pain, post-intervention pleural or peritoneal effusion, infection, scar formation, and stenosis. But the main ones are bleeding and perforation. These complications can be very difficult to control. In almost 100% of cases there is immediate bleeding. Some advice to prevent bleeding is to administer a sufficient submucosal injection or perform a correct dissection of the layers, among other measures.



**Doctor
Naohisa Yahagi**

Director, Department
of Research and Development
for Minimally Invasive Treatment.
Cancer Centre.
Keio University, Tokyo, Japan

What were the conclusions of your presentation focused on endoscopic treatment of superficial duodenal neoplasms?

Duodenal resection is fairly risky, but if we perform a very careful endoscopic resection, we can offer the patient a minimally invasive treatment. I addressed the latest endoscopic resection techniques for duodenal lesions, the differences among the techniques and the effectiveness of each. For instance, I talked about procedures such as Endoscopic Submucosal Dissection (ESD) and ESD including the papilla.

The conclusions are that cold forceps and cold snare polypectomies are effective for small lesions. Endoscopic Mucosal Resection (EMR) and underwater EMR are useful for medium-sized lesions. ESD is extremely challenging in the duodenum but it has a great advantage in the management of large superficial duodenal tumours.

You addressed the recent advances in endoscopic full thickness resection of difficult gastrointestinal neoplastic lesions at this course.

Indeed. It is currently possible to successfully treat difficult gastrointestinal neoplastic lesions using ESD. In the past, it was virtually impossible to remove this type of lesion with endoscopy.

I presented here four clinical cases which due to their characteristics are usually very difficult to treat with endoscopy and this allowed me to show that in these cases treatment with ESD can be successful. The first case was a patient with cancer in Barrett's oesophagus. I also presented one patient with a colonic lesion and one with a duodenal lesion. Another case was a patient with an early mid-size gastric cancer located in the lower part of the gastric cardias that we were able to resect using the ESD technique and a special endoscope.

«It is currently possible to successfully treat difficult gastrointestinal neoplastic lesions using ESD»



**Doctor
Sergey Kashin**

Head of the Endoscopy Department.
Regional Oncology Hospital.
Endoscopic Training Centre.
Yaroslavl State University, Russia

You spoke about artificial intelligence at this conference. What is the usefulness of artificial intelligence in the field of gastrointestinal endoscopy today?

Artificial intelligence and computer-assisted diagnostics in endoscopy is currently a very hot topic because of the great advances being made in this field.

Artificial intelligence currently helps in the detection of early cancer and in the characterisation of neoplastic and non-neoplastic lesions. It also helps increase the detection rate of neoplastic lesions and polyps in the endoscopy of the upper gastrointestinal tract and the colon.

«Artificial intelligence in the field of gastrointestinal endoscopy helps in the detection of lesions, quality control and training of inexperienced physicians»

What studies are you conducting in this area?

Our group is deeply involved in artificial intelligence studies for characterising gastric neoplasias. We presented our results at the latest United European Gastroenterology Week. These indicate that artificial intelligence is not only useful for detecting subtle changes in the mucosa of the stomach, but also to help young doctors characterise these lesions and make correct diagnoses.

We are currently focused on quality control in endoscopy using artificial intelligence, as it helps us not only in detection but also in counting the number of polyps we can detect during endoscopy of the upper and lower gastrointestinal tract, the time taken to remove the endoscope or the frequency with which we do not diagnose the lesions.

In short, artificial intelligence in endoscopy helps in the detection of lesions, quality control and training of physicians with little experience in the detection of early cancer."



Dr Armengol-Miró said at the inaugural conference that you are like one of the family.

I came to this conference years ago and participated in live surgery and with some presentation or other. Dr Armengol-Miró conceived this conference many years ago and 13 years ago finally held the first one. The organisation takes a lot of effort. He goes to multiple conferences throughout the year and selects the best researchers. This course benefits us all tremendously because it is a forum for presenting new ideas about interventional endoscopy. I think this course is very useful not only for people who are already doing advanced endoscopy procedures but also for people who want to learn more about it.

**Doctor
Sergey Kantsevoy**

Director of the Therapeutic Endoscopy Centre.
Institute for Digestive Health and Liver Disease.
Mercy. Baltimore, Maryland (United States)

«The DiLumen™ endoscope accessory allows for faster, simpler and more effective EMR or ESD procedures in the colon»

What did your talk focus on?

This year I talked about my experience with a new device. It is an accessory called DiLumen™ which allows you to stabilise the endoscope in the colon and determine the work area. Over the past two years I have performed more than 500 procedures with this device and we can now state that this device allows endoscopic mucosal resection (EMR) or submucosal endoscopic dissection (ESD) procedures to be performed in the colon more quickly, simply and effectively. I have also performed an in vivo intervention with the DiLumen™ device, for the removal of colon polyps in a patient in such a way that the advantages of this accessory have been observed.



**Doctor
Alberto Montori**

Professor Emeritus
at the University of Rome
La Sapienza. Rome. Italy

What procedure do you usually use to treat adenocarcinoma of the duodenum?

Treatment of duodenum adenocarcinoma may be surgical or endoscopic. Traditionally we performed a pancreatoduodenectomy. But since 2013 we have extracted cancer from the first section of the duodenum through a new endoscopic approach, without major interventions. Since then I have used this new endoscopic method to extract cancer from the first portion of the duodenum and I am very pleased with it.

Curiously you are a surgeon...

It is indeed quite peculiar for a surgeon to use an endoscopic approach. There is a very important aspect that I have learned in these years of the development of NOTES and that is that the skin should always be taken into account. I have never believed that a large incision is synonymous with a great surgeon.

I think we should respect the skin because the skin is our covering. But general surgery for me is still alive because it is the basis of everything. To be an endoscopist you must have a basis and know the anatomo-surgical rules. These important endoscopic interventions should be performed by endoscopists or well-trained surgeons. In the past I have always performed the surgical removal of adenocarcinoma from the first portion of the duodenum but now I think it is possible to do so through a new endoscopic approach and without any complications. But I insist, as long as it is carried out by a highly trained endoscopist.

«It is now possible to treat adenocarcinoma of the first section of the duodenum very satisfactorily through a new endoscopic approach, provided it is done by highly trained professionals.



**Doctor
Rajesh Gupta**

Asian Institute of
Gastroenterology.
Hyderabad. India

What to do when endoscopic retrograde cholangiopancreatography fails?

We have all been using endoscopic retrograde cholangiopancreatography (ERCP) for decades. This is one of the most appreciated and advanced endoscopic procedures, but sometimes even it fails.

When ERCP fails, to date the traditional approach has been to use interventional radiology and surgery. But currently, while we still need surgical support and the help of interventional radiologists, endoscopists have a new tool, ultrasound-guided drainage, which allows both endoscopic biliary drainage and drainage of pancreatic ducts to be carried out when ERCP fails in these indications.

What role is RF ablation currently considered to have in the treatment of pancreatic disorders?

Radiofrequency ablation is a very useful palliative treatment in patients with highly advanced tumours that are inoperable, both in the biliary tract and in the pancreas.

In this area we now have a great deal of experience with this technique. Palliative treatment is a very safe and effective procedure in patients with pancreatic cancer as well as in patients with biliary cancer. In these cases, radiofrequency ablation can also be used with the help of ultrasound-guided procedures.

«As palliative treatment, radiofrequency ablation is a very safe and effective procedure in both pancreatic and biliary cancer patients»



**Doctor
Marco Frascio**

Associate Professor of General Surgery.
General Surgery Department.
University of Genova. Italy

As a surgeon, how do you perceive the new procedures in surgery?

In this course most speakers are endoscopists who present and deepen their techniques and procedures. Endoscopists are increasingly performing treatments that were previously reserved for surgeons.

One of the main consequences is that surgery is likely to have little future. On the one hand the new procedures used by oncologists and on the other the new procedures used by endoscopists augur that probably in approximately 20 years surgery will no longer be necessary in the field of digestive pathology. It may be useful only in advanced cancer, where oncologists and endoscopists are not able to eradicate it.

«Probably in about 20 years, surgery will no longer be necessary in the field of digestive pathology»

In your usual clinical practice, you work very closely with endoscopists.

Yes, and with interventional radiology as well. Endoscopists and interventional radiologists can sometimes treat cases that, just 10 years ago, it was only possible to treat with surgery. That is good news.

I think it is very good, just as occurs in this WIDER-Barcelona course, that surgeons, endoscopists and radiologists work together, because I firmly believe that "contamination" is fundamental to evolution. I think it is very necessary to know what is happening in the other fields. In this way we can grow enormously.



**Doctor
Marina Ivantcova**

Central City Hospital of Yekaterinburg.
Russia

How important is teamwork in endoscopy?

The patients are the main objective of our work and the teamwork of the clinical staff is a central part of this work because it ensures quality and safety in endoscopy.

In my presentation I spoke of the need for a common language in the team because without a common language and proper terminology we cannot understand each other. We need a common language to be more effective and get the best results in our daily clinical practice.

In addition, we currently have a great deal of documents and clinical practice guidelines. Each country has its own documents, but throughout the world we usually use the English language to better understand each other.

«We need a common language to be more effective and get the best results in our clinical practice»

Are attempts being made to strengthen that common language?

Professor Armengol-Miró is an international leader in endoscopy. Since the beginning of the 90s he began organising special clinical recommendations and he was the first to attempt to provide similar and understandable terminology for endoscopy classifications.

He is currently working on a new review of the standardisation of terminology, therapeutic and diagnostic definitions and classifications in digestive endoscopy. This seventh edition, which is about to be published, will be of great use to all of us.



**Doctor
Senol Carilli**

General Surgery.
American Hospital of Istanbul.
Turkey

What is best single-incision endoscopic adrenalectomy or traditional laparoscopic adrenalectomy?

Years ago, endoscopic single-incision adrenalectomy was not perfect, but currently its results are better than traditional laparoscopic adrenalectomy especially regarding pain and cosmetic results. Also, it is not more costly, it is not associated with a higher rate of complications, nor does it require longer intervention time.

For the past 10 years, at our hospital, if the patient accepts it, we perform all adrenalectomies using single incision endoscopy.

How would you rate this WIDER-Barcelona NOTES Course?

This is the best platform for surgeons and gastroenterologists who do minimally invasive surgery to stay up to date with all the advances that occur in this field. To date and as far as I know, I believe this is the best meeting in the world. This is my sixth year here at the WIDER-Barcelona NOTES course and I always learn a lot and gather new ideas to develop in my clinical practice. I also try to bring new topics from my own experience every year.

I am very thankful for the excellent organisation of this meeting.

«The results of single-incision endoscopic adrenalectomy are currently better than those of traditional laparoscopic adrenalectomy, especially in pain and cosmetic results»



**Doctor
Liu Bing-Rong**

Gastroenterology Department.
First Affiliated Hospital
of Zhengzhou University.
Henan. China

What does Endoscopic Gastric Mucosal Ablation (EGMA) consist of for the treatment of obesity?

Sleeve gastrectomy is a widely used technique for the treatment of obesity but it has the disadvantage that it requires resection of more than 50% of the stomach. Currently, to treat obesity we perform a very extensive endoscopic resection of the gastric mucosa. It is called EGMA (Endoscopic Gastric Mucosal Ablation). To development this technique we were inspired by the severe stenosis that occurs as a complication after resection of oesophageal cancer by endoscopic submucosal dissection. We believed that this procedure applied to the stomach would result in a reduction in its volume. So, we ran an experiment on animals and got good results. Currently, we have performed it in more than 10 patients and it has been successful in all of them. EGMA really is a minimally invasive treatment because it does not require resection of the stomach and it allows preservation of the gastric vessels and nerves.

What difficulty does this technique have?

It is not very difficult because it is the same technique used in endoscopic mucosal resection. But a large part of the mucosa needs to be resected. For this reason, we say that this is the world's most extensive endoscopic mucosal resection procedure. It takes approximately 3 to 7 hours to complete.

Do you have any reflections you would consider interesting?

I believe that there is currently a lot of innovation in the field of therapeutic endoscopy. In China endoscopy is very popular and more and more doctors are trained in this specialty. Every day there are more diseases that can be treated with endoscopy and this means that treatments are progressively less invasive.

«We use the world's most extensive endoscopic mucosal resection to treat obesity»



**Doctor
Miguel Muñoz Navas**

Director of the Digestive Department
at the University of Navarra Hospital.
Pamplona

What are the current indications for colon capsule?

A colon capsule is indicated for patients who refuse to have a colonoscopy or who are instructed to have a colonoscopy and cannot be sedated, in incomplete colonoscopies in which no bowel obstruction is suspected and in inflammatory bowel disease unclassified. It is also used to monitor the activity of inflammatory bowel disease when there is suspicion of unclassified lower gastrointestinal bleeding and as an alternative technique for colorectal cancer screening.

What do you think is the future of the colon capsule?

Its future, and it is already here, is the possibility of carrying out a panendoscopy, which allows us to see from the mouth to the anus. With the advances that will come we can actively mobilise the capsule to correctly see the stomach, which is the most difficult area to assess today and to mobilise it throughout the digestive tract. With the help of artificial intelligence (AI), we can assess the results much more quickly and accurately, as AI will select suspicious lesions and even identify the type of lesion with high sensitivity and specificity.

Other possibilities, throughout the digestive tract, will be to make the capsule at home and over the weekend, to measure pressure, temperature and pH, to measure gaseous biomarkers, to take ultrasound and endomicroscopy images, take biopsies and secretions and to release drugs.

«With the help of artificial intelligence, we can assess the results of the colon capsule much more quickly and accurately»

**14th INTERNATIONAL
NOTES-WIDER-BARCELONA**

NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY



HOSPITAL UNIVERSITARI VALL D'HEBRON i L'INSTITUT DE RECERCA
DIPARTIMENTO DI DISCIPLINE CHIRURGICHE, UNIVERSITÀ DI GENOVA
UCM HOSPITAL CLÍNICO UNIVERSITARIO SAN CARLOS, MADRID

**Advanced Endoluminal and Surgical Endoscopy
Endoscopic Cooperative Surgery
FORO DE DISCUSIÓN**



wider-barcelona.org

November 23 and 24, 2020

Paseo de la Vall d'Hebron, 119-9 • 08035 Barcelona • Tel. 93 274 61 00
Instituto Catalán de la Salud • Hospital Universitario Vall d'Hebron. UAB



We expect you all!

November 23 and 24, 2020



WIDER-Barcelona

Institute for Digestive Endoscopy Research in Barcelona

Institut de Recerca Hospital Universitari Vall d'Hebron

Hospital Universitario Vall d'Hebron • Paseo de la Vall d'Hebron, 119-129 • 08035 Barcelona
Tel. 93 274 61 00 • director@wider-barcelona.org

www.wider-barcelona.org



This project is supported by "la Caixa" as
per the LCF/PR/GN08/50210002 agreement