

WIDER-Barcelona news

Director: J.R. Armengol-Miró

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12th INTERNATIONAL NOTES COURSE WIDER-Barcelona

NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY

Barcelona, 26 and 27 November 2018



Look of the room.

C.L. Ruiz de Villalobos

The 12th International WIDER-BARCELONA NOTES Course was held in the Teaching Pavilion auditorium of the Vall d'Hebron University Hospital in Barcelona. Over two intensive days, both practical and didactic activities were run in the conference room and operating theatre of the Vall d'Hebron Research Institute. It was run by distinguished national and international personalities from the world of endoscopy, gastroenterology, surgery and research. As always a high number of participants took part in the discussions after each presentation and followed the presentations made and broadcast live with great interest.

The Course is supported by WIDER-Barcelona, Vall d'Hebron University Hospital (Autonomous University of Barcelona), Vall d'Hebron Research Institute (VHIR) and OLYMPUS EUROPE & CO, and had collaboration from the "la Caixa" Foundation social project fund.

The objectives of the course covered the possibilities and technical and instrumental limitations of NOTES at present, learning and familiarisation with the instruments and laboratory animals, knowledge of the anatomical variants, the possible selection of candidates in the future and the different transluminal approaches, as well as the assessment of possibilities for combining procedures and reviewing the various applications, according to the ethics committees of each centre.

The Course was led 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, as well as Miquel Masachs Perecaula, Ana Benages and Maria Dolores Castillo Cejas.



José Ramón Armengol-Miró
Director of WIDER-Barcelona.
Digestive Endoscopy Department.
Vall d'Hebron University Hospital.
Barcelona

«Very soon, we will be able to obtain three-dimensional images in real time with the FENO robot, each time we perform a new endoscopy»



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

«This spirit of collaboration among these professionals from around the world is a priority objective that this meeting has been able to maintain»



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

«The main advantage of this meeting is that clinical cases are presented in addition to the talks»



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

«This course offers the chance to witness live procedures conducted by the leading experts in each area»



Irving Waxman
Professor of Medicine and Surgery.
University of Chicago. United States.
Director of CERT (Center for Endoscopic
Research and Therapeutics)

«I always leave the Course with a great deal of new knowledge»

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



Laia Arnal



Joan Dot

Day one. Monday

NOTES. PRESENT AND FUTURE

Official Inauguration of the Course

Doctors Armengol-Miró, Armengol Carrasco, Torres García, Pavlov, Dot y Martínez, and the Head of Business Development of the VHIR, Laia Arnal, plus the head of Business Development of the Vall d'Hebron Research Institute (VHIR), and the Director of Planning of the Government of Catalonia, Cristina Nadal, all attended the inauguration of the 12th INTERNATIONAL WIDER-BARCELONA NOTES COURSE.

Alexei Pavlov spoke of the future prospects of endoscopy and the important role it is called upon to represent. Joan Dot greeted all the participants, in particular the speakers, who would expound their ideas and new experiences for two days. Antonio José Torres García expressed his appreciation for the chance to participate once again in an event that brings together the most important national and foreign endoscopists and surgeons and congratulated them on the innovations that they will offer particularly in the robotics field. Manuel Armengol Carrasco said that it was an honour to continue leading the Course and witness how many issues relating to surgery and endoscopy over the years have evolved, as well as the NOTES-WIDER-BARCELONA Course itself, thanks to the constant enthusiasm and the work of José Ramón Armengol-Miró. Doctor Armengol-Miró said that the Course was based on "the idea of a dreamer", his own idea, which found help and acceptance at the "la Caixa" Foundation and the Government of Catalonia until the project became a reality.

Then Doctor Armengol-Miró said a new era has now begun and with it the realization of another idea, a robot that produces three-dimensional endoscopic images that enormously facilitate the work of endoscopists. He also offered words of appreciation to his colleagues such as Vincent Ibáñez, manager of the Vall d'Hebron University Hospital. He emphasized the great collaboration established with China where endoscopy is very important and expressed thanks to all those in attendance and welcomed them to Barcelona.

Laia Arnal stressed the importance of the WIDER-BARCELONA project which gives everyone the opportunity to learn, collaborate and participate in the latest and most important advances. Jesus Martinez, assistant director of care at the Vall d'Hebron University Hospital, in representation of Vincent Ibáñez, spoke of the quality of patient care at the hospital and the excellent research carried out by the VHIR.

Finally, Cristina Nadal said that the Health Department currently faces many challenges and many technological advances and the International WIDER-BARCELONA NOTES Course enables the sharing of experiences and interests in endoscopy and surgery to improve patient care and that the Department of Health, which always supports innovations, unconditionally supports this Course.



Antonio J. Torres García



Alexei Pavlov



Jesús Martínez



Cristina Nadal

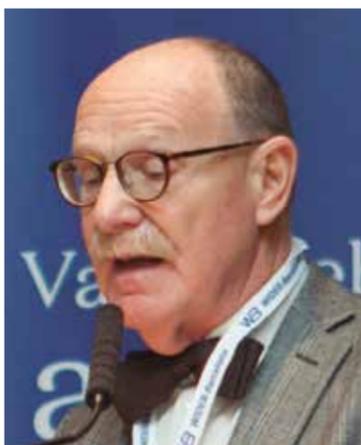
SESSION 1. NOTES. PRESENT AND FUTURE

Professor Armengol-Miró presented the Course and its directors, noting that now, important developments in scientific and technological advances have been made. He said that objectives outlined are good and a clear line has been maintained in terms of care and professionals. He said that the highest participation came from China where great advances have been made in endoscopy.

He then opened the first session which was dedicated to:

EXPERIMENTAL NOTES

The first speech was given by Per Ola Park (Sweden), which was a review of the tobacco bag suture following a gastric bypass using Overstitch. He spoke of cognitive task analysis (CTA) as an investigative method of the strategies needed in a given situation. To this end, one needs to consider the objectives and learning curve, challenges, concerns and methods, and the choice of different strategies. Regarding



Per-Ola Park (Sweden)

possible methods to achieve weight loss, he pointed to weight loss surgery and endoscopic methods. Following endoscopic treatment for weight loss with a gastric bypass, it is important to do a review and meta-analysis. In this regard, endoscopic suturing with Overstitch allows for reducing the size of the opening to the stomach and the stomach pouch and as it is an endoscopic procedure, it is minimally invasive, safe and comfortable.

Suvranu De (USA) spoke about the development of a virtual reality simulator for endoscopic submucosal dissection (ESD). From the point of view of safety and efficacy, the development of a virtual simulator facilitates the training of the endoscopist to learn the principles of ESD in a safe, controlled and supervised environment before working with patients. Endoscopic submucosal dissection is a beneficial endoscopic technique and minimally invasive surgery.



Suvranu De (USA)

Training with a virtual simulation enables gaining experience, expanding its clinical implementation and reducing the number of possible complications. However, Suvranu De said that more studies in this regard are required.

Giuseppe Galloro (Italy) addressed the new stents for the treatment of dehiscence following a laparoscopic sleeve gastrectomy (LSG) in obese patients. He said that LSG is a safe and effective surgery.



Giuseppe Galloro (Italy)

The most common complication is bleeding, while the real incidence of leaks in the cutting line is underestimated. The most serious and vital complications are related to the rate of surgeries. The fully covered Mega Stent and Beta Stent, with very good anchorage, are the stents that come most indicated. These safe and effective stents reduce the rate of repeat interventions. Major complications are rare while minor ones are cumulative.

Per Ola Park presented a second paper in which he spoke of Endodrill, a new tool for biopsy sampling in the GI (gastrointestinal) tract, especially useful for submucosal tumours. Endodrill has been compared with conventional biopsy forceps in terms of the ability to establish the correct diagnosis in diffuse gastric cancer based on biopsies collected from tumour tissue. Endodrill is safe to use and generates more submucosal tissue compared with conventional forceps biopsies.

Mary Bergstrom (Sweden) recalled the evolution of surgery and endoscopy: surgery, laparoscopy, laparoscopic surgery, endoscopy, endoscopic surgery, until reaching NOTES. And now it can be said that a third space is being reached which will be the future. He spoke of the LAMS technique for hepatic cysts. The laser ablation mass spectrometry (LAMS) technique measures isotope ratios with high precision, allowing correlation of the target elements with the site of their extraction.



Maria Bergström (Sweden)

Generation of Intervention Endoscopy) is a collaboration of industry and academia. He recalled the different languages that each of these groups speaks to each other and the need to bring them together.

Over the years there have been different cycles of collaboration to ensure that ENGINE becomes a singular platform for the two groups. He also spoke of recent progress, efforts in manufacturing and the new therapeutic and medical instruments which confirm that the best solution has been the coming together of doctors and engineers.

LECTURE

Sergey Kantsevoy (United States) gave a speech on a new platform for endoscopic endoluminal interventions in the large intestine.

Kantsevoy said that DiLumen is a new platform for endoluminal intervention for the telescopic viewing of the colon while advancing the colonoscope. It stabilises the endoscope, creates a therapeutic zone, provides traction and markedly facilitates ESD and EMR of the Colon. It creates ducts, facilitates the passage of the endoscope and closing by suturing the large mucosal defects after removal of the lesion. It also significantly reduces the total time of the procedure.



Irving Waxman (USA)

In his presentation, Irving Waxman (USA) discussed Endoscopy Robotics which, he said, is in its stellar moment. He addressed the evolution of surgery and endoscopy, endoscopic practice, the barriers it encounters, indications, results and learning, pointing out that experience makes perfect. Regarding robotics, he pointed to the Isis Scope Strass system and above all, to Medrobotics, which provides the ability to access places that seem difficult or impossible with minimal invasion as it is a flexible instrument which enables full thickness resection.

Special lectures. ENGINE Project

Kiyokazu Nakajima (Japan) gave a brief history of the Engine project from 2008 through to its update in 2018, as a first line R&D project. Engine (Endeavor for Next



Kiyokazu Nakajima (Japan)



Sergey Kantsevoy (USA)

PROGRESS IN NOTES

The first to talk in this section was given by Liu Dan (P.R. China) who spoke of the practice of Endoscopic retrograde appendicitis therapy (ERAT) in China. Liu Dan pointed out that a good diagnosis is important to assess symptoms and calibrate the risk of appendicitis to see if treatment should be conservative or not. (In elderly patients diverticulosis may appear). In China, once appendicitis has been diagnosed, ERAT or colonoscopy or both are usually performed.

Then Dr. Liu Dan showed a video explaining the ERAT procedure in detail.



Liu Dan (P.R. China)



Lada Shumkina (Russia)

Lada Shumkina (Russia) looked at the tunnelling technique in the treatment of Zenker's diverticulum and the advantages of new techniques and treatment types. Recent studies show the effectiveness of endoscopic treatment. Surgical treatment is also seen to be effective. With open access better results are achieved in the long term, but there are more immediate complications. It is recommended for use in young patients and when there are anatomical conditions unfavourable for endoscopy. Endoscopic treatment is a very suitable option for patients at high risk from surgery and anaesthesia.

Xu Mei-Dong (P.R. China) summarised the history of NOTES pointing to the new frontier of submucosal endoscopy and its applications such as: POEM, STER, ESD, and others. He pointed to the indications and contraindications of each procedure, highlighting the advantages of submucosal endoscopy. As to its future possibilities, he noted its application in diagnostics and sampling, in the enteric nervous system and muscular system, in the metastasis of peritoneal infection, in the staging of pancreatic and gastric cancer, in the implantation of devices such as submucosal microstimulators and pumps that supply medication and in the treatment of GERD. It was concluded that the development of submucosal endoscopy drives the evolution of the new NOTES and that the future of this depends on the development of new techniques, as well as help and support from foundations and organisations.



Xu Mei-Dong (P.R. China)



Alexei Balakuyin (Russia)

SESSION 2. Clinical and experimental NOTES

Alexei Balakuyin (Russia) expressed his commitment to endoluminal surgery and the conviction that it is of maximum interest at the moment.

Keynote speech

Seda Dzhantukhanova (Russia) addressed the issue of the third space in endoscopy, represented by ESD, POEM, G-POEM, D-POEM, Z-POEM, PREM (Per rectal endoscopic myotomy) and STER (endoscopic resection of the submucosal tunnel) and its future perspectives that will reach far beyond these.

The third space of endoscopic surgery includes more and more new techniques. The initial results are promising, but will require additional experience for better analysis. It will also be necessary to increase the abilities of surgeons with flexible endoscopes.



Seda Dzhantukhanova (Russia)

Next, Xu Mei-Dong (P.R. China), in his second presentation, addressed endoscopic diagnosis and treatment of superficial hypopharyngeal carcinoma and cervical oesophageal carcinoma. He explained the clinical aspects of superficial early cancer, endoscopic diagnosis and its effectiveness, possible complications and treatment possibilities: conventional therapy, surgery, chemotherapy, endoscopic therapy and endoscopic treatment of the cervical oesophagus.



Shunsuke Yamamoto (Japan)

Shunsuke Yamamoto (Japan) gave an overview of mentor-guided colorectal ESD in Western countries and explained the advantages and disadvantages of colorectal ESD. The advantages include the high rate of curative resection and the high rate of en bloc resection and its learning curve.

The reasons for resorting to a supervisor may be the inability to achieve haemostasis, difficulties of dissection and taking too long to perform the procedure, which can lead to adverse effects such as perforations and haemorrhaging.

The use of mentor-assisted CR-ESD in Western countries is safe for patients and effective for achieving a good learning curve. In addition, Western endoscopists are able to learn the diagnostic process and therapeutic skills, and help reduce unnecessary and incorrect treatments. Competence with haemostasis may help to improve autologous compliance.



Milutin Bulajic (Serbia)

Milutin Bulajic (Serbia) addressed the topic of errors in ERCP (endoscopic retrograde cholangiopancreatography) treatment of biliary obstruction and how to remain at the margin.

He discussed the nature of the errors that can arise in several areas: appropriate evaluation versus inappropriate indication, the time before and the time after the procedure, the selection of material devices and the use of accessories, the perspective on technical skills versus inexperience, predictable versus unpredictable results, decision-making (voluntary intention versus negligence), communication between the surgeon and the attendant nurses, clinical consequences (absence of consequences versus complications) and legal consequences (civil versus criminal proceedings). In answer to the question: "Who makes mistakes?," Bulajic recalled the words of Joseph Conrad: "If you don't want to make mistakes don't do anything", because the only way to not commit errors is to avoid trying to do something.



Connection with operating rooms during the intervention of doctor Stavros Stavropoulos



Stavros Stavropoulos (USA)

Stavros Stavropoulos (United States) presented techniques and findings in 500 cases of POEM (per oral endoscopic myotomy). His conclusion is that POEM has matured with outstanding results from two to five years. POEM is the first-line treatment for achalasia the effectiveness of which is equal or superior to treatment with LHM (laparoscopic Heller myotomy).

The absolute difference in rates of gastroesophageal reflux disease (GERD) between LHM and POEM is 20% to 25% in one year but it can diminish over time and can be associated with relief of lower dysphagia in patients with LHM. GERD after POEM is easily treatable with proton pump inhibitors (PPI). Patient satisfaction for a significant and long period is a useful point of evaluation for treatment success.

Miguel Muñoz Navas (Pamplona) raised the question: "Can you prevent acute pancreatitis after ERCP?" He indicated that pancreatitis is the most common post-ERCP complication and involves a number of risk factors, which are higher in women in whom post-ERCP pancreatitis may appear in 42% of cases.

To reduce the risk, studies have been conducted, while inconsistent, these have indicated drugs such as indomethacin and diclofenac. This reduces the pancreatitis and is a safe and inexpensive drug that may be recommended if there is kidney failure. Pancreatic stents also decrease the risk of post-ERCP pancreatitis. It is said that non-steroidal anti-inflammatory drugs (NSAIDs) are superior to pancreatic prostheses. If NSAIDs are contraindicated, sublingual nitro-glycerine is recommended. Intravenous hydration is also useful to decrease the incidence and severity of pancreatitis.



Miguel Muñoz Navas (Pamplona)

Fan Zhining (P.R. China) addressed the prevention and treatment of post-ESD refractory stenosis or radiation therapy in cancer of the oesophagus. Currently, ESD has been accepted as a minimally invasive treatment for superficial oesophageal cancer.

The risk of stenosis is high (70%–80%) if more than three-quarters of the circumference is resected, especially in lesions with a longitudinal diameter exceeding 3 or 4 cm. Prevention and treatment include endoscopic dilation, pharmacological treatment, treatment with an oesophageal stent, incisional therapy and tissue engineering approach. Fan Zhining finished by explaining that his team successfully treated refractory oesophageal stricture in five patients using endoscopic mucosal autograft.



Fan Zhining (P.R. China)

Sergey Kashin (Russia) introduced the first Russian pilot study on endoscopic resection in gastric cancer with sentinel lymph node navigation surgery. This application to gastric cancer is controversial due to the complexity of the lymphatic drainage of gastric tumours. The available data suggest that early gastric cancer cells can be detected early on the tumour surface. An indirect methodological approach was used and authors who evaluated the cancer cells detected that they can grow in ex vivo or in vivo environments.



Sergey Kashin (Russia)



Liu Bing-Rong (P.R. China)

Liu Bing-Rong (P.R. China) discussed transrectal gallbladder preserving cholecystolithotomy (TRGPC) and transrectal gallbladder preserving polypectomy (TRGPP). This highlighted the superiority of NOTES which prevents pain and hernias.



Fan Zhining presentation; in the Table, Senol Carilli, Yuri Starkov, Fernando Rojas, Joaquim Balsells and Felipe Martínez-Alcalá

However, in reality, transcolonic or transrectal NOTES in humans is restricted by the possibility of faecal contamination and peritoneal infection. To avoid this problem a detachable endocolonic balloon has been developed. Among the first cases of this procedure performed in the world are the first to use a detachable balloon to block the intestinal lumen, the first case of transrectal NOTES and the first case of ERGPP and TRG.

SYMPOSIUM: ENDOLUMINAL ENDOSCOPY AND EUS JOINT VENTURE

In a new presentation, Irving Waxman (United States) discussed the present role and future prospects of lumen-apposing metal stents (LAMS), a great innovation in gastrointestinal endoscopy. Transluminal interventions with EUS-guided LAMS offer a new and exciting platform for hybrid and transluminal applications for the gastrointestinal tract. Experience in advanced endoscopy techniques (ERCP) is mandatory. This technique is challenging due to the lack of EUS accessories. In future it will be necessary to design very well randomised studies before it becomes a conventional standard medical technique.

Dong-Wan Seo (South Korea) spoke of EUS with contrast enhancement (CE-EUS) for hepatic lesions. Significantly, EUS detects a large number of metastatic lesions in the liver. In eight cases the lesions detected were too small to be classified. Four malignant lesions were diagnosed and four that proved to be benign. CE-EUS for hepatic lesions detected more small lesions than the imaging speciality for small lesions.

The FNA (fine needle aspiration) guide improves tissue acquisition and diagnostic sensitivity, specificity and accuracy. The only limitation is poor penetration of harmonic imaging, so it only detects superficial lesions.



Dong-Wan Seo (South Korea)



Rajesh Gupta (India)

Rajesh Gupta (India) treated EUS-guided biliary drainage (EUS-BD) versus ERCP biliary drainage (ERCP-BD), stating that both procedures have a similar safety.

EUS-BD is not superior to ERCP-BD in malignant bile duct obstruction. EUS-BD presents less tumour growth but more impact on feeding and stent migration. The rate of adverse events and the result of the treatment are similar, according to EUS-BD randomised studies, it is a practical alternative to ERCP for primary biliary compression in pancreatic cancer.

Dong Wan Seo (South Korea) discussed EUS-guided pancreatic tumour ablation in his second presentation.

He said that EUS-guided ablation can be effective in a select group of patients and is a very acceptable post procedure. However, more studies are needed to increase its effectiveness and prevent complications.



Xiang Liu (P.R. China)

Xiang Liu (P.R. China) addressed an interventionist approach in gallbladder disease, EUS-guided drainage and the limits that still exist. The most common interventions are laparoscopic cholecystectomy (LC), percutaneous transhepatic gallbladder drainage (PTGBD), NOTES, endoscopic retrograde gallbladder drainage (ERGBD) and EUS gallbladder drainage (EUS-GBD).

The winds of change in the future will break the barriers that still exist for surgery and surgeons. There will be new ideas, new methods and new devices and, consequently, the barriers between specialities will begin to break down. It is a process that begins now and will become a reality in the future.

COFFEE BREAK



Amaya Gantxegui, Joan Dot and Sandra Castro



Yuri Starkov, Marina Ivantcova, José Ramón Armengol-Miró and Seda Dzhantukhanova



Monder Abu Suboh and Jaume Boix



Senol Carilli and Suvranu De



Manuel de la Iglesia, José Ramón Armengol-Miró and Felipe Martínez-Alcalá



Maurizio Zilli, Elena Zucchi and Giuseppe Galloro



Eduardo Segal, Roberto Fogel, Irving Waxman and Jean Escourrou



C. Giménez, G. Alonso, M. de la Iglesia, E. Castillo, M. Frascio, J.R. Armengol-Miró, P. Menchén, S. Rodríguez, J. Boix and E. Rodríguez



Sergey Kashin, Alexei Paulov and Liu Bing-Rong



Michel Diana and Mariano Giménez



Montse Jiménez, Cristina Nadal and Laia Arnal

COURSE PRESENTATION

Photo-report of the presentation ceremony of the 12th International WIDER-Barcelona NOTES Course, held at the GAIG Restaurant on Sunday, 25 November 2018. Doctor Armengol-Miró and Doctor Doty Torres, co-directors of the Course, welcomed attendants and explained the details of the scientific programme to the invited speakers.



Alberto Montori, Yuri Starkov, Alexei Paulov, José Ramón Armengol-Miró and Ángeles Bresca



Dong Ki Lee, José Ramón Armengol-Miró and Irving Waxman



Appearance of the cocktail



Jean Escourrou, Mohamed El-Khattabi, Dong Ki Lee and Senol Carilli



Liu Dan, Liu Bing-Rong, José Ramón Armengol-Miró, Fan Zhining and Song Ji-Tao



Guillermo Domínguez, Ferrán Solana, Marina Ivantcova and Alexei Balakuyin



Miquel Masachs, Joan Dot, Jordi Armengol and Monder Abu Suboh



Luis C. Sabbag, Campo E. Lindado, Roberto Fogel, Eduardo Segal and Jesús Ortiz



Milutin Bulajic and his wife



Manuel de la Iglesia, Eduardo Rodríguez, Enrique Castillo and Pedro Menchén



A. Torres, Y. Starkov, S. Kantsevov, S. Dzhantukhanova and J.R. Armengol-Miró



Appearance of the room



F. Reuter, J. Ardila-Arz, J.R. Armengol-Miró, L. Sosa, A. Hani and C.E. Lindado



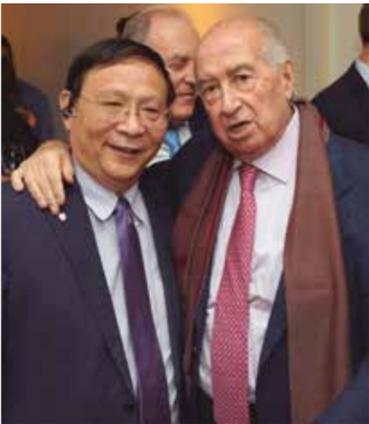
José Ramón Armengol-Miró, Ángeles Bresca and Antonio J. Torres



Per Ola-Park, José Ramón Armengol-Miró and Maria Bergström



Denis Gusev, Suvranu De, Emilio de la Morena and Jesús Espinel



Fan Zhining and José Ramón Armengol-Miró



Alberto Baptista, Eduardo Sarriá, Carlos Giménez, Llul Ferrando, Raquel Morán and Amparo Agullón



Lí Liu and José Ramón Armengol-Miró



Joan Dot con Louis de Guiau and his wife



Alexei Paulov and Sergey Kashin



Alexei Balakuyin, Marina Ivantcova, J.R. Armengol-Miró and Lada Shumkina



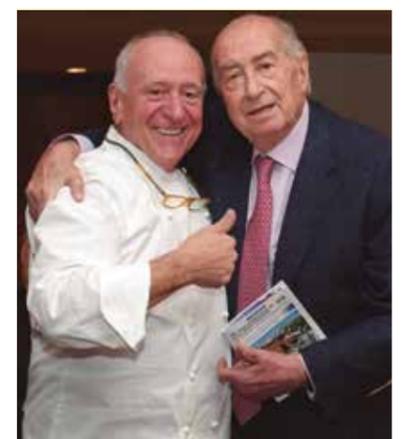
Carlos Giménez and José Ramón Armengol-Miró



Jesús García Cano, Mariano Giménez and Shunsuke Yamamoto



Jordi Armengol and Antonio González



Carles Gaig and J.R. Armengol-Miró

WELCOME DINNER-SYMPOSIUM

The Welcome Dinner for participants of the 12th International WIDER-BARCELONA NOTES Course was held at the CosmoCaixa Museum. Over its course a scientific symposium took place chaired by José Ramón Armengol-Miró (Spain) and Alberto Montori (Italy) and moderated by Dong Ki Lee (South Korea) and Mariano Giménez (Argentina). Sergey Kantsevov (United States) spoke of "New ideas for endoscopic operations" and José Ramón Armengol-Miró presented a live demonstration from Wider-Barcelona to Nanjing (SGI 2018 Congress).

The Welcome Dinner-Symposium concluded with a speech from Mr Angel Font, corporate director of Research and Strategy of the "la Caixa" Banking Foundation, which ratified the support and commitment of the institution that represents the WIDER-Barcelona project; and Dr. José Ramón Armengol-Miró closed the evening after thanking Ángel Font, "la Caixa" and, in particular, Isidro Fainé, president of the "la Caixa" Banking Foundation. He finished by addressing all the attendees to thank them for coming and taking part in the Course and reminding them to come to the next edition.



Appearance of the room



Presidential Table of the Symposium: Dong Ki Lee, José Ramón Armengol-Miró, Alberto Montori and Mariano Giménez



Sergey Kantsevov and José Ramón Armengol-Miró, speakers of the Symposium



Joan Maria Pou and Roser Cot



Joaquim Balcells, Antonio González, José Manuel Fort and Jorge Olsina



Fernando Rojas, Francisco Valdovinos, Manuel Morales and Eduardo Piñeiro



Senol Carilli with his wife, Jean Escourrou and Mohamed El-Khattabi



Elena Zucchi and Nereo Guillermo Salas



Xiang Liu, Chen Weifeng, Xu Mei-Dong and Song Ji-Tao



Leonardo Sosa and Stavros Stavropoulos



Luis C. Sabbagh, Miguel Muñoz Navas, Lucía Marín, Jaume Boix, Ángeles Bresca and Pedro Larrea with his wife



Lada Shumkina and Seda Dzhantukhanova



M. de la Iglesia, P. Menchén, G. Alonso, E. Castillo, J.C. Salord, F. Pellicer, E. Rodríguez, J. Boix, V. Zanón and G. Berjejo



Maria Bergström, Jorge Arroyo with his wife, Rajesh Gupta, Suvaranu De, Mohamed Al Haddad and Per Ola-Park



An important representation of Mexican endoscopist: F. Valdovinos, E. Piñeiro, L. De Guiau, N.G. Salas, F. Rojas with their wives



Jean Escourrou, Mohamed El-Khattabi and Emilio de la Morena



Appearance of the room



Isabel Gregorio, Ramón Martori and Lluís Bracons



Beatriz Búrdalo and Sarbelio Rodríguez



Felipe Martínez-Alcalá, with his wife and Álvaro Martínez Alcalá



Michel Diana and Leonardo Sosa



Kiyokazu Nakajima, Elena Zucchi, Joseppe Galloro, Santi Mangiafico and Alberto Ferreres



Dong Ki Lee and Mariano Giménez



Isabel Bocinov and Manel Armengol



Eduardo Rodríguez and Jaume Boix



Jordi Armengol, Ana Benages and Monder Abu Suboh



Suvranu De, Rajesh Gupta and Mohamad Al Haddad



Mercedes Mayoral and Josep M.^a Torres



Miguel Muñoz Navas and Lucía Marín



Seda Dzhantukhanova , Yuri Starkov and Alexei Balakuyin



Elena Zucchi, Giuseppe Galloro and his wife, Santi Mangiafico and Alberto Ferreres



Ferrán Solana, José Ramón Armengol-Miró and Guillermo Domínguez



Joan Dot and Isabel Bocinov



Ángel Font during his speech



Raquel Morán, José Ramón Armengol-Miró, Ángeles Bresca and Carlos Giménez



J.R. Armengol-Miró in his closing speech of the Symposium-Dinner



Enrique Castillo, José Carlos Salord and Francisco Pellicer



Ángel Font and José Ramón Armengol-Miró

Day two. Tuesday

CLINICAL NOTES

SESSION 3 CLINICAL NOTES SESSION

Keynote speech

Mariano Giménez (Argentina) opened the session discussing the redefinition of the future of surgery and new navigation systems in abdominal surgery. He said that a further step has been taken in the evolution of surgery with the new robotic navigation systems, new diagnostic methods to detect very small tumours, new instruments and new technologies. It is now possible to operate via the image. The target can be better located.

The use of robots facilitates intervention planning and immediate control of the results. There is open surgery, minimally invasive surgery and image-guided surgery and new surgical techniques such as percutaneous or laparoscopic resection. Radiofrequency results in excellent imaging and operating on the precise segment required. Giménez finished by paraphrasing Darwin saying that we now have the best technology available because it is that which best adapts to current needs.



Mariano Giménez (Argentina)



Zacharias Tsiamoulos (United Kingdom)

Zacharias Tsiamoulos (United Kingdom) spoke of new technologies for endoscopic submucosal dissection (ESD) such as the automated identification of polyps using an endocytoscopy. Resection procedures can use a free endoscopic platform or assisted surgical platform. ESD problems include the need for a safety profile, new devices and techniques, and that the procedure time be less than 2 hours with sedation. Likewise, it requires an approach to current submucosal tunnelling techniques and, in regard to the learning curve, a training mentor.

In answer to the question, Where is minimally invasive surgery now and where it is going?, Tsiamoulos said that the revolution in laparoscopic surgery is particularly important because for the first time, surgery no longer involves physical contact between the surgeon's hands and the patient, though he added that he hoped that this would not lead to a total absence of human relations in surgical interventions.



Alberto Ferreres (Argentina)

Alberto Ferreres (Argentina) addressed the past, present and future of minimally invasive surgery saying that today decisions in surgery need to give consideration to the evidence, experience and intuition. He recalled the first interventions through natural orifices such as a transvaginal appendectomy or a laparoscopic appendectomy.

The objectives of minimally invasive surgery are to cause less pain, less scarring and a faster recovery. Robotic surgery reduces the number of incisions though it requires much learning and good training of the surgeon. Its cost-effectiveness and how it benefits the patient need to be calculated. In future, Ferreres said, technologies will support and will be based in large part on new devices.



Michel Diana (France)

Michel Diana (France) spoke about image-guided surgery and said that current innovation is the surgeon's surgical precision. The future of surgery is being invented through a guide to increase intraoperative reality.

He listed many examples such as optical image-guided surgery, anastomotic perfusion, endoluminal triangulation and automatic tissue recognition, and stated that the biggest change is in robots.



The Clinical NOTES Table: Alberto Montori, Marco Frascio and Alberto Ferreres



Guillermo Domínguez (Argentina)

Guillermo Domínguez (Argentina) outlined his vision from 12 years of experience with magnets saying that these are being used for all kinds of surgeries, as they can be used both as a complement to laparoscopic surgery and in splenopancreatic reduction. The magnets reduce risks and complications in laparoscopy and reduce the number of ports. They can also be used in minilaparoscopy - magnetic hepatic retraction, transumbilical cholecystectomy with magnets - and they can reduce costs as well.

In inguinal hernia the magnet can help the surgeon, as it allows for an extra clamp in the sac cavity of the bag. There is also magnet-assisted laparoscopic suturing with the advantage that the magnet allows suturing with one hand.

They are also useful in paediatric surgery and in plastic surgery they surpass all other procedures. They improve ergonomics and increasingly more surgeons are adopting this technology and there are increasingly fewer contraindications. They reduce the number of attendants and decrease medical errors. Domínguez concluded by saying that the magnet can be qualified as "the art of the invisible" because it does its work and then disappears.

Alberto Montori (Italy) offered a vision of the surgeon in colorectal endoscopic submucosal dissection (ESD) and endoscopic colorectal mucosal resection (EMR) in polypoid lesions. He noted that in ESD complications are common such as perforations, bleeding and postoperative perforations. It must be borne in mind that the colon and rectal wall are much thinner than the oesophageal wall and the gastric wall.

Something that is necessary to keep in mind is that often bleeding is inevitable during ESD and EMR, therefore we have to be prepared for this contingency and know how to handle it. Also, knowledge of how to use diathermy is required. Haemostatic coagulation clamps are also very helpful. In EMR the best thing to do is to use monofilament trap lines to eliminate all colorectal lesions. In ESD, the learning curve is essential.



Alberto Montori (Italy)

Senol Carilli (Turkey) proposed finding an answer to the question of whether ICG can bring real benefits to laparoscopic cholecystectomy and suggested various strategies for a safe cholecystectomy. He recommended using the CVS (Critical View of Safety) method to identify the cystic duct and the cystic artery during laparoscopic cholecystectomy, consider the intraoperative time during laparoscopic cholecystectomy before cutting, resecting or transecting the structure of any conduit, understand the potential for aberrant anatomy in all cases, making liberal use of cholangiography or any other imaging method for the biliary tree intraoperatively, recognise when the dissection is approaching a risk area and stop it before entering, finish the operation with any other secure method if the conditions surrounding the gallbladder are also dangerous and seek the help of another surgeon when detection of the problem or the conditions present difficulties. There is controversy regarding the pharmacokinetic factors of ICG, such as dosage, time and route of administration, and, in terms of patient factors, such as blood protein levels, liver functions, obesity and inflammation.



Senol Carilli (Turkey)

Carilli concluded that there are no statistically significant differences between the WL group and the NIRF group. NIRF (near infrared fluorescence) imaging reduces misidentification of biliary anatomy without the need for additional techniques. NIRF imaging shortens the time of the surgery, but is less effective in acute cholecystitis and also when the bile duct structures are shrouded with a thick layer of adipose tissue which is not exactly obesity. More than obesity it is important how the adipose tissue is distributed.



Santi Mangiafico (Italy)

Santi Mangiafico (Italy) discussed the endoscopic treatment of post-operative gastrointestinal tract complications such as benign leakage, fistulas and perforations. For this treatment the temporary placement of stents is considered positive. No specific type is recommended and the duration of the placement should be individualised.

Prior to the endoscopic treatment it can be useful to have an esophagogram, analgesic sedation and careful selection of stents, whether covered, uncovered or plastic.

The overall rate of immediate success for palliation and cure without surgery is approximately 90%. Leaks and fistulas can be managed effectively with self-expanding metal stents (SEMS) as the first type or fully covered SEMS that can be dismantled, all with adequate drainage of the thoracic cavity. If there are difficulties managing them, forceps and APC can be used. Self-expandable plastic stents (SEPS) can also be taken into account in the treatment of oesophageal fistulas. Good randomised studies are needed to solve all the problems that arise for which there should be close collaboration between endoscopists and surgeons to arrive at the best technique to achieve secure endoluminal closure.

In 2015 a study in six patients with cystic neoplasm showed complete resolution in two of them and in the other a 48.4% reduction in the size of the lesion. In sum, endoscopic ultrasonography has a high success rate and good results. The rate of complications is variable. It is necessary to be familiar with the technique and explore new techniques.



Luis Carlos Sabbagh (Colombia)



Albis Hani (Colombia)



Eloy Espín (Barcelona)

Eloy Espín (Barcelona) addressed the subject of complete mesocolic excision (CME) in colon cancer. The first objective of this procedure is to remove the affected colon and its accessory lymphovascular supply by resection of the colon and mesocolon in the intact envelope of the visceral peritoneum which contains lymph nodes that may be affected. Traditionally, open surgery – laparotomy – has been used for CME. Currently, laparoscopic surgery offers similar associated benefits and oncological results. Complete excision of the mesocolon using central vascular ligation laparoscopy today has a survival rate of 80% at five years.

SESSION 4 NOTES IN LATIN AMERICA

Luis Carlos Sabbagh (Colombia) opened the session discussing new frontiers in endoscopic ultrasonography (EUS). The key points are current knowledge of EUS-NOTES procedures, technical and clinical results and new techniques and devices. EUS-guided transluminal interventions can be used for the treatment of pancreatic collections, pancreatic pseudocysts, walled-off necrosis (WON), EUS-guided pancreatic and biliary drainage, EUS-guided gallbladder drainage and EUS-guided anastomosis. Complications range from 10% to 21%.

Complications include bleeding, pneumoperitoneum, air embolism, pseudoaneurysm, occlusion of the duct with infection and emigration of the stents. The effectiveness of cumulative EUS-BD is 90%. The cumulative rate of adverse events is 17%. The extrahepatic approach appeared significantly safe compared to the intrahepatic. Radiofrequency ablation (RFA) is a technique that produces tissue hyperthermia and coagulative necrosis.

Albis Hani (Colombia) addressed per oral endoscopic myotomy (POEM) beyond achalasia and gastroparesis. Dr. Hani began by discussing the morphology of the gastroesophageal junction (GEJ) of which there can be three types: indiscernible, minimal and separated as well as associated hypercontractile alterations such as distal oesophageal spasm, hypercontractile oesophagus, contractions and nonspecific hypercontractile problems typical of high amplitude of distal oesophagus with prolonged duration of the contraction. The obstruction of GEJ fluid flow can be mechanical (stenosis, hiatal hernia, esophagitis) or functional (phenotypes of achalasia). The symptoms are oesophageal dysphagia, heartburn and regurgitation. Sometimes the cause of the obstruction cannot be found but it is a very serious problem that has to be treated. To gain experience in POEM it is necessary to practise frequently on animals. POEM is effective, it is cost effective and shows positive evidence in regard to its use. POEM reduces weight gain and also works for oesophageal spastic disorders. It will be necessary to perform more prospective studies.

Roberto Fogel (United States-Venezuela) discussed endoscopic treatment for obesity. Bariatric surgery is very effective for weight loss with a 50% reduction two years after the procedure. However, there may be complications and the gastroenterologist must be familiar with surgical bariatric anatomy. Moreover, there are a number of endoscopic treatments for obesity that have good results. Fogel referred to the use of magnets (high power magnets) such as the magneto coupling which have also demonstrated certain unsuspected qualities as it is very effective in treating diabetes.

In diabetes medium intensity magnets are used to regulate the pH level of the organism. In diabetes mellitus, certain hormonal dysfunctions can be corrected and the patient condition improved to the point where medications can be eliminated.



Roberto Fogel (USA-Venezuela)



Pedro Larrea (Peru)

Peter Larrea (Peru) offered a vision of cholelithiasis in the Peruvian Andes. As he explained, there is the case of stones so large that they cannot be destroyed. A giant common bile duct stone is one that has a diameter greater than 2 cm. In stones that are difficult to remove, mechanical lithotripter or laser can be used. Endoscopic treatment is effective in 73% of patients and has a complication rate of 8%. The cholelithiasis is the primary cause of biliary obstruction in the Andes and is associated with parasitic infections. There are still no investigations on the characteristics of the stones or how to prevent them. There is a common average pattern of three-to-four years of disease time, plus eating food that is not properly washed, consumption of unpasteurised milk and other.



Live colonoscopy intervention performed by doctor Zacharias Tsiomoulos

Eosinophilia was not present in all cases. Endoscopic papillotomy is a predisposing factor for biliary parasitosis.

SPECIAL LECTURES

Sarbelio Rodriguez (Spain) addressed the subject of risk factors for bleeding after endoscopic resection of a colon polyp. Endoscopic removal of adenomas for the prevention of colorectal cancer is an optimal treatment because it is minimally invasive and has a low rate of procedure-related complications. The prevalence of PPB (post-polypectomy bleeding) oscillates between 0.1% and 0.6%. A rate higher than 1% in a practice should prompt a review of the endoscopic technique. The problem of bleeding can be intraprocedural or take place immediately afterwards, within 24 hours of the EMR. The overall incidence of delayed bleeding is 3.7%.



Sarbelio Rodríguez (Madrid)

Bleeding requires endoscopic treatment and hospitalisation. The greater the polyp, the greater the risk of delayed bleeding which is the most important thing. Another important risk factor is anticoagulation. Cardiovascular risks associated with the discontinuation of treatment with antiplatelet agents can be high, especially in patients with a history of coronary heart disease.

The cardiovascular risks of interrupting these treatments include serious complications such as myocardial infarction and even death. Likewise, interrupting treatment to place a stent is associated with a high rate of cardiovascular events. The problems that arise are when to do a colonoscopy, when to go back on anticoagulants and what is the best dose.

When there is the problem of bleeding only 50% of patients require a blood transfusion. These cases need to be managed in the same way as other cases of bleeding. Neither clips, nor haemostasis nor epinephrine are effective. Sclerosing agents can be revisited but it must not be forgotten that they have adverse effects.



Marina Ivantcova (Russia)

Marina Ivantcova (Russia) discussed risks in the management of endoscopy noting that risk is a global idea applied to many areas of different human activities: social, legal, economic, administrative, political, governmental, technical, operational, personal information, etc. Risk is conjoined with act of medical treatment. There is a risk to the patient – a technical risk and a personal risk.

One major risk is infection which must be prevented by a competent evaluation, appropriate guidelines, inspections, sufficient training and advanced methods of intervention. The risks of the endoscopic technique include reprocessing of the endoscopes (manual or automatic), chemical reprocessing to clean the endoscopes, risk to staff and risk in manoeuvring the endoscope. It is essential to have suitable guidelines, frequent practice, a qualified leader and a perfect team and, above all, a commitment to progress.

SESSION 5. ENDOLUMINAL THERAPEUTIC ENDOSCOPY



Rastilav Hustak (Czech Republic)

Rastilav Hustak (Czech Republic) introduced this session discussing the endoscopic treatment of gastroparesis. Gastroparesis (GP) is defined as delayed gastric emptying (GE) with associated symptoms in the absence of mechanical obstruction. The cardinal symptoms are upper abdominal pain, postprandial bloating, swelling, early satiety, nausea and vomiting. With increased incidence, symptoms are more severe. The procedure can cause complications, such as the need for further clips, delayed bleeding or incorrect withdrawal of the PPB.

Hustak continued by saying that in the case of problematic closure of the mucosotomy with clips, a system of endoscopic suturing can be used. Given the low number of patients who suffer from gastroparesis, G-POEM is a promising minimally-invasive submucosal method for patients with refractory gastroparesis. It has a low rate of complications, still under investigation, which should preferably still be within (simulated) clinical studies. There is also a need for better understanding of gastric pathophysiology.

Bing-Rong Liu (P.R. China), in a new presentation, addressed the endoscopic gastric fenestration of large pancreatic pseudocysts. Pancreatic pseudocysts with double fenestration present as sudden upper abdominal pain with no apparent cause for more than a month. It is a pain that can be tolerated but when it occurs under the xiphoid the process is more serious and affects activities of daily living and is associated with a fever of up to 40 degrees with vomiting of gastric contents, without other symptoms. It can be treated by endoscopic cyst-gastrostomy tube. If drainage is effective the cyst compresses quickly.

When the cyst is large and there is a risk of bleeding it, fenestration may be advisable for effective drainage of longer duration without risk of infection.

Denis Gusev (Russia) discussed the placement of a biliary stent following gastric resection. He stated that this is a difficult procedure that is associated with a high risk of complications such as peritoneal perforation or bleeding. ERCP should be performed with the side view of the endoscope as a second choice in case of failure.

Cannulation with straight ERCP catheter is a standard procedure. Sometimes an endoscopic papilosphincterotomy (EPST) should be performed.



Denis Gusev (Russia)

Dongki Lee (South Korea) spoke of the difficulty of endoscopic management in the obstructions of benign and malignant hilar stenosis. An endoscopic approach is the first treatment choice. Patient safety is the main priority. Collaboration with radiological intervention is mandatory. In malignant and benign hilar stenosis the endoscopic approach provides benefits for survival and good quality of life.



Dongki Lee (South Korea)

Fernando Rojas (Mexico) presented a study of cholangioscopy in biliary and pancreatic pathology. It was observed in 109 patients with stenosis and indeterminate dilations with biopsies in all cases, with a 97% sensitivity and 93% specificity, PPV in 90% and NPV in 98% of biopsies with 86% sensitivity and specificity.



Fernando Rojas (Mexico)

It was concluded that the procedure is of great utility in stenosis and indeterminate dilations. The digital pancreatoscopy should be considered in the diagnostic algorithm of gallbladder and pancreatic disorders. In particular, in IPMN-type (intraductal papillary mucinous neoplasms) pancreatic tumours. It is necessary to select appropriate cases and identify the different techniques. It should be borne in mind that the procedure is not free of complications.

Ping-Hong Zhou (P.R. China) discussed innovations in endoscopy of the submucosal tunnel, in which he addressed the same procedures with different approaches. POEM has become a widely accepted strategy for treating oesophageal achalasia and other oesophageal motility disorders over the past five years. Its indication and short-term effectiveness have been explored in several large cohorts.

Gastric POEM is effective in hypertrophic pyloric stenosis and in refractory gastroparesis. The size of the STER lesion is limited by the relatively narrow space in the submucosal tunnel. He noted that he uses a method combining STER and EFR for the treatment of large SMTs of the upper gastrointestinal tract originating in the MP layer.



Ping-Hong Zhou (P.R. China)

Shunsuke Yamamoto (Sweden), on this occasion, spoke of endoscopic submucosal dissection using a scissor-type knife for pedunculated polyps. There is direct danger or risk of bleeding and failure of the en bloc resection. He considers it to be a safe option for short and thick polyps.

SESSION 7

Maria Bergström (Sweden), in her second presentation in this course, addressed severe pancreatitis. She said that currently the modern, minimally-invasive methods have succeeded in reducing mortality. These good results have been made possible thanks to the evolution of endoscopy, including endoscopic ultrasonography (EUS), high-quality images of the gastrointestinal tract and current intensive care.



Jorge A. Arroyo Vázquez (Sweden)

Jorge A. Arroyo Vázquez (Sweden) explained the treatment of stent or surgical closure for perforated duodenal ulcers. Self-expanding metal stents (SEMS) are classified as a treatment for the perforations (rupture). The methods and procedures are surgical closure with standard laparoscopic techniques, or placement of a peroperative duodenal stent partially covered on a guide wire through the gastroscope, drainage and antibiotics.

OBESITY Keynote speech

Antonio J. Torres García gave a lecture in which he expressed the view of the surgeon regarding the concept of metabolic surgery.



Antonio J. Torres (Madrid)

He said that obesity leads to a plethora of discrete disorders. When obesity is morbid, the most negative consequence is, without a doubt, diabetes mellitus. Therefore, it can be said that obesity is one of the major social burdens generated by humans. A way to treat it was proposed and bariatric surgery emerged and is practised around the world. Bariatric surgery versus intensive medical therapy gets results in the case of diabetes.

The question is whether surgery of the gastrointestinal tract in diabetic patients with a body mass index under 35 improves the diabetes, as shown by the data from animals and humans. Or is conventional therapy preferable? Questions remain. Are there possible complications specific to the population that is not obese? What would the ideal operation be? What criteria should be followed for an indication for surgery?

Torres discussed gastrectomy and diabetes. In a study of 19 patients with total or partial gastrectomy, 13 with ulcer and six with gastric cancer, there was a rapid normalisation in 10 of them, a substantial improvement in nine and long-lasting remission and improvement at five years. The question remains. Is GI surgery in diabetic patients with a body mass index under 35 preferable to conventional therapy? Torres is hopeful.

Metabolic surgery provides long-lasting and safe control in a matter of days, mortality decreases by 80% and remission of associated diseases (diabetes, hypertension, renal failure, dyslipidaemia, etc.) is observed, it prevents cancer in more than 70%, likely reduces the cost of trials and provides physicians with a sharp increase in understanding the disease.

This hope did not cloud the objectivity of Antonio Torres who asks if this really is the case. If the surgery is so effective, why are less than 1% of patients receiving this treatment? Why are more than 99% denied access? Can history help provide an answer?

What awaits us in the future? The wise answer can be found in a proverb: "If you can look into the seeds of time, and say which grain will grow and which will not, speak then to me."



Santiago Horgan (USA)

Santiago Horgan (United States) discussed endoscopic bariatric surgery in the treatment of obesity: the STAMPEDE study, Bariatric Surgery versus Intensive Medical Therapy for Diabetes, shows that surgical treatment and medications potentially eradicate diabetes efficiently. It is a randomised study, the primary objective of which was to verify that glycosylated haemoglobin was the same or lower at six or 12 months. The secondary objective was to verify the complications: glycemia, insulinemia, lipids and hypertension.

Alberto Baptista (Venezuela) discussed the treatment of bariatric surgery and the role of the endoscopist as well as complications such as bleeding, stenosis, leaks and fistulas, erosion and laceration. The efficacy of endoscopic options is technically complex. For acute early leaks related to collections of peritoneal fluid, endoscopic peroral drainage (EPOD) is recommended.

Other steps are a proximal tether anchor or Valentx, endoluminal therapy without bypass surgery through an endoscopic approach. Therapeutic endoscopy is safe and effective for early bleeding after bariatric surgery. It may be early resuscitation, endoscopic intervention, GJ anastomosis, epinephrine or clips.



Alberto Baptista (Venezuela)

The new issue addressed by Liu Bing-Rong (P.R. China) was endoscopic ablation of the gastric mucosa for weight loss. Endoscopic ablation follows the principles of gastric bypass.

The gastric mucosa is an endocrine organ that regulates the feeling of fullness. To develop a minimally invasive technique for losing weight, ex vivo ablation is effective with the intention of reaching selective gastric mucosal devitalisation.

Ramon Vilallonga (Barcelona) addressed the present state of metabolic surgery. Metabolic surgery applies the surgical techniques used in bariatric surgery to patients with type II diabetes who fail to reach glycaemic targets despite following proper medical treatment. It has been consolidated as the most effective treatment for long-term patients with obesity and DM2.

The effects of metabolic surgery activate metabolic mechanisms independent of obesity, it is therefore considered that insisting on medical therapies can delay or worsen the patient's condition.



Ramón Vilallonga (Barcelona)

In his second presentation Dzhantukhanova (Russia) closed the session dedicated to obesity speaking about the current state of bariatric and metabolic endoscopy.

With regard to the latest trends in bariatric surgery, future bariatric endoscopy techniques and metabolic processes, Seda Dzhantukhanova indicated gastro-jejuno-duodenal transit, sleeve bypass, rejuvenation of the duodenal mucosa, endoscopic sleeve gastroplasty and gastric electrical stimulation (GES) for weight loss.

This last presentation closed the 12th International WIDER- Barcelona NOTES Course, which had brought together a large number

of national and international surgeons and endoscopists, as well as various specialists interested in the topics who followed the presentations and subsequent question and answer sessions with great interest.

The 13th International WIDER-Barcelona NOTES Course will take place on 25 and 26 November 2019.



LIVE BROADCASTS FROM OPERATING THEATRES



Sergey Kantsevov and Miquel Masachs



Stavros Stavropoulos and Joan Dot



Liu Bing-Rong



Zacharias Tsiamoulos



Ping-Hong Zhou



INTERVIEW

Doctor
José Ramón Armengol-Miró

Director of WIDER-Barcelona.
Digestive Endoscopy Service at the Vall d'Hebron Hospital in Barcelona.
Associate director of the 12th International WIDER-Barcelona NOTES Course

«The FENO robot is a big step forward, a great addition to our department, which gives me tremendous satisfaction»

In this interview doctor Armengol-Miró tells us about the current state of the expansion of the digestive endoscopy department of the Vall d'Hebron University Hospital and the improvements it will incorporate.

For many years I have been obsessed with having a high definition tool that would allow the greatest possibilities of radiological visualisation of all gastroenterological spaces. This was linked to the idea of expanding our department, with the creation of a multi-function room that would enable the implementation of other techniques during endoscopic procedures, which is to say, a room where a surgeon or other type of specialist related to the digestive system could operate at the same time as the endoscopist.

While we have envisioned this project clearly for many years, it is knowledge of radiological instruments that has allowed the three dimensions in real time, conventional radiology equipment combined with a scanner, (such as Phillips or Siemens), which has led us to study the possibility of performing these techniques at our digestive endoscopy unit, using an entire floor for it and with a room of about 100 square metres to install a robot which obtains three-dimensional images on screen, combined with the endoscopic image and the location of the tip of the endoscope, with the possibility of seeing what is happening outside, thanks to the radiological robot.

After a series of developmental problems, finally the project was initiated last year, thanks to the collaboration of "la Caixa", and the efforts of Vall d'Hebron Hospital, which has given us a surface area double that of the previous and is an extension of the current

department, where we will locate a high tech Siemens robot called FENO in the near future. A device that not only enables viewing the radiological plane to obtain a cholangiography or pancreatography or inspect the colon or oesophagus, but also, if we are examining the oesophagus for instance, and see that there is a submucosal tumour, we have the option of using endoscopic ultrasonography in the instant we are performing the endoscopy, to view the extension into the mediastinum of the mass, tumour, adenopathy, mediastinal or pulmonary pathology, or a cardiac disturbance that can compress the oesophagus.

Using the FENO robot, we can obtain real time, three-dimensional images, executed each time we perform a new endoscopy. It has a software system to obtain these images and we can work with them with absolute control using a laser-guided puncture system, which is to say, at the exit and entry point, or point

of encounter with the tumour or mass. For instance, for a duct to be drained, this guided laser system, will allow us to do the same thing as vascular surgeons or interventionist radiologists do, a transhepatic puncture from outside the target to be biopsied, destroyed, or simply drained.

I am convinced that FENO is a big step forward, a great addition to our department, a great instrument which gives me tremendous satisfaction. I have been working with static radiological imaging such as ERCP for many years, in which we have made great achievements, as well as with endoscopic ultrasonography, and now we have the possibility to work in trio.

What has been a dream, a pipe dream for many years, is now becoming a reality thanks to the agreement that "la Caixa" has made with the Government of Catalonia to extend the WIDER-Barcelona project. The initial six years was extended to ten, and there will now be another six more years of collaboration and sponsorship. We are eternally grateful to "la Caixa" and especially to the chairman of its Foundation, Mr Isidre Fainé, a great friend, who has understood and helped me develop my ideas for all these years.



INTERVIEW

Doctor
Joan Dot Bach

Head of the Digestive Endoscopy Department at the Vall d'Hebron Hospital in Barcelona.
Associate director of the 12th International WIDER-Barcelona NOTES Course

«The new bipolar dissection system using radiofrequency and microwave coagulation greatly facilitates dissection»

Have there been significant changes in this International WIDER-Barcelona NOTES Course compared to the previous?

This year, as Doctor Armengol-Miró noted at the inauguration, is a continuation of the last. The programme is almost the same. We have virtually the same experts and speakers, though each year they present the evolution of their research.

We continue to focus on the field of NOTES in therapeutic endoscopy and especially in the submucosal dissection of large polyps or submucosal lesions and on the POEM or peroral endoscopic myotomy technique to treat achalasia.

We have great world experts in these techniques, such as Dr. Sergey Kantsevoy who presented an overtube which facilitates submucosal dissection of all kinds of lesions in the colon.

Submucosal dissection techniques are still capturing great interest.

Yes, this colon stabiliser was presented along with a radiofrequency dissection system and the use of a probe, of a bipolar dissector. This radio frequency and microwave coagulation bipolar dissection system is an innovation, because we always work in coagulation and monopolar cutting. This procedure greatly facilitates the dissection.

In addition, we have seen several cases of this type of procedure. This is another excellent opportunity that this course offers; to be able to see a good number of live procedures carried out by the best experts in each area.

The construction of the multidisciplinary operating room of the Vall d'Hebron Hospital now has a date. How are the preparations going?

Indeed, next year the hybrid or multidisciplinary operating room will be ready to use for the first time. We already have an approved budget and are already in the process of finalising the details. The works will shortly be going to tender. We will enlarge the Endoscopy Department. Basically, this will

not be a dedicated endoscopy room but a large room which will be a hybrid operating room in which other hospital specialists will also be able to work, whether in the field of interventional radiology, cardiac haemodynamics or even neurovascular radiology. We want to incorporate a robot that will allow us to obtain 3D reconstructions in real-time. This means that when we have the endoscope inserted into the patient we will be able to see where we are in relation to the organs around the endoscope.

This brilliant project is called a hybrid operating room or multidisciplinary operating room because we can interact with different medical specialisations.



INTERVIEW

Doctor Antonio José Torres García

Head of Surgery 2 and Thoracic Surgery Department. San Carlos Hospital. Madrid Complutense University
Associate director of the 12th International WIDER-Barcelona NOTES Course

«Bariatric surgery has been renamed bariatric/metabolic surgery because by lowering weight there is improvement in associated diseases, especially diabetes mellitus type 2»

During the lecture you focused on a novel concept, that of metabolic surgery. What does this type of surgery refer to?

Currently, bariatric surgery and metabolic surgery cannot be differentiated. When we operate on patients who are obese not only do we seek benefits in their image or weight, above all we seek to improve associated diseases such as hypertension, hypercholesterolemia and especially diabetes mellitus type 2, which is the most important and frequent. To this end, bariatric surgery has been renamed bariatric/metabolic surgery.

The obese patient is complicated from a medical point of view. What we want is to operate on them in the least aggressive way possible. Currently, there are not only surgical methods for this purpose but also endoscopic

methods which improve the clinical situation of these patients while maintaining the safety of all procedures.

Which advance would stand out from those presented this year?

I believe that in the development of new technologies I would highlight the introduction of robotics across all areas. Not only the surgical robot, which helps surgeons, but the endoscopic robot which is already helping endoscopists. This enables the incorporation of multidisciplinary treatments, while at the same time obtaining radiological, endoscopic and surgical images in the same patient.

This naturally increases efficiency and patient safety. There are already some professionals in different countries that are implementing

this, such as Dr. Mariano Gimenez of Argentina or Dr. Irvin Waxman, among others. Dr. Waxman, for instance, has spoken of the robot applied to endoscopic correction in this course.

You have been co-director of this International Course for several years. What spirit presides over this meeting?

This course, now in its 12th year, is an example of how to get many professionals (doctors, nurses, technicians) from all parts of the world together to collaborate in the fight against digestive diseases and treat them with the least aggressive treatment possible.

In this symbiosis of endoscopists and surgeons we always intend that patients be treated with great safety and in the most effective way possible.

The patient ceases to belong to the specialists; all the specialists belong to the patient. The patient is the focus and the endoscopists, surgeons, radiologists, oncologists, and in the case of obesity, endocrinologists, dieticians, etc., are focused on the patient.

This spirit of togetherness among these professionals from around the world is something that is not now likely unusual but I think it is a priority objective that this meeting has been able to continue for 12 years and will hopefully continue for many more.



INTERVIEW

Doctor Irvin Waxman

Professor of Medicine and Surgery. University of Chicago. United States.
Director of CERT (Center for Endoscopic Research and Therapeutics)

«Such unique technology used in lumen-apposing metal stents (LAMS) is favouring a diversification of its indications»

Has robotics arrived in the field of endoscopy?

Robotics is already being developed in the field of endoscopy. This is very positive as it can help us to standardise procedures which usually require a lot of dexterity and agility. Specifically, endoscopic robots will help us to standardise and systematise endoscopic procedures. These robots facilitate endoscopic resections whether luminal or transluminal and at the same time suture the defects in the gastrointestinal wall. This is something that to date could not be done endoscopically.

What is the present and future of lumen-apposing metal stents?

Lumen-apposing metal stents (LAMS) were initially designed for ultrasound-guided transluminal drainage angioplasty for pancreatic collections. But we realised that such unique technology used in LAMS gives us the opportunity not only to treat cystic collections but also to use it in gallbladder and bile duct drainage. Currently, the use of LAMS is expanding significantly.

For example, these prostheses potentially enable derivative gastrojejunostomy. It can also be used in short stenosis of the gastrointestinal tract. These stenoses can be treated with these prostheses, which can then be removed once the stenosis has resolved.

In future, LAMS can be used in many other indications, such as for instance in the recanalisation of the oesophagus after oesophageal resection. In this area, the work of Dr. Marc Barthet of Marseille (France) which I presented in this course is very interesting.

Is the future of lumen-apposing metal stents assured?

I think LAMS technology is here to stay. It enables us to perform myriad procedures – which currently require surgery – from the inside of the gastrointestinal lumen. So, instead of having to contend with the endoscope outside of the gastrointestinal tract, which is what NOTES does, this technology makes the procedure possible from the inside of the gastrointestinal tract.

In addition, LAMS technology makes it easier for the gastroenterologist to perform their work.

You regularly attend the International WIDER-Barcelona NOTES Course.

Indeed, I have attended several times. This course is the result of a monumental effort of doctor Armengol-Miró which brings together experts from all over the world to present and share ideas on the latest developments. I always attend with great interest and enthusiasm because I always leave with a great deal of new knowledge. Instead of coming to teach, I come to learn.



INTERVIEW

**Doctor
Sergey Kantsevoy**

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

«The DiLumen accessory significantly simplifies and shortens endoscopic procedures»

At this course, you presented a new accessory. What does it involve?

I presented a new platform, a DiLumen intraluminal endoscopic positioner which facilitates endoscopic intervention. It consists of a flexible sheath which adapts to the colonoscope. It is a very simple accessory used to introduce the endoscope into the colon, to the site where the lesion is located. The device has two balloons, which, once inflated, facilitate the stability of the therapeutic area, traction and countertraction. This instrument also facilitates triangulations in such a way that it practically creates conditions similar to those of the operating room, where surgeons make traction and countertraction.

It also creates a conduit to move back and forth and it simplifies the removal of the endoscope. Thus, this instrument is really useful in facilitating endoscopic procedures, making them easier and faster. I think it's going to be a widely used accessory.

What is it particularly indicated for?

It can be used for endoscopic resection of lesions in the colon, in the resection of fragments or en bloc in endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD), significantly facilitating these procedures. It can also be used for colonoscopic navigation through a difficult colon, for enteroscopy and examination of the small intestine.

Is it already available in clinical practice?

The DiLumen is already on the market. In the United States I have performed more than 300 procedures over the last year. It has also been approved by the European Union. This year they sold more than 600 DiLumen devices around the world. It is a very simple technique. The attachment does not require too much assembly or special equipment and the entire device comes in a box.

Again this year, you will perform some live endoscopic procedures. What will the cases be?

One of the procedures will be a resection of colon polyps, where I will show you how to use this new DiLumen accessory.

Is there anything you would highlight in this year's course?

I am very happy to be back in the International WIDER-Barcelona NOTES Course. I am mainly interested in transluminal procedures. And this year, several experts, including some from Russia and China, will discuss this. So I am looking forward to these presentations. "The main advantage of this meeting is that clinical cases are presented in addition to the talks". Dr. Armengol-Miró has compiled a good number of difficult cases in advanced endoscopy, which will provide an excellent way to learn.



INTERVIEW

**Doctor
Miguel Muñoz Navas**

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

«The risk of post-ERCP pancreatitis can be reduced with two very simple measures»

Your presentation was about the prevention of post-ERCP acute pancreatitis. What are the risk factors?

Acute pancreatitis is the most common complication following endoscopic retrograde cholangiopancreatography (ERCP). It occurs in approximately 3.5% of cases.

Sometimes it can be quite a serious complication and can even, in exceptional cases, lead to death.

Post-ERCP pancreatitis occurs more frequently in patients suspected of Sphincter of Oddi dysfunction, patients who have a history of acute pancreatitis, in women (especially young women) and in patients with normal bilirubin.

In addition, there are other risk factors for pancreatitis related to the technique itself. For example, when you attempt to cannulate the papilla for more than 10 minutes unsuccessfully, having passed the guide through the pancreatic duct more than once or introduced contrast into it. Also when dilating the biliary sphincter with a balloon or an intraductal endoscopic ultrasonography.

An important aspect to consider is that the sum of more than one of these factors significantly increases the risk. For example, in a woman with normal bilirubin, with suspected sphincter of Oddi dysfunction in whom cannulation has been difficult, some studies indicate that this patient has a 40% risk of suffering post-ERCP pancreatitis.

Can post-ERCP pancreatitis be prevented?

Yes, we can prevent it. For this reason there are two measures we can put into practice in all patients which are, in addition very cheap – the cost is around 6-7 euros. They consist of giving the patient a solution, especially Ringer's lactate solution, to hydrate them. Another very simple way is to previously administer a suppository of indomethacin or diclofenac during or immediately after the examination.

If a patient has a contraindication for either of these non-steroidal anti-inflammatory drugs, in addition to giving the lactated Ringer's solution, they will be given sublingual nitroglycerin or 200 micrograms somatostatin by intravenous bolus. If there is a high risk of post-ERCP pancreatitis, another measure that can be useful to prevent it is a pancreatic plastic stent.

What aspects of the scientific programme in this edition of the International WIDER-Barcelona NOTES Course appear to be of special interest?

The talks presented on peroral endoscopic myotomy or POEM seem very interesting. This technique is used for the endoscopic treatment of achalasia but now with small changes it is also being used to treat gastric motor disorders, difficulty emptying, and to treat submucosal tumours of the digestive tract. Evidently, POEM is going to evolve and expand the possibilities of endoscopic treatment.

I also think interventions with techniques related to echoendoscopy are very interesting. For example, communications between different digestive tract loops to prevent obstruction that some tumours cause making gastric emptying difficult. In our department, in patients with advanced cancer, with obstruction of several stretches of the intestine, we are using these techniques to link between the stomach or colon with the small intestine. In future the use of echoendoscopy-related techniques will be expanded. They will also serve, for example, in bariatric surgery in patients with morbid obesity, to avoid sections of the intestine and thus prevent the absorption of nutrients in the intestinal ansae.

Fortunately, new techniques are emerging which allow endoscopy to be used in fields in which years ago its use was unforeseeable.



INTERVIEW

**Doctor
Dong Wan Seo**

Gastroenterology Department. University of Ulsan.
Asan Medical Centre. South Korea

«Endoscopic ultrasound with contrast allows detecting smaller liver lesions with very high sensitivity»

What does contrast provide to endoscopic ultrasound in the diagnosis of hepatic lesions?

In hepatic lesions we can also use contrast. Radiologists already use it in transabdominal ultrasound. But until now, it has rarely been used in endoscopic ultrasound. However, contrast enhancement in endoscopic ultrasound is also a very important tool and will be even more so in the future. The reason is that it gives a higher resolution and is especially useful in small hepatic lesions because it facilitates their detection with extremely high sensitivity. I believe that contrast-enhanced endoscopic ultrasound will be used more widely in the near future.

Can endoscopic ultrasound be used in the ablation of pancreatic tumours?

Endoscopic ultrasound has traditionally been used for imaging diagnostics but it is also currently used to treat various diseases. EUS-guided tumour ablation is one of the applications. I believe that this is a very promising area.

We can use endoscopic ultrasound in the management of several types of tumours. It is possible to perform EUS-guided cyst ablation with fine-needle aspiration. We can also inject ethanol as an ablative agent and combine it with chemotherapy drugs. In our cohort studies we observe full resolution of pancreatic cysts in the long term in nearly 70% of cases.

In patients who reached full resolution, the rate of recurrence was less than 2% in a follow-up longer than 10 years. Thus, it offers good results and a good rate of long-term resolution. Compared with surgery it was safer and more effective, without causing serious complications. Another area is EUS-guided solid tumour ablation. To do this, we can now perform EUS-guided radiofrequency ablation. This can be used, for instance, for the treatment of small pancreatic neuroendocrine tumours or insulinomas.

What experience do you have in this field?

In a cohort study conducted by our group that included 10 patients, in seven of them there was complete resolution of the tumour. Follow-up was short, therefore it is necessary to carry out long-term follow-up of

these patients. But at the present time, I believe that EUS-guided radiofrequency ablation can be used very effectively and securely in the management of small solid pancreatic tumours. We are also trying to use this technique as palliative treatment in advanced pancreatic tumours. Pancreatic cancer is very difficult to overcome. Current chemotherapy fails, because it is unable to increase the long-term survival rate. We can only gain several more months of survival. But if we combine radiofrequency ablation with chemotherapy, I believe that in the future we could get better results.



INTERVIEW

**Doctor
Shunsuke Yamamoto**

Gastroenterology Department. Sahlgrenska University Hospital.
Gothenburg, Sweden

«Resection with the ESD technique reduces the risk of bleeding in pedunculated polyps with a thick stalk»

You are Japanese but work in a hospital in Sweden...

I came to Sweden in 2016 in order to teach the endoscopic submucosal dissection (ESD) technique. Starting to perform colorectal ESD without supervision is difficult even despite having previously undergone training with animal models and practical training. Therefore, when Sweden decided to introduce this technique, an agreement was reached for Japanese experts to spend time in hospitals in this country and train other specialists. This collaboration is the reason for my stay in Sweden.

Why is it that in Japan they have more experience in ESD than in Europe?

Unlike what happens in Japan, in Europe and in Western countries it is difficult to start using the technique. The reason is that in Japan we have a lot of gastric cancer, which is the starting point for learning ESD, for training beginners. But in Western countries there are very few cases of gastric cancer and therefore we have to start training with colorectal lesions, for which management with ESD is much more difficult than gastric cancer.

They usually begin their first cases in humans after training on animal models but it is still difficult. If specialists can have the assistance of a Japanese mentor they can begin to use ESD as we do in Japan.

This way, it is safer for the patient and they can learn the technique more effectively.

Tell us about the scissor-type knife for endoscopic dissection.

For resection of pedunculated polyps – those with a stem – different methods or techniques are used but to date there has been no published studies that have used a scissor-type knife for endoscopic dissection. However, we have found that this technique is very effective. Today I have shown how we do it with a series of videos.

The main problem that is associated with pedunculated polyps, and especially those with a thick stalk, is bleeding. Usually, the stem is irrigated by large blood vessels. One of the ways to prevent bleeding is to place clips before cutting.

But sometimes it is difficult due to lack of space. We use the ESD technique to resolve this problem, because it allows us to dissect the stem, visualise the vessels and coagulate them to prevent bleeding.

What techniques are you especially interested in of those presented at this meeting?

I am interested in presentations about the new techniques derived from ESD. In my opinion pure NOTES surgery is decreasing while other procedures that use ESD are gaining ground which I consider to be impressive.



INTERVIEW

Doctor
Alberto Montori

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

«Because we come from different cultures and experiences, in some procedures the way we work differs between Eastern and Western specialists»

In this year's course you have focused on endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) in colorectal polypoid lesions.

These days colorectal polypoid lesions are very commonly resected endoscopically, without the need for surgery. If the injury is polypoid, it is very easy to remove it with endoscopy but if it is too large it can sometimes be very difficult to resect.

In the last 20 years in these cases we have the possibility of working intraluminally, from within the bowel, and by doing so we can perform a dissection of the mucosa and submucosa up to the muscularis propria. This method can remove large polyps very effectively.

If the polyp is not pedunculated but sessile and very large, the entire lesion is removed in one piece for anatomopathological examination, after which we make a decision. If the pedunculated lesion is benign it will already have been extirpated endoscopically not surgically. When polyps are malignant we carry out neoadjuvant surgery (radiation of the lesion) and keep the patient under observation.

Do Eastern and Western specialists work differently?

Many specialists from China, Japan and South Korea have attended this meeting. In some procedures, the way Eastern and Western specialists work is a little different. Our Eastern colleagues have great skill and I know this well because I've been to these

countries many times. But for instance, in cases of acute appendicitis, and unlike us Westerners, they don't remove the appendix, rather they perform a colonoscopy and aspirate the pus.

In the East they also eliminate gallstones endoscopically, without laparoscopic surgery and without removing the gallbladder. Us westerners believe this is not a good choice because after 10 years the mucosa of the gallbladder makes new stones and the patient will need another surgery. I believe there is a difference between them and us because we come from different cultures and different experiences.

As a specialist, how do you see the figure of the surgeon in the West?

Surgery is a discipline, an art, and the surgeon must know the anatomo-surgical procedure very well before treating a patient. On the other hand, as specialists we are not only surgeons or only endoscopists or only gastroenterologists. It is therefore necessary to work together to achieve excellence in the treatment of gastrointestinal lesions and that the major beneficiary be the patient.



INTERVIEW

Doctor
Kiyokazu Nakajima

Professor of Surgery. New Generation Endoscopic Surgery Department. University of Osaka. Japan

«The rigidity of the endoscopes in the future will be variable, to adapt to the needs of the procedure»

What is Project ENGINE?

This is a project that we created in Japan in 2008. The aim is research and development of new instruments for endoscopy and laparoscopy. It is a collaborative consortium between Osaka University and industry. Currently, Project ENGINE is comprised of 20 surgeons and doctors of the University and eight national industries.

What progress has Project ENGINE made over the last year?

Some prototype devices have completed their specifications and are now ready to be marketed. The consortium Project ENGINE has done this with more than 10 articles. This is a rare success for a consortium of medical devices in collaboration with the university.

What are the implications of these advances in clinical practice?

Some endoscopic interventions as well as laparoscopic procedures have become safer and more effective thanks to these new devices. An example is the success of the new suction coagulator which we have called "Suction Ball Coagulum", which we developed in Project ENGINE.

This suction device is integrated with an electrosurgical probe to obtain good suction capacity and improve homeostasis in laparoscopic surgery. Sales of this suction coagulator has been incredible.

Last year at this course we presented the swab or surgical cotton bud which can be used both in reduced port surgery and in endoscopic surgery.

This swab has the advantage of being very thin and therefore, easier to handle. We also presented a new electrocauterisation probe for flexible endoscopes.

What do you think is the key to the success of the Project ENGINE consortium?

The key to success is continuous collaboration between physicians and industry. Close collaboration between surgeons and gastroenterologists is essential to produce new endoscopic and laparoscopic instruments.

Both can share information and ideas thanks to the presence of engineers in real medical environments (for example, in endoscopy rooms, or operating theatres) and to have common communication tools (for example, rapid prototyping technology).

What will endoscopes be like in the future?

Endoscopes of the future should be flexible or rigid as needed. Their rigidity is variable or adaptable. In addition, their performance and the variation of the flexible instruments will be greatly improved.



INTERVIEW

Doctor Sarbelio Rodríguez Muñoz

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

«After resection of a large polyp in the colon, we need to check the eschar and treat all risk factors for deferred bleeding»

This year there was a special conference "Risk Factors of bleeding after resection of a colon polyp". What are these factors?

I tried to describe the factors that can predict risk when we resect a large polyp in the colon and when I say large I mean more than 2 cm. There are basically two risk factors; the size of the lesion (the larger the lesion the greater the risk) and the condition of the patient. Anticoagulation is notable in terms of the patient's condition.

We often deal with older patients and it is common for these patients to be in anticoagulant treatment. Before resection of a large polyp, anticoagulation needs to be reversed otherwise the risk of bleeding is very high.

After resection, examining the eschar can also give an idea of what is going to happen. If it is feasible, we will try to close the eschar formation with clips and perform haemostasis by burning all visible vessels in the area. If a very deep burn is found, special care should be taken in attempting to close the eschars.

Are there any short and long term risk factors?

Yes, short-term risk occurs in the first 24-48 hours, and it is predictable and easy to control. However, the risk of bleeding in the long term is more difficult to prevent because it involves factors other than haemostasis.

Also, it is important to know the effects of the different anticoagulants currently marketed (antiplatelet anticoagulation, typical anti-

coagulants such as warfarin and new direct anticoagulants such as dabigatran), what to do with them, how to return the patient to anticoagulant therapy following polyp resection and what to do if the patient bleeds at this time.

As an expert in the organisation of scientific meetings, how would you assess the International WIDER-Barcelona NOTES Course?

As always, each year in this course specialists present technical, instrumental and methodological innovations all of which are really very interesting. Endoscopy conferences are given on robotics – which is the future.

Or, for instance, a new instrument was discussed to biopsy gastrointestinal stromal tumours (GIST), among other important advances.

Will there be a tenth edition of Advanced Endoscopy, headed by you? When is it envisaged?

Yes, we will run it again. The next edition will be held in Madrid at the end of September 2019. The decision to repeat and organise it was made quickly because the feedback (through the satisfaction questionnaires which the attendees filled in at the end of the last edition) was very good. They evaluated the course as highly useful and a large number of specialists indicated their intention to return. We are now trying to close the programme and make it even more attractive than last year.



INTERVIEW

Doctor Mariano Giménez

Professor of Surgery at the University of Buenos Aires. Argentina.
Chair of excellence of Percutaneous Surgery of the University of Strasbourg.
Scientific Director of Percutaneous Surgery of the IHU-IRCAD. Strasbourg. France

«Image-guided surgery is allowing us to do very complex interventions on an outpatient basis»

Major advances have been made in surgery in recent decades. To what extent is this speciality changing or will it change?

For hundreds of years surgeons have operated openly, breaking down structures to solve problems. At the end of the twentieth century, we started to perform minimally invasive surgery, namely laparoscopic, endoscopic and percutaneous surgery. This century we are taking a further step thanks to image-guided surgery. This type of surgery uses hybrid operating rooms that have, in addition to laparoscopes and endoscopes, scanners, angiographs, etc., which facilitates very high precision surgery.

To these advances will be added robotics and artificial intelligence. All this technology allows us to perform increasingly less invasive and more precise operations with better results. It also enables surgery on an outpatient basis or operations after which the patient can quickly return home.

You are leading the IHU in Strasbourg, one of the world's more cutting edge institutes in the world of digestive surgery. What do they specifically do at this centre?

The IHU or Institute of Image-guided surgery is a centre was jointly created by the University of Strasbourg and the French Government. It is specifically dedicated to image-guided surgery with the new concept of the hybrid or high-tech operating room.

While it is connected to the University Hospital, the IHU does not have beds because the idea is to perform very complex surgeries but with minimally invasive techniques that practically do not require hospital admission. Therefore, this is not the surgery of the future, rather it is already the surgery of the present. In fact, I know that professor Armengol-Miró is opening a hybrid operating theatre at the Vall d'Hebron Hospital in Barcelona in the Digestive Surgery Department which follows the same concept.

What is this 12th International WIDER-Barcelona NOTES Course providing for you?

In our work in Argentina and especially in France, we are very interested in combining endoscopy with laparoscopic surgery techniques and endoscopy with percutaneous

surgery through needles, stents, etc. and many of the experts here are talking precisely about how they work, of combining specialities and eliminating old barriers. In the past, we spoke of the surgery department, of the gastroenterology department, but thanks to technology and the evolution of medicine and humanity, these divisions are becoming obsolete.

For me practically all the talks are very useful, though some are in very specialised areas I don't practise in. But we are taking much note of all the rest in order to continue to develop new techniques and a new type of surgery.

Also, it is always a pleasure to be in Barcelona, which is one of the best cities in the world, with a wonderful host in doctor Armengol-Miró.



INTERVIEW

**Doctora
Marina Ivantcova**

Specialist in Digestive Endoscopy.
Russia

«ESGE-ESGENA is preparing a new edition of its clinical guideline for optimum sterilisation of any type of endoscope»

You addressed risk management in endoscopy in this course. Why did you choose this subject?

Endoscopy is associated with potential transmission of infections. It is thus very important that diagnostic and therapeutic procedures are safe for our patients and healthcare providers. Risk need to be assessed and minimised and no mistakes can be made.

The European Society of Gastrointestinal Endoscopy (ESGE) and the European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) are preparing a new edition of one of its clinical guidelines. These guidelines, which were prepared jointly by specialists from Spain, Russia, the United Kingdom and other countries, will

provide a series of specific recommendations for optimum reprocessing or sterilising of any type of endoscope and especially duodenoscopes, because these are more complicated devices.

The aim is to avoid contamination, growth and the transmission of any infectious agent and consequently make this technique safer for our patients and healthcare providers. I believe that this field is very interesting for all specialists because risk management is absolutely universal. We know of it from ancient times but it began to grow rapidly in the mid-20th century. The field of endoscopy took off at the beginning of this century, at the time of the great technological revolution.

What precautions should be taken to avoid the risk of transmitting infections?

We should be sure that our endoscopes are thoroughly clean and follow the protocols indicated by scientific societies. In this course we have mainly discussed automatic washing and disinfectant solutions to clean endoscopes. We must also make sure that it is safe for staff and the environment. Currently, ESGE-ESGENA is thinking about how to reduce the use of aldehydes in the sterilisation process – as they are not safe for staff – and increase the use of oxygen-based disinfectants. Also, enzymatic solutions are better for cleaning the endoscopes. Of course, the use of single use instruments is a way of preventing some risks.

Another important aspect of risk management is that the doctor must be an expert.

Is it your first time at this Course?

This is the second time that I have come to the WIDER-Barcelona NOTES course. It is a meeting of great scientific quality, also attended by a large delegation of excellent Russian specialists. Definitively, this course, organised by professor Armengol-Miró, is very useful for improving the knowledge and skills of all endoscopists.



INTERVIEW

**Doctor
Joaquín Balsells Valls**

Head of the Pancreas Surgery Unit. Vall d'Hebron University Hospital. Barcelona

«I think the next appearance of the new Da Vinci robot, which requires only one port, will be definitive for a major take-off of NOTES Surgery»

You co-moderated a session on experimental and clinical NOTES that has attracted great interest.

The challenge was mainly to endoscopy, the treatment of achalasia with peroral endoscopic myotomy or POEM, of the complications of sphincterotomy or endoscopic retrograde cholangiopancreatography (ERCP) and how to prevent them.

There have also been some new techniques that are being carried out in China which consist of open gallbladder removal, cleaning it of polyps and stones and closing it again leaving the gallbladder in situ. The results remain to be seen, as there are not yet many cases. But what is certain is that in the western world we are sceptical that these new procedures can be implemented.

On the other hand, there was a very interesting session focused on endoscopic ultrasonography and ablative treatments for pancreatic tumours that cannot be removed. But currently we can try to eliminate these tumours with radiofrequency and electroporation, thus increasing patient survival.

In the Pancreas Surgery Unit of the Vall d'Hebron Hospital, which you lead, they are already using Robotics. How would you assess these techniques?

Yes, we are doing surgery for the resection of pancreatic tumours using laparoscopy but more recently we already initiated treatments with the Da Vinci robot with good results.

Robotics enables greater accuracy, greater visibility and greater manoeuvring capacity

with the instruments than laparoscopy. With laparoscopy we are a bit rigid, movements are a little limited. The Da Vinci robot also greatly facilitates suturing and consequently it shortens the time of surgery. Patient satisfaction is the same, whether the intervention is done with the laparoscopic or robotic method but the Da Vinci robot makes it easier for surgeons.

A multidisciplinary operating room will soon be made available in the Vall d'Hebron Hospital. How do you rate this new advance?

Indeed, next year the multidisciplinary operating room is expected to open.

Dr. Armengol-Miró proposed that we collaborate with patients who are going to require an endoscopic approach and surgical or

laparoscopic approach to combine efforts and progress and advance in this fascinating field that is natural orifice transluminal endoscopic surgery, or NOTES.

In my opinion this kind of surgery in future will be implemented much more, especially when the new Da Vinci robot appears, with a unique approach. The current Da Vinci robot requires four orifices or ports but the next model, to be released in one or two years, will enable practising and operating with only one orifice which will be much better for the patient and will surely enable its final take-off combining NOTES with robotics.



INTERVIEW

**Doctor
Marco Frascio**

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

«As a result of NOTES research, many technological advances have been developed and successfully established in the field of surgery and endoscopy»

In your opinion, what does this International WIDER- Barcelona NOTES Course contribute?

I believe that the most interesting aspect of this course is that it focuses on new technologies. When natural orifice transluminal endoscopic surgery (NOTES) began to be developed it was only a dream. We didn't know if ultimately this project would be successful. Now we can say that while it has not taken off widely in daily clinical practice, as a result of NOTES research, many technological advances have been developed and successfully established in the fields of surgery and endoscopy."

In such a way that currently we have many new techniques and endoscopic procedures that are gaining ground in surgery.

That is to say, that some procedures that could only be done surgically are now being performed with endoscopy. This means that they are less invasive, less dangerous and are associated with fewer complications. In my opinion, this has been the main result of NOTES surgery.

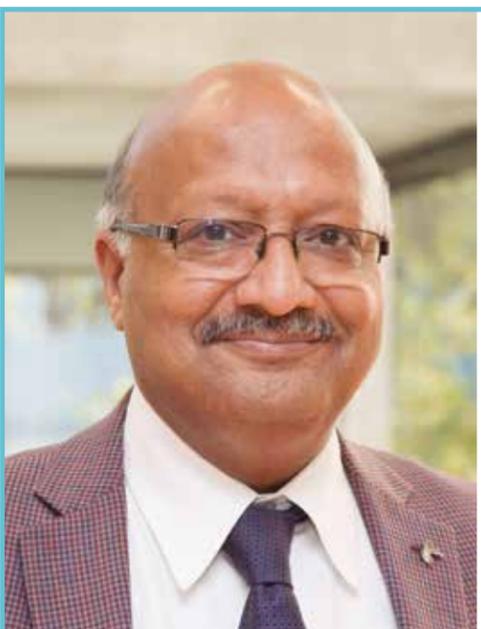
You are a usual attendee of this course. Since when have you attended?

I am a veteran of this course and not only because I've been coming since it first started but because I have been in contact with doctor Armengol-Miró since 1982. At that time I was a young surgeon who came to Barcelona to learn and start out in endoscopy.

At that time NOTES surgery did not yet exist. Also, I met doctor Armengol-Miró in New York when he performed the first transvaginal cholecystectomy NOTES procedure and we began to collaborate.

What would you highlight in the scientific programme of the present edition of the course?

This year there are many papers being presented by Chinese specialists. They have presented some very interesting developments. In China they are developing many techniques and procedures, and in my opinion, this is because they have a huge number of patients to treat. They are, therefore, acquiring a great deal of experience in the field of surgery and endoscopy.



INTERVIEW

**Doctor
Rajesh Gupta**

Asian Institute of Gastroenterology, Hyderabad, India

«We are currently starting to use radiofrequency ablation for pancreatic disorders»

What is the current role of radiofrequency ablation in biliopancreatic diseases?

The radiofrequency ablation technique has been available for more than two decades. We began to use it in the treatment of liver damage, in tumour ablation.

For some time we have been performing radiofrequency ablation as palliative treatment in patients with unresectable cholangiocarcinoma with very good results in prolonging the permeability time of biliary prostheses and survival. To date we have carried out more than 300 cases and we are on track to publish this experience.

Though currently, we are starting to use radiofrequency ablation for pancreatic disorders.

Surgery of the pancreas is very difficult; it is associated with very high morbidity and mortality.

As such in certain patients it is contraindicated or the patient does not wish to be operated on. In these cases, radiofrequency ablation may be a good alternative.

You have experience with radiofrequency ablation in pancreatic insulinoma.

Yes, we have used radiofrequency ablation for insulinoma. This is the most common functional neuroendocrine tumour of the pancreas. One of its clinical manifestations is severe hypoglycaemia. Radiofrequency ablation very significantly reduces hypoglycaemic episodes and patients obtain very good results.

In 2016 we published our experience of EUS-guided radiofrequency ablation in insulinoma using a new needle electrode in the journal "Gastrointestinal endoscopy".

What is your impression of this edition of the International WIDER-Barcelona NOTES Course?

In this edition, the course has offered, as usual, a quality scientific programme with great practical application, presented by the best experts in the field in highly specialised areas. These professionals are developing advanced technology and come from various countries in Europe, Asia and America. Another draw of this course is that it allows you to see different procedures performed by experts, broadcast live from the operating rooms to the conference room.

Professor Armengol-Miró is an excellent organiser and a wonderful host. Besides, it is always a pleasure to be in a city like Barcelona.



INTERVIEW

Doctor
Maurizio Zilli

Director of the Gastroenterology and Digestive Endoscopy Unit.
Udine University Hospital. Friuli Venezia-Giulia. Italy

«It is imperative to emphasize the importance of adequately funded high-quality research in the field of NOTES»

NOTES surgery is drawing undeniable interest both from medical professionals and the general public. What are the main reasons for this success?

The main reason is the number of pathologies we can treat with NOTES. It is now possible to cure a wide variety of diseases such as gallstones, gastroesophageal reflux disease, obesity, colorectal cancer and many other complex problems. Interventions using NOTES range from diagnostic tests of the peritoneal cavity to complex resections of organs such as a pancreatectomy, splenectomy and nephrectomy. I believe that crossing the intestinal lining is one of the most fascinating NOTES procedures for an endoscopist specialising in the digestive tract.

The second reason, especially for the public, may be the draw of "surgery without fear". NOTES offers the opportunity to treat patients with complex diseases without the invasiveness of traditional surgery.

What do you consider to be the best NOTES applications today?

In my opinion, the best applications of NOTES are for benign diseases. NOTES is one of the current alternatives for treating obesity.

Obesity is the disease of our time; its incidence has increased significantly as has its severity. Comorbidities in obese patients have also increased.

Endoscopic bariatric therapies have a good safety and effectiveness profile, lower costs than surgery, can be repeated, and generally

are well accepted by patients. Obese patients tend to be young and bariatric surgery involves a large number of anaesthesiologic obstacles and surgical procedures, so we have to find smarter solutions for these patients.

Is there any problem that you would like to comment on about NOTES?

There are already well-tested procedures available to treat many conditions that might be appropriate surgery for NOTES. But now publications on NOTES are growing rapidly, it is imperative to emphasize the importance of adequately funded, quality research.

In the near future, it is essential that the indications for NOTES be established and recognised in the clinical guidelines.

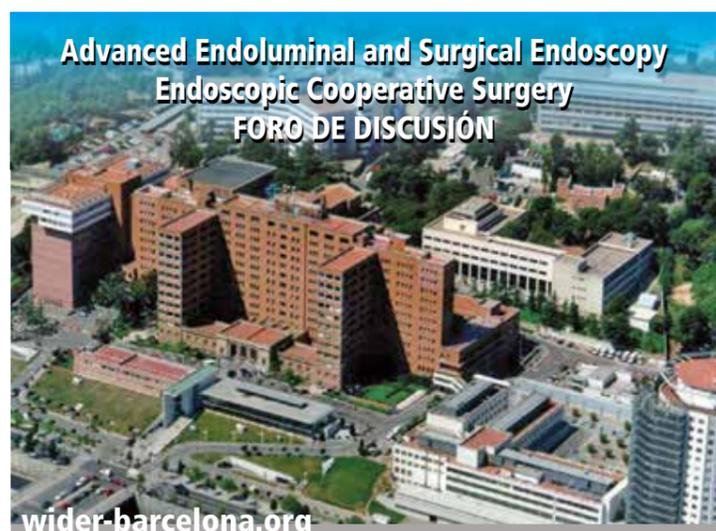
How should endoscopists be trained?

The development of a safe and reproducible technique is essential for NOTES use in humans. The initial phase of training in animal models (ex vivo and in vivo) is crucial for understanding the techniques and the actual limits of NOTES procedures. Today, the large academic hospital centres have laboratories specialising in animals dedicated to practical training. The learning curve for these procedures is variable and depends on the technique, but most of them can be learned in a short period, so that after assessment from an authorised expert endoscopist, it can be applied to human patients. Of course, it is important not to underestimate the importance of robot-assisted endoscopy, which is currently available at large centres, which will certainly help to reduce the learning curve.

Advance Program

13th 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



November 25 and 26, 2019

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We expect you all!
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Institute for Digestive Endoscopy Research in Barcelona

Institut de Recerca Hospital Universitari Vall d'Hebron

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