

WIDER-Barcelona news

Director: J.R. Armengol-Miró

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11th INTERNATIONAL NOTES COURSE WIDER-Barcelona

NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY

Barcelona, 27 and 28 November 2017

C.L. Ruiz de Villalobos

The International NOTES WIDER-Barcelona Course has already widely demonstrated its strengths and impeccable track record over the last few years and this year held its 11th edition in the Auditorium of the Vall d'Hebron University Hospital, with a two-day programme featuring dual activity: a theoretical side in the form of talks on current NOTES topics, and a practical aspect thanks to a team of guest professors, in the Digestive Endoscopy Service operating theatres at the Vall d'Hebron University Hospital broadcast live video to the conference room.

The Course took place with support and funding from the WIDER-Barcelona project, Vall d'Hebron University Hospital (Barcelona Autonomous University), Vall d'Hebron University Hospital Recerca Institute, working with "la Caixa" Foundation and OLYMPUS Europa SE & CO, with approval from the CEEA (Animal Experimentation Ethics Committee) from the Vall d'Hebron University Hospital Recerca Institute.

The NOTES course is intended for gastroenterologists, clinical endoscopists and surgeons interested in the benefits of natural orifice transluminal endoscopic surgery (NOTES) and interventional therapy techniques derived from or related to it.

The Course directors were Drs. José Ramón Armengol-Miró, Manel Armengol Carrasco, Antonio José Torres García and Joan Dot Bach. It was coordinated by Drs. Jorge Olsina, Joaquim Balcells, Monder Abu Suboh Abadía and Jordi Armengol Bertrolí with collaboration from Drs. Miquel Masachs Perecaula, Ana Benages and María Dolores Castillo Cejas.



Images of different retransmissions of live endoscopic interventions: top left, Xu Mei-Dong and Zhang Xiaoguang; to the right, Ana Benages, Roberto Foguel and Fan Zhining. Bottom left, Stavros Stavropoulos and Marc Pigrau; on the right, He Dezhi.

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

«The Course is a discussion forum that is super-specialised in very new technology and techniques for endoscopy, vascular surgery, ablation...»



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

«Whilst surgery is increasingly less invasive, endoscopy is increasingly more so»

Kiyokazu Nakajima
Professor and researcher from the Gastroenterology
Department of Osaka University, Japan

«I have attended this Course every year and I am impressed by its excellent programme every time»



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

«Who would have thought a few years ago that surgeons and endoscopists would be helping to treat type 2 diabetes today»

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

«On this Course, we share and compare endoscopic techniques and minimally invasive surgical techniques»



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WIDER-Barcelona

Institute for Digestive Endoscopy Research in Barcelona

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Day 1 Monday

NOTES. PRESENT AND FUTURE



José Ramón Armengol-Miró



Joan Dot Bach



Manel Armengol Carrasco

Course Inauguration

The 11th edition of the course was opened by holding a session led by doctors from the Vall d'Hebron University Hospital Dot Bach (Head of the Digestive Endoscopy Service), Armengol Carrasco (Head of the General and Digestive Surgery Service) and Armengol-Miró (Director of WIDER-Barcelona), David Elvira (Director of Servei Català de la Salut (Catalan Health Service)), Vicenç Martínez (Managing director of the Vall d'Hebron University Hospital), Joan Comella (Director of the Vall d'Hebron University Hospital Recerca Institute Foundation) and Ana Ochoa De Echagüen (Patient Care Director at the Vall d'Hebron University Hospital).

During his speech, Professor Armengol-Miró mentioned David Elvira's time, years ago, at the Vall d'Hebron Hospital and the great work he is doing in his present job. He added that the 11th NOTES Course would not have been possible without working with "la Caixa", the Generalitat de Catalunya and the actual Vall d'Hebron Hospital. In addition, he recalled that Dr. Martínez Ibáñez, paediatric surgeon, had switched to management from the world of Medicine with considerable success and he spoke about Dr. Armengol Carrasco, who "has always been and continues to be" his great support and acknowledged Dr. Comella's inestimable contribution to the WIDER-Barcelona project. He also expressed his thanks to his great friend Isidro Fainé from the "la Caixa" Foundation, to Dr. Dot who had taken over from him in managing the Endoscopy Unit at the Hospital plus Dr. Ochoa. He finally thanked everyone present for attending this annual event at the NOTES WIDER-Barcelona International Course.

Dr. Armengol Carrasco also spoke fondly of Dr. Armengol-Miró and hoped that successive editions of the NOTES WIDER Course might continue with the same enthusiasm, as it seemed that "each new edition sees themes evolve and growth in all specialities". Dr. Comella, in turn, welcomed all the participants "to a Course that has already made a name for itself, to everyone who attends once and then comes back knowing that this year will be another greater success." He finished off by thanking "la Caixa" for its attentive support and David Elvira.

In their speech, Drs Dot Bach and Ibáñez Martínez mentioned just how attractive this Course is for professionals, highlighting that "year after year, it maintains its excellence and interest in endoscopy and research" and that it is "an international window on knowledge".

Finally, David Elvira expressed his satisfaction and spoke to the attendees stating that "It is a pleasure for me to present this 11th International NOTES WIDER-Barcelona Course with the continuity and success that it continues to reap." He recalled that Catalonia has a long history of research and work and an inclusive national health system with an international outlook. He thanked "la Caixa" and everyone working together on this project, endoscopists and other highly qualified professionals who manage to make the Course an opportunity to exchange knowledge among specialists from all over the world. With these words, he officially opened the 11th International NOTES WIDER-Barcelona Course.



David Elvira Martínez



Vicenç Martínez Ibáñez



Table of the official opening, composed by Joan Dot Bach, Manel Armengol Carrasco, J. Ramón Armengol-Miró, David Elvira, Vicenç Martínez Ibáñez, Joan X. Comella and Ana Ochoa.



Ana Ochoa De Echagüen Aguilar



Joan X. Comella Carnicé

SESSION 1. NOTES. PRESENT AND FUTURE

With a board moderated by Armengol-Miró (Barcelona), Marco Frascio (Italy) and Yuri Starkov (Russia), the first session of the Course began with Marina Ivantsova (Russia) on the topic of "How useful might NOTES be in the near future regarding women's hormonal fluctuations?"

Ivantsova recalled that in March 2007, the NOTES Research Group from Rio de Janeiro (Brazil), led by Dr. Ricardo Zorrón, performed an initial series of vaginal cholecystectomies on four patients, based on prior experimental studies. Conclusions demonstrated that the procedure causes few potential complications, it has the disadvantage that it can only be applied in women but NOTES transvaginal techniques seem to be the safest and most viable option for clinical application.



Yuri Starkov (Russia)

Before moving on to the next speaker, Yuri Starkov and Marina Ivantsova presented professor Armengol-Miró with a diploma awarded by the Russian government to acknowledge his professional merits.



Marina Ivantsova presents the diploma awarded by the Russian government to Professor Armengol-Miró.

Next, after Professor José Ramón Armengol-Miró had expressed his thanks for the award from the Russian government, Per-Ola Park (Sweden) talked about exploring pyloric dynamics in stenting using a distensibility technique. He referred to the endoflip (endoluminal functional luminal imaging probe), a newer and minimally invasive device, created to complement traditional diagnostic tests. He explained a study showing that a stent fitted on the pylorus should have high radial strength to dilate it and reduce contraction movements. Large eruptions on the gastric side seem to increase the risk of stent migration, as shown by a Dutch study. This might be due to stimulation of antral contractions. Per-Ola Park concluded that possibly the best design would be a stent with no nearby eruptions and considerable radial strength to dilate the pylorus.



Per-Ola Park (Sweden)



Maria Bergström (Sweden)

Maria Bergström (Sweden) looked at the inflammatory response after stent treatment for colonic obstruction, comparing it with surgery. Acute obstruction of the colon caused by colorectal cancer has traditionally been treated with open surgery. This has been associated with high morbidity and mortality (10-30%) and over 50% of these patients undergo a colostomy. The expanse of the surgical trauma can be assessed by measuring surgical response markers (CRP, interleukins, white blood cell count). It has been seen that the inflammatory response is greater after open surgery than after the corresponding laparoscopic treatment. Acute stent treatment on a malignant colonic obstruction produces a smaller inflammatory response compared to surgery. Although the disease is very advanced and there are co-morbidities among the patients, those treated with a stent demonstrate faster recovery, less time before the first defecation and a shorter hospital stay.



Suvranu De (USA)

Suvranu De (USA) talked about pre-clinical training for new NOTES procedures, highlighting that the arrival of NOTES meant that deep incisions could be made into the abdominal and thoracic cavity to achieve better organ resections. So, less postoperative pain, shorter hospital stays, better cosmetics, avoiding the laparoscopic port-site hernia and short-reach endoscopic interventions in the digestive tract, such as POEM, ESD, EFTR, STER, POP, etc.

Subsequent steps will involve developing a simulator (on-going) and other validation studies.



Joseppe Galloro (Italy)

Research into new materials for operative endoscopy was the topic chosen by Joseppe Galloro (Italy) who spoke about tungsten as the choice material for manufacturing advanced operative endoscopy devices. In this respect, he said that subsequent research steps should focus on studying the impact of tungsten on histological evolutions.



Wen Li (P.R. China)

Wen Li (P.R. China) asked the question: "What has NOTES meant?" The answer is a real challenge as basically it represented a change in mentality and has shown us how to break down the boundaries between internal medicine and surgery, it has changed how doctors and surgeons think, it has represented close cooperation between both groups and might even lead to combining the disciplines.

**SPECIAL LECTURE
ENGINE PROJECT UPDATE**

Kiyokazu Nakajima (Japan) offered an update on the ENGINE project from the R&D frontline. He ran through the history of the project, mentioning that the University began to work with six industries in 2008 and it had been authorised as a division of the University in 2012. Currently, it is working with 19 industries and it has patents with 99 applications.



Kiyokazu Nakajima (Japan)

He also spoke about a new device: Endosaber. This is a multi-functional flexible device for advanced endoscopic interventions such as ESD. The latest development of the ENGINE project funded by a local government grant will go on the market in 2018. ENGINE has become a unique platform working as a bridge between doctors and industrial technicians. Many new ideas have been conceived within ENGINE, not only from doctors but also from external contributors. The flexible and surgical items that have emerged from this successful industrial-clinical combination are a clear demonstration of great Japanese manufacturing.



Sergey Kantsevov (USA)

CONFERENCE

Sergey Kantsevov focussed his talk on endoscopic correction of surgical complications. He mentioned that NOTES has promoted a new level of cooperation between industry and doctors and that this cooperation leads to developing and implementing new tools and techniques that have changed the face of medicine. Therapeutic endoscopy has become a new and fast-expanding field with growing effectiveness, complementing and connecting with traditional surgery.



Rita Conigliaro (Italy)

PROGRESS IN NOTES

Rita Conigliaro (Italy) talked about the latest endoscopic treatment techniques for gastrointestinal haemorrhage (Purastat and OTSC), mentioning that acute gastrointestinal haemorrhage is an emergency with wide-ranging annual incidence and hospitalisation rates. It is associated with high morbidity and mortality. Active bleeding ulcers, large fibrotic ulcers in critical areas, hemodynamic instability, co-morbid diseases and anticoagulation therapy are factors that can cause a larger haemorrhage. OTSC is an efficient first line treatment in high risk situations. Using Purastat can help reduce the haemorrhage after endoscopic resection even in this type of situation. Randomised and controlled studies are needed, plus cost analysis to confirm the value and the effectiveness of these methods.

Xu Mei-Dong (P.R. China) compared traditional NOTES, using a rigid endoscope, direct route and closure difficulty with the new NOTES, using a flexible endoscope, submucosal route and easy closure. It is undeniable that development of submucosal endoscopy will dictate how the new NOTES evolves. Its future will depend on developing new techniques and favourable conditions such as help from funds and organisations.

Next, the conference room connected up with the operating theatres where Dr. Stavros Stavropoulos (USA) was operating on an achalasia.

Xu Mei-Dong (P.R. China) in his second talk, covered the new techniques for endoscopic resection, EFTR, submucosal tunnelling endoscopic resection, STER, applications, training and challenges, Plus preoperative and postoperative handling of these techniques, closure methods: metal clips, OTSC, loops, stents, caps and stitches.

The choice of closure method should be based on the size or defect of the opening and the skills of the person performing it.



Xu Mei-Dong (P.R. China)

Another connection was made with the operating theatres to continue watch Dr. Stavros Stavropoulos's operation.

**SESSION 2
EXPERIMENTAL AND CLINICAL NOTES**

Seda Dzhantukhanova (Russia) talked about a smart approach to surgical treatment for gastrointestinal and duodenal stromal tumours based on preoperative EUS typing. Surgery is the treatment of choice for resectable tumours. The surgery aims for complete resection. It is important that the tumour's pseudo-capsule should not break.

The choice of surgical technique will depend on the size of the tumour and the surgeon's skills. Modern trends in surgical treatment for gastrointestinal stromal tumours suggest techniques based on preserving the organ.



Seda Dzhantukhanova (Russia)

The surgical treatment takes place by means of laparoscopic and endoscopic approximation. Tumour classification based on EUS typing requires an optimum individual approach to each patient and the surgery should be as accurate and as non-invasive as possible.

Once again, the auditorium connected up with the operating theatre where Dr. Kantsevov performed the total resection of a polyp.



Shunsuke Yamamoto (Japan)

Shunsuke Yamamoto (Japan) explained the difference in the colorectal ESD outcomes between Japan and western countries, working from his experience in Europe. He stated that Japan is a peculiar, unique country in many ways and there are several differences between Japanese and western endoscopists, such as endoscope intubation and stabilisation methods plus assessment and skills in haemostasis.

He stated that awareness of these differences is a good way of moving beyond the different ESD results between Japan and western countries and it is also useful when developing new devices.



Amol Bapaye (India)

**SPECIAL LECTURE
ENDOSCOPIC RESECTION OF
TUMOURS IN THE GASTRIC WALL**

Amol Bapaye (India) gave a special lecture on endoscopic resection for gastric wall tumours. He indicated that the EFTR reports are promising and their results are comparable to surgery.

On the other hand, the ideal closure device is difficult to achieve, requiring considerable technical experience and great skill. In well-selected places, STER may well be preferred to EFTR to provide greater safety. Evidence shows that training is required for EFTR, ESD and POEM. Questions that remain unanswered for the time being include: Is the technique better with or without exposure? Does the ideal closure device exist? Is it necessary to close all the defects?

ENDOSCOPIC SURGERY AND
ENDOLUMINAL ENDOSCOPY

Alberto Baptista (Venezuela) looks at extreme endoscopy as a new paradigm for the interventionist endoscopy. As in biliary strictures with dilatation treatment using a very large ball. Extreme endoscopy encompasses: ERCP sphincterotomy, PEG, EMR, SEMS, NOTES in the pancreas, ESD, endosuture, POEM, therapeutic EUS, anastomosis with stenting and endo-drainage. Today, it can be said that extreme endoscopy appeared one day, it was developed years later with daily therapeutic practice and that it currently requires a controlled environment, good training and high skill levels to get good results.



Alberto Baptista (Venezuela)



Stavros Stavropoulos (USA)

Stavros Stavropoulos (USA) talked about POEM as the first successful NOTES procedure that revolutionised the field. From POEM came POP and G-POEM, per rectal endoscopic myotomy (PREM) and Z-POEM (tunnelled diverticulotomy for the Zenker diverticulum). POEM's effectiveness and safety remain excellent according to the medium-term data. POEM has revolutionised access to the musculature of the gastrointestinal tract leading to other derivations such as G-POEM for gastroparesis and tunnelled cricopharyngeal myotomy for the Zenker diverticulum (Z-POEM). Positive data is slowing building up for G-POEM but its efficacy is not as impressive as it is for POEM in treatment of achalasia.

Advances in endoscopic management of gastrointestinal perforations, leaks and fistulas was the topic chosen by Miguel Muñoz Navas (Pamplona).

The opportunities for endoscopic treatment include using a self-expanding prosthesis (SEMS, SEPS or biodegradable), clips, TTS (for less than 10 mm), clips, TTS plus endoloops, OVESCO clips (for less than 20 mm), OVESCO clips plus TTS and endoscopic sutures. Today, new endoscopic accessories are available that can be very useful, avoiding unnecessary surgeries.

An attempt should be made to predict the perforations, diagnosing as early as possible, and endoscopic visualisation after any treatment. If the lesion is under 20 mm, an endoscopic treatment will be performed (clips, OTSC). Precautions must be taken when inserting the OTSCs through the pharynx. If the lesion is over 20 mm or it is a stricture, self-expanding prostheses are recommended.



Miguel Muñoz Navas (Pamplona)



Rajesh Gupta (India)

Rajesh Gupta (India) talked about endoscopic management of difficult bile duct stones. In cases where the papilla is accessible, recommendations are ERCP or surgery. If the papilla is not accessible, possible options are enteroscopy, EUS or surgery.



Mohamad Al Haddad (USA)

Mohamad Al Haddad (USA) explained combined endoscopic suturing and stenting for closure of oesophageal defects. Factors associated with successful closure include a short time between diagnosis of the oesophageal defect and initial insertion of the stent.

The double suture technique seems to be safe and effective for closing defects in the oesophageal wall, achieving 88% closure in the long term with one or more endoscopic sessions. Acute perforation gets a better response. Endoscopic sutures are probably more effective in larger, chronic defects than just the use of stents.



Endoscopic Surgery and Endoluminal Endoscopy Table. From left to right: Doctors Jesus Garijo, Joaquim Balsells, Senol Carilli and Louis de Giau.



Sergey Kashin (Russia)

Sergey Kashin (Russia) offers a view of early gastric cancer management in Russia, plus current trends and future perspectives. In 2016, in Russia there were 37,369 new cases of stomach cancer. The incidence rate is 25.3/100,000, the mortality rate is 20.2/100,000.

The prevalence of stomach cancer is 95.2/100,000. The five-year survival rate is 18% and the prognosis is bad. 48.5% of patients died 1 year after being diagnosed. Motivation and training for endoscopists is required to detect and treat pre-cancerous lesions and early gastric cancer.



Jesús Garijo (Madrid)

Jesús Garijo (Madrid) looked at the current state of intragastric surgery. He said that intragastric resection with a single incision is viable and safe for gastric submucosal lesions that require surgical resection.

Direct visualisation of the tumour, minimising tumour exposure in the peritoneal cavity, ease of approximation in the cardia and the esophagogastric junction, the skill required to perform the resection through its entire thickness, direct handling of the perforations and better cosmetics are the advantages of the intragastric approach with a single incision. Despite a very small number of cases and in the absence of long term monitoring in most studies, this procedure is a good option for treating gastric submucosal tumours. From the point of view of minimally invasive surgery, it is hoped that single port intragastric approach procedures for stomach tumours will become more important.

SYMPOSIUM:
ENDOLUMINAL ENDOSCOPY
AND EUS JOINT VENTURE



Filippo Scopelliti (Italy)

Filippo Scopelliti (Italy) opened this section talking about EUS guided drainage on pseudocyst collections after a distal pancreatectomy. He stated that it is viable and safe but not in the external pancreatic fistula. Frequent radiological monitoring is required to avoid significant haemorrhaging.

Luis Carlos Sabbagh (Colombia) talked about endoscopic ultrasound, raising questions on whether central biopsies on solid lesions are the new normal and whether FNA should be abandoned. In EUS-guided fine needle biopsy (FNB), the key points are: passing from FNA to FNB, finding out about the needles available for FNB, updating FNB accuracy and FNB techniques. The FNB needle provides greater performance on the central tissue.

FNB needles require very few runs compared with conventional FNA needles. FNB accuracy is similar to FNA. Recent papers show better performance for FNB. More comparative randomised prospective studies are required to assess FNB needles.



Luis Carlos Sabbagh (Colombia)



Siyu Sun (P.R. China)

Siyu Sun (P.R. China) said that after almost 10 years of development, EUS-guided vesicular drainage has become an attractive alternative to handle acute cholecystitis in high risk patients. This is a safe and effective therapeutic method to treat patients with acute cholecystitis who cannot have surgery. What's more, it manages to improve long-term quality of life for anyone with an advanced cancer. The fistula tract formation after EUS-guided vesicular drainage makes it easier to insert the endoscope in the bladder to perform the endoscopic lithotomy and the polypectomy. Well-designed additional multi-centric studies will be required.

Filippo Scopelliti (Italy) explained the experience of ablation of an early pancreatic cancer, unresectable by EUS guided by radio-frequency. A study backs its safety and viability in 10 patients with stage II pancreatic adenocarcinoma that did not show signs of progression of the disease or metastasis, although the cancer remained unresectable after CT or CT/RT. The conclusion is that this is a multi-modal, viable and safe treatment. The question is when it should be done, and which patients can benefit.

Elena Zucchi (Italy) offered a joint view of draining pancreatic pseudocysts guided by EUS and complications from early endoscopic handling. Pancreatic pseudocysts (walled-off necrosis) are frequent complications to acute and chronic pancreatitis. Management and solutions for these situations lie in endoscopic methods rather than surgery.



Elena Zucchi (Italy)

Elena Zucchi finished off by stating that ultrasound-guided endoscopic drainage is an effective, safe technique to treat symptomatic pancreatic fluid collections although this does not rule out complications.

Mohamad Al Haddad (USA) spoke again to talk about FNA versus FNB and how to perform effective EUS-guided tissue sampling. To get an ideal technique, it is necessary to consider the right specimen, cytological and histological criteria, diagnostic performance for malignity, histology (tissue architecture and special splays), safety and adverse events and efficiency. Cost-effective analysis shows that FNB is more cost-effective than FNA. It is applied both to pancreatic masses and non-pancreatic masses and it is based on a high rescue rate, over 95%.

This talk by Dr. Mohamad Al Haddad brought Day 1 of the Course to a close in the Teaching Building auditorium at the Vall d’Hebron University Hospital, although it continued at the Symposium-Dinner held in the CosmoCaixa museum facilities.



Connection with operating rooms during the intervention of Dr. Stavros Stavropoulos. On the table, Drs. Armengol-Miró and Maurizio Zilli.



Seda Dzhantukhanova, José Ramón Armengol-Miró and Marina Ivantsova.



Emilio de la Morena, Guillermo Cacho and Felipe Martínez-Alcalá.



Jordi Pradell, Amaia Gantxegi and Sandra Castro.



Amol Bapaye and Stavros Stavropoulos.



Jaume Boix. Pedro Menchén, Enrique Castillo, Leopoldo López Rosés, Francisco Pellicer and Manuel de la Iglesia.



Franz Reuter and Eduardo Segal.



Carlos Giménez, Josep Dobato, Lluís Bracons and Juan Gómez.



J.R. Armengol-Miró, L.C. Sabbagh and M. Muñoz Navas.



Leonardo Sosa, Michel Diana and José Ramón Armengol-Miró.

COURSE PRESENTATION

Pictures from the Course Presentation, held on 26th November in the Hotel Mandarin Oriental in Barcelona, attended by most of the guest speakers. After welcoming everyone, Drs Armengol-Miró and Dot Bach explained the details and the goals of the programme for the 11th NOTES WIDER Course.



Jana Krajciová, J.R. Armengol-Miró and He Dezhí.



Appearance of the room.



Group of speakers, members of the Digestive Endoscopy service of the University Hospital Vall d'Hebron and guests of the Course.



J.R. Armengol-Miró, Jean Escourrou, Adrian Lobontiu and Mohamed El-Khattabi.



Marco Frascio with his wife, José Ramón Armengol-Miró and Alberto Montori.



Jesús Ortiz, Alberto Baptista, Roque Sáenz de Tejada with his wife and Franz Reuter.



Guillermo Cacho, Emilio de la Morena and Jesús Espinel.



Shunsuke Yamamoto, J.R. Armengol-Miró and Kiyokazu Nakajima.



Fan Zhining and José Ramón Armengol-Miró.



Raquel Morán, Carlos Giménez, Beatriz Búrdalo, J.R. Armengol-Miró and Sarbelio Rodríguez.



Campo Elías Lindado, Eduardo Segal, José Ramón Armengol-Miró and Roberto Fogel.



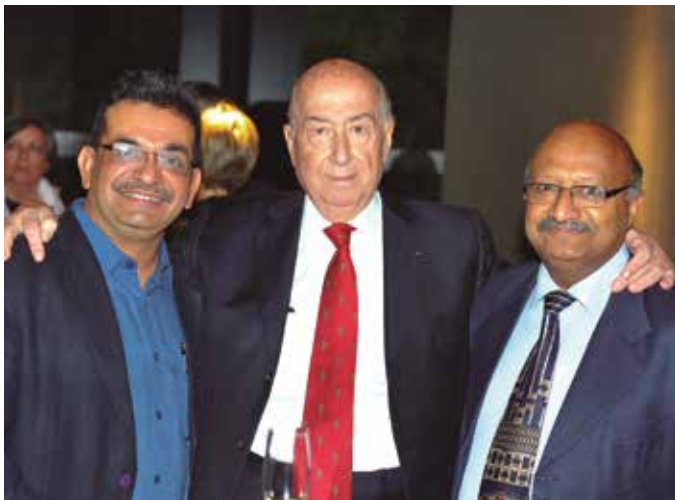
J.C. Salord, M. Muñoz Navas, F. Martínez Alcalá, E. Castillo, M. de la Iglesia and E. Rodríguez.



The 11th NOTES WIDER Course had an important representation of Asian speakers.



José Ramón Armengol-Miró, Isabel Bocinov, Sergey Kashin, Joan Dot and Denis Gusev.



Amol Bapaye, José Ramón Armengol-Miró and Rajesh Gupta.



Ángeles Bresca and José Ramón Armengol-Miró.



Senol Carili, Alberto Ferreres and J.R. Armengol-Miró.



Joseppe Galloro and Filippo Scopelliti.



Jordi Armengol, Miquel Masachs, José Ramón Armengol-Miró, Ana Benages and Nereo Guillermo Salas.



Milutin Bulajic and Elena Zucchi.



Joaquim Balsells, J.R. Armengol-Miró and Antonio González.



Leonardo Sosa and Alberto Baptista.



Albis Hani, Luis Carlos Sabbagh, J.R. Armengol-Miró and Jaime Ardila-Arz.



Maurizio Zilli and Rita Conigliaro.



Per Ola-Park, J.R. Armengol-Miró and Maria Bergström.



Marina Ivantsova and Sergey Kashin.



Seda Dzhantukhanova, Yuri Starkov and Joan Dot.

WELCOME SYMPOSIUM DINNER

As has become the norm over the last few years, the CosmoCaixa Museum hosted the Welcome Symposium-Dinner for the 11th NOTES- WIDER-Barcelona Course. On this occasion, the speakers were Dr. Sergey Kantsevov (USA), who talked about "Endoscopic rectal reconstruction post removal of large colonic lesions", and Dr. Antonio J. Torres García (Madrid), who gave a paper on the "Current state of Diabetes Surgery". Dr. José Ramón Armengol-Miró gave up his place at the presidential table to Dr. Joan Dot (Barcelona). The session was presided over by Dr. Dot, Drs Alberto Montori (Italy) and Alberto Ferreres (Argentina). At the end of the dinner, Mr Ángel Font, Corporate Research and Strategy Director at the "la Caixa" Banking Foundation, said a few words offering support and commitment to the WIDER-Barcelona project; the event was brought to a close by Dr. José Ramón Armengol-Miró, who firstly thanks Mr Font for his kind words and the presence of the director of the Catalan Health Service (Servei Català de la Salut), David Elvira, and then brought up his affection and acknowledgement for Isidro Fainé, president of "la Caixa" Banking Foundation. Next, he spoke to 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.



Antonio J. Torres and Sergey Kantsevov, speakers of the Symposium.



Presidential Table of the Symposium; from left to right., Antonio J. Torres, Joan Dot, Alberto Montori and Alberto Ferreres.



Antonio J. Torres during his speech.



Ángel Font, José Ramón Armengol-Miró and David Elvira Martínez.



Joan Dot and Alberto Montori.



Ángeles Bresca, Vicenç Martínez Ibáñez and Ana Ochoa de Echagüen.



Seda Dzhantukhanova, Yuri Starkov and Marina Ivantsova.



Jesús Ortiz, Roque Sáenz de Tejada with his wife, Luis Carlos Sabbagh and Albis Hani.



J.R. Armengol-Miró and Alberto Testoni.



Joan Dot, Isabel Bocinov and Manuel Armengol Carrasco.



Raquel Morán, Carlos Giménez and Pedro Menchén.



Louis de Giau with his wife and Eduardo Piñeiro.



Mohamad Al Haddad and Suvaranu De.



Adrian Lobontiu and Jean Escourrou.



Jordi Armengol, Jaume Boix, Antonio González and Monder Abu Suboh.



Senol Carilli with his wife.



Guillermo Domínguez and Ferrán Solana.



Manuel Armengol Carrasco, Àngel Font, J.R. Armengol-Miró and David Elvira.



Àngel Font during his speech.



Sergey Kantsevov and Joan Dot.



E. Castillo, P. Menchén, M. de la Iglesia, M. Muñoz Navas, F. Pellicer and E. Rodríguez.



Stavropol Stavropoulos and J.R. Armengol-Miró.



Jaume Boix, Sarbelio Rodríguez and Beatriz Búrdalo.



Maurizio Zilli and Joseppe Galloro.



Mohamad Al Haddad and Maria Bergström.



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



Ramón Martori, Isabel Gregorio and Lluís Bracons.



Group of Spanish speakers and guests to the Course.



Milutin Bulajic, Sergey Kashin, Maurizio Zilli, Elena Zucchi, Alberto Montori, Alberto Testoni, Marina Ivantsova, Joseppe Galloro and his wife, Seda Dzhantukhanova and Yuri Starkov.



Mexican speakers: Louis de Giau, Fernando Rojas and Nereo Guillermo Salas with their wives.



Sarbelio Rodríguez, Beatriz Búrdalo, Raquel Morán, Emilio de la Morena, Guillermo Cacho and Felipe Martínez Alcalá.



Amol Bapaye, Alberto Baptista, Rajesh Gupta and Campo Elías Lindado.



Song Ji Tao, Zhao Lixia, Li Liu, Cui Guangxing, Fan Zhining, Wen Li and Siyu Sun.



Siyu Sun and Sergey Kantsevov.



Roque Sáenz de Tejada, Jesús Ortiz, Jaime Ardila-Arz, Albis Hani, Alberto Montori, Campo Elías Lindado and Luis Carlos Sabbagh.

Day 2. Tuesday

CLINICAL NOTES

SESSION 3

CLINICAL NOTES SESSION

Before a board made up of Marco Frascio (Italy), Antonio J. Torres García (Madrid), Alberto Montori (Italy) and Alberto Ferreres (Argentina), the session began with a keynote speech from Alberto Ferreres (Argentina). The theme was how to find a balance between surgical innovation and patient safety. Surgical innovation is too risky to avoid regulation. However, no single formula exists to compare the patient's quality of life against the suffering that surgery might cause. Actually, safety measures should be adopted that are an innovative way of improving results in patients and minimising errors.



Clinical NOTES table; from left to right: Marco Frascio, Antonio J. Torres and Alberto Montori.



Alberto Ferreres (Argentina)



Marco Frascio (Italy)



Carlos Palazuelos (Santander)

Simulation for training surgeons was the topic covered by Carlos Palazuelos (Santander). Including simulation in residents' training progress allows expert level techniques to be implemented in advanced procedures. Standardisation of the methodology means that learning curves can be accelerated, and simulation allows staff to implement the techniques they have learnt in a greater proportion.

Marco Frascio (Italy) demonstrated an analysis of costs and considerations in single-port laparoscopic cholecystectomy (SPLC). This surgery is associated with less severe postoperative pain, shorter hospitalisation compared to 4-port laparoscopic cholecystectomy (4PLC) and very pleasing aesthetic effects. The cost analysis gives SPLC a small advantage over 4PLC. On the other hand, the disadvantages of SPLC are that the surgery takes a long time (on-going learning curve) and the increasing lack of comfort for the surgeon.



Michel Diana (France)

Michel Diana (France) looked at the development of robot-assisted endoscopic surgery, mentioning that augmenting vision also augments reality and robotic assistance improves the diagnostic performance, predicts complications, improves intraoperative staging and radial elimination, personalises the treatment and assesses the response.

"Minimally invasive surgery, where are we after more than 25 years?" was the topic Alberto Ferreres chose for his second talk. Routine use of NOTES has distinctive features: inherent complexity, high cost and lack of high quality data that show a significant benefit for the patient.

A formal education structure is required for anyone interested in it as it is difficult to learn. Trends include greater detection of lesions, refinement of the laparoscopic energy sources and particularly high-volume centres. Future directions point towards: basic technology, NOTES,

endoluminal surgery, computer-assisted surgery, understanding of the physiology and healing wounds, imaging, training, handling the disease and early detection.

Guillermo Domínguez (Argentina) talked about his experience in magnetic surgery, mentioning that magnets in minimally invasive surgery (MIS) mean less trocars, less intra and postoperative complications, better aesthetics, lower costs and ideal assistance for the surgery.

Next, Senol Carilli (Turkey) presented the state of the art in laparo-endoscopic single-site surgery (LESS). He reminded us that over time, new concepts have emerged that all seemed revolutionary at the time, such as asepsis, anaesthesia, laparoscopic surgery, NOTES and LESS. Currently, the practising community requires a declaration of consensus, techniques based on the types of operation, the severity of the disease and the type of patients.



Guillermo Domínguez (Argentina)



Senol Carilli (Turkey)

In accordance with ergonomic and geometric principles, the use of conventional laparoscopic instruments is viable and safe in LESS. Surgeons' experience is closely linked to the ergonomic aspects of the work space. LESS has a long learning curve because its procedures are challenging, but with the right training and experience, results are similar to conventional laparoscopic surgery.



Francesc Vallribera (Barcelona)

The evolution of transanal surgery was the topic tackled by Francesc Vallribera (Barcelona). He referred to the TEM endoscopic system that allows resection of the complete or partial thickness, complete extraction and direction of the surgical part and complete closure of the defect.

Indications are likely polyps, benign tumour masses or incipient cancer and polypoid malignant tumours in patients who cannot undergo radial surgery. Transanal mesorectal extirpation offers the chance to work in two teams, it facilitates the mesorectal dissection of the lower third, allows appropriate section of the rectum with a safety margin and transanal extraction of the sample, keeping the abdominal wall intact. The new applications represent progress in radical surgery for cancer of the rectum, assisted total transanal mesorectal extirpation, treatment of the anastomotic stricture and debridement of pelvic abscesses.

Sandra Castro (Barcelona) looked at the update to surgical access for achalasia. The symptoms for achalasia are due to LESS relaxation failure.



Sandra Castro (Barcelona)

Medical treatment has a very limited role and it can be used in the early stages of the disease for patients who are not candidates for other treatments. Any of the invasive therapies are better for patients with type II achalasia. Pneumatic dilatation and myotomy should be performed in centres with high excellence figures. Laparoscopic myotomy (LM) with partial fundoplication provides relief for long term symptoms with low morbidity compared to other treatment methods. POEM is a new and promising technique to perform the LESS myotomy, with good results demonstrated in patients with achalasia who often do not respond well to conventional therapies.

SESSION 4

NOTES IN LATIN AMERICA

Roque Sáenz de Tejada (Chile) talked about the challenge of flat polyps. It is necessary to find out about their different morphologies, find them and remove them completely, danger-free. Correct training is required plus technical support to resolve these cases properly.



Roque Sáenz de Tejada (Chile)



Albis Hani (Colombia)

Albis Hani (Colombia) defined achalasia as a primary motor and degenerative disorder of the oesophagus with unknown aetiology, characterised by insufficient relaxation of the inferior oesophageal sphincter and loss of oesophageal peristalsis. The treatment can be oral for anyone who is not a candidate for other therapies, botulinum toxin or pneumatic dilatation that obtains the best response in type II achalasia. In the United States, use of laparoscopic myotomy is preferred using an oesophageal stent.

SPECIAL LECTURES
COLORECTAL ROBOTIC SURGERY

Eloy Espín (Barcelona) talked about colorectal robotic surgery that arouses wide-ranging controversy. There is limited experience and data so far. Some people think that there is no place for robots in colorectal surgery and others say that robots are for surgeons who cannot perform laparoscopic surgery. There are also big fans of robotic surgery. There is no statistically significant data for its superiority over laparoscopic surgery. However, it can be said that robotics should remain in colorectal surgery. The evolution of performance should be controlled in centres with lines of research. It is part of the future (single-port, NOTES, etc.).



Eloy Espín (Barcelona)



Adrian Lobontiu (USA)

Adrian Lobontiu (USA) talked about transoral fundoplication (TIF 2.0) with Esophyx, that is safe, long-lasting and cost-effective. TIF provides lasting control of regurgitation, acidity and atypical symptoms up to 4 years after the procedure in the subset of patients with chronic GERD with small hiatal hernias. TIF is an alternative endoscopic procedure to control the unpleasant symptoms of GERD in well-selected patients. TIF is considered to be an alternative treatment for the subset of patients with GERD.



Alberto Testoni (Italy)

Alberto Testoni (Italy) presented progress made in treatment of benign oesophageal stricture. Transoral fundoplication (TIF) is effective as surgery to control the GERD symptoms in the short-term. It is effective to control regurgitation in the short and medium term (there are few studies focusing specifically on this aspect). It is less effective than the Nissen fundoplication but effective to control GERD symptoms in the medium-term and as effective as Nissen fundoplication in controlling GERD symptoms long term (5 to 10 years).

SESSION 5
ENDOLUMINAL THERAPEUTIC
ENDOSCOPY

Li Liu (P.R. China) also looked at progress made in treatment of oesophageal benign stricture. Topical injection combined with dilatation could be beneficial for patients with refractory stenosis, particularly peptic stricture, and it remains unclear in other types of benign stenosis.



Li Liu (P.R. China)



Fan Zhining (P.R. China)

The clinical application of the endoscopic submucosal tunnel was the topic of the talk by Fan Zhining (P.R. China). If the diameter of the extraluminal tumours is greater than 4 cm, the best treatment is endoscopy combined with thoracoscopy. In the future, EMR will be used for endoscopic mucosal resection, ESD for endoscopic submucosal dissection and STER for endoscopic resection of the submucosal tunnel.



Jana Krajciova (Czech Republic)

Jana Krajciova (Czech Rep.) talked about endoscopic treatment of the “high risk” oesophageal neoplasm, indicating that endoscopic therapy has become an accepted option for treating T1a oesophageal carcinoma. Surgery is recommended as standard treatment for patients with early oesophagus cancer (EEC) with standard invasion (T1b) and for T1 cancer with “high risk” characteristics. Endoscopic therapy is effective in treating T1 early oesophageal cancer and it appears as a promising alternative to oesophagectomy in “high risk” EEC patients.



The Endoluminal Therapeutic Endoscopy Table. From left to right, the doctors Sergey Kashin, Albis Hani and Sarbelio Rodríguez.

Early oesophagus cancer with submucosal invasion can be treated with endoscopy. The extended indications for radical endoscopic treatment should be better defined.

Denis Gusev (Russia) explained how stents are fitted with ultrathin endoscopy in advanced cancer of the upper intestinal tract and the complications, advantages, disadvantages and long-term outcomes. Fitting stents with ultrathin endoscopy can have some advantages over the standard methods, given that 91% of patients require extra medication because of the pain. It is calculated that the restenosis period is from 5 to 7 months.



Denis Gusev (Russia)



Francisco Valdovinos (Mexico)

The endoscopic therapy for Barrett’s Esophagus (BE) with dysplasia was the topic covered by Francisco Valdovinos (Mexico), highlighting radio-frequency and cryotherapy as ablation techniques. Barrett’s Esophagus is a constantly evolving entity and several of its areas in particular seem to be ready for relevant progress. The future guidelines for this disease consider the evolution of biomarkers to predict the risk of BE and use of advanced endoscopic imaging with molecular technology that can recognise neoplasm zones and the advent of less intensive and cheaper methods to examine patients with BE.

Shunsuke Yamamoto (Japan) said that the used of AIC (Akaike Information Criteria) instantly improve the vague delineation of the polyps and also their imaging, that can be seen easily without the augmentation function. The safety, simplicity and ease of AIC suggests that this method can be applied to colonoscopy examination in daily practice.

Alberto Baptista (Venezuela) talked about applications of POEM for treating achalasia and other oesophageal motility disorders, recalling points to consider such as: accessories and the electrosurgical configuration, the position of the patient, the injection and the mucosal incision, the submucosal tunnelling, the myotomy, the bleeding and the closure.

Amol Bapaye (India) also spoke about POEM but in this case talked about submucosal tunnelling beyond POEM. He stated that POEP or POEM is a promising alternative to surgery in patients with refractory gastroparesis. PREM is an emerging valid method that could mean a minimally invasive therapy for Hitschsprung disease. Z-POEM is a new and exciting minimally invasive therapy for the Zenker diverticulum. STER and ETER are minimally invasive options for SM and MP, tumours in the oesophagus layer and for the GE and stomach junction. The future scope of tunnelling procedures for SM is vast. These areas require more complete explorations.

SESSION 6
SPECIAL LECTURES

Pedro Alonso Aguirre (A Coruña) talked about the colon prosthesis as a bridge to surgery, indicating that this technique should not be abandoned, although it requires careful selection of cases where emergency surgery is preferable.



Pedro Alonso Aguirre (A Coruña)

Per-Ola Park (Sweden) presented a random multicentric study on stents or surgical closure for treatment of a perforated duodenal ulcer.

Self-expanding metal stents (SEMS) are an accepted treatment for oesophageal perforations. Stenting seems to be as safe as the traditional surgical closure. The most important factor to avoid complications is to treat the perforation no later than 24 hours after symptoms start. On the other hand, Per-Ola Park says that it is difficult for surgeons to accept a new treatment.



Sarbelio Rodríguez (Madrid)

Sarbelio Rodríguez (Madrid) began his talk on updating cholangioscopy with a quote from David Russell, “The hardest thing in life to learn is which bridge to cross and which to burn.” For endoscopists, he said, it has always been which bridge to cross.

It is well-known that 30 years ago, paediatric clinics believed that the barium enema was the newest thing and the latest progress in colon pathologies. Although today it might be considered as a first step, with additional experience, it can be a useful diagnosis method. Today, we can talk about D-Pascun, an ultra-fine endoscope, originally designed for paediatric patients and for transnasal applications that are already available commercially. Another important current therapeutic option is balloon dilation that is mainly associated with Crohn's disease.

The cholangioscopy has shown enormous progress as a diagnosis and as a therapeutic treatment and it will have high potential growth in the future. Possible complications of the cholangioscopy include: cholangitis, perforation (sphincteroplasty, intrahepatic ducts), abdominal pain, complications regarding sedation and gaseous embolism. Each system has advantages and disadvantages. It is important to understand the characteristics of each one and use them according to the proposal or what is required by the situation.



Nereo Guillermo Salas (Mexico)

Nereo Guillermo Salas (Mexico) talked about the use of metal prostheses to control post-sphincterotomy bleeding. The first ERCP was performed in 1968 and the first sphincterotomy in 1974. Currently, almost 1.3 million of these procedures are carried out every year all over the world. Adverse events observed in ERC appear between 5 and 9.8% of these procedures. Bleeding detected at the same time or after ERCP is generally related to endoscopic sphincterotomy. Bleeding after a sphincterotomy is not rare but it is not considered to be an adverse event unless there is a clinically significant bleeding period. Use of self-expanding metal stents is a good option to control bleeding when other methods fail. They can be used when the bleeding begins or shortly afterwards. Although it is an expensive method, its cost-effectiveness should be assessed in comparison with surgery or angiography.

Fernando Rojas (Mexico) talked about digital single-operator cholangiopancreatography. In addition, indirect cholangioscopy should be considered, plus ERCP and an oral route. Undetermined strictures include biliary stricture with negative brush biopsy and inconclusive imaging studies and sensitivity to the biliary brush biopsy. Choledocscopy is recommended as doctors tend to be more experienced using it. Choledocscopy is an excellent diagnostic and therapeutic option in selected cases and it offers a low percentage of complications. The only disadvantage is its high cost and its availability in just a few centres.



Fernando Rojas (Mexico)

Maria Bergström (Sweden) showed that minimally invasive treatment reduces mortality in severe necrotizing pancreatitis. Treatment strategies for severe pancreatitis have evolved from the traditional active surgical focus towards a more expectant focus that uses a minimally intensive intervention, monitoring with CT and improvement of intensive care. Bergström stated that her hospital adopted the minimally invasive treatment back in 2009. In order to assess the clinical results, a retrospective comparison was made between two periods of time. 2000-2005 versus 2010-2015. The conclusion is that modern expectant treatment strategies reduce mortality for severe pancreatitis. This has been possible thanks to minimally invasive interventions along with modern intensive care and good images via CT.

Rajesh Gupta (India) talked about "Pancreatic fluid collection - a step-up approach to management". EUS-guided drainage with SFMS is effective in walled-off necrosis (WON) in 78%. Some less intensive steps contribute by 13% to the success. Direct necrosectomy adds 9%. The success gradually improves with the increase of the endoscopic focus. According to a Japanese study, plastic and self-expanding stents are safe and effective for WON treatment. In particular, fitting DFMS seems to be preferable for initial EUS-guided drainage and additional re-intervention by reducing the procedure time. Controlled randomised prospective studies are guaranteed.

OBESITY SESSION MASTER CONFERENCE



Antonio J. Torres (Madrid)

Antonio J. Torres (Madrid) demonstrated his usual mastery to explain the current role of endoscopy in tackling obesity from a multidisciplinary focus. He referred to 1989 as the year of great changes in the world such as, among others, the advent of websites, the Nobel Prize awarded to the Dalai Lama, the appearance of GPS and minimally invasive surgery.

Within this context, what progress was made in medicine? There are several points: reduction of morbidity, reduction of mortality, a less aggressive focus towards patients, easing their recovery, seeking out beauty and progress but also the professional "ego". Surgical laparoscopy clearly demonstrates that we are only limited by our imagination. Progress in therapeutic diagnosis endoscopy shows biliopancreatic endoscopy, papillotomy, managing gallstones, prosthesis, etc. In oncology, EMP polypectomy, mucosectomy and fitting stents. In the pre-operative endoscopy, EGD findings require medical care but the surgical procedure does not need to be changed. So, moderate to severe oesophagitis, gastritis, gastroduodenal ulcers or oesophageal rings should be considered.

Regarding the role of the endoscopy in obesity, we might talk about diagnostic endoscopy, therapeutic endoscopy, managing complications, secondary treatment and primary treatment.

In the secondary treatment, if weight loss does not occur, there might be a surgical focus, pouch or anastomosis, fitting a ring or a band, plication of the pouch, trimming the pouch, increase of poor absorption, moving the BP extremity or converting it into a distal gastric bypass.

One possible new option for patients with weight recovery is peroral endoscopic reduction of the dilated gastrojejunal anastomosis after a Roux-en-Y gastric bypass. If there is no weight loss, it is possible to perform surgery with review of the pouch and anastomosis that obtains good early results and it is an easy and safe procedure. Regurgitation, vomiting and anaemia can appear. In endoscopic treatment of obesity, current technology requires devices that take up space. They include endoluminal primary obesity surgery procedure (POSE), endoscopic endoluminal greater curvature plication (EGCP) and endoscopic sleeve gastropasty (ESG). Serious adverse events account for 2%, such as collection of perigastric inflammatory serous fluid that is resolved with percutaneous drainage, submassive pulmonary embolism 72 hours after the treatment, self-limited haemorrhage after splenic laceration, pneumoperitoneum and pneumothorax require a thoracic tube to be fitted without requiring surgical intervention and the recovery is complete.

Adverse events include greater complications such as hepatic abscesses, the most common are nausea, vomiting and abdominal pain; rare adverse events include gastrointestinal haemorrhage, dehydration, constipation, diarrhoea, hypoglycaemia and vitamin and mineral deficiency. The role of endoscopy in obesity might be said to lie between clinical treatment and surgical treatment. Compared with bariatric surgery, these results show efficacy in the long-term, but high probabilities of complications and mortality, and, furthermore, it requires a multidisciplinary support team.

Endoluminal results show efficacy in the short term, possibility of weight recovery after the procedure and less changes of complications and mortality. Future perspectives will involve robotics, the harmonic scalpel, ergonomics, mini endoscopic instruments and NOTES. To finish, Antonio J. Torres said, "Now is not the end. We are not at the beginning of the end. But, perhaps, at the end of the beginning."



Ramón Vilallonga (Barcelona)

Subsequently, Ramón Vilallonga (Barcelona) looked at endoscopic and surgical interventions in metabolic disorders. Among the bariatric/metabolic surgery mechanisms, restriction is the most important. Weight recovery after bariatric surgery is usually associated with loss of restriction. Recent studies show that the changes in intestinal hormone, microbiota, and in biliary acid after bariatric surgery can play an important role. Average medication per patient and per day tends to increase in the medical therapy group but drops significantly in each surgical group. Bariatric surgery has demonstrated similar safety to other general surgery procedures.

SG/GBP. This can be a medication used for type 2 diabetes and other quality of life comorbidities for a minimum of 3 years. Help for patients with type II diabetes achieves diabetes management more effectively than intensive medical therapy for 1 year of SG/GBP. It resolves or improves type 2 diabetes and other quality of life comorbidities with obesity for a maximum of 5 years. In the future, surgeries will have to be adapted to perfection.

Jean Escourrou (France) explained the endoscopic treatment of bariatric surgery complications. The surgical endoscopy is an alternative in the surgical reintervention in the case of surgical complications. These might be gastric, hepatobiliary, pancreatic, concerning the rectum or colon, closure, internal drainage or external drainage. Fistula difficulty can represent an initial failure or a large fistula. In conclusion, therapeutic endoscopy is an alternative for surgical intervention, in the case of complications after surgery. Decisions should be multidisciplinary, alongside the indications and associated methods.

Roberto Fogel's talk brought the 11th NOTES WIDER-Barcelona International Course to a close. This edition was another success in its brilliant track-record of content and participation.



Jean Escourrou (France)



Roberto Fogel (USA-Venezuela)

Roberto Fogel (USA-Venezuela) closed the surgical obesity session by talking about gastropasty with endoscopic sleeve. He recalled that the therapies available today to treat obesity are: diet, medication and exercise as medical measures and as surgical solutions: bands, bypass, sleeve and laparoscopic clamp. The balloon, botulinum toxin and endobarrier should also be considered. It is necessary to consider the morbidity and mortality, the cost, the hospitalisation and the postoperative care. The ideal treatment should be technically easy, possible to use in out-patients, short duration, with a small quantity of materials involved, with an endoscopic focus, safe and effective. Gastropasty with an endoscopic sleeve is a new obesity treatment technique that potentially has no severe complications. Emerging technologies have opened the door to the endoscopic focus to reproduce some of the benefits of weight loss surgery. Gastropasty with an endoscopic sleeve is a non-invasive endoscopic treatment designed for this purpose.

LIVE BROADCASTS FROM OPERATING THEATRES

Over the two days of the Course, different endoscopic operations performed by recognised international experts were broadcast from the rooms of the Digestive Endoscopy Services at the Vall d'Hebron University Hospital. Attendees and other speakers could follow these operations live from the Auditorium.



Xu Mei-Dong and Zhang Xiaoguang.



Al Haddad and Sergey Kantsevov.



He Dezhi during his surgery.



Ana Benages, Roberto Fogel and Fan Zhining during their surgery.



Miquel Masachs and José Ramón Armengol-Miró following closely the performance of their colleagues.



Fan Zhining, Stavro Stavropoulos and Joan Dot.



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 11th International NOTES WIDER-Barcelona

«I attend courses and conferences with the intention of teaching, but I always end up learning»

What are WIDER-Barcelona's current projects?

Over the last two years we have struck out on a new path that consists of setting up a multidisciplinary endoscopy room, incorporating a radiological robot that can perform radiology and act as a scanner at the same time, obtaining real three-dimensional images with the endoscope inserted; this means that the endoscope acts by working inside and at the same time it sees what is happening outside thanks to the three dimensional system. To do this, we have contacted Phillips and Siemens and we are studying the chance of joint research work for the use of this robot in our 60 m² operating theatre.

This technology will allow us to also reach the neighbouring viscera to the digestive system, such as the heart and the lungs.

We are preparing a study with pigs to carry out ablation techniques on arrhythmias, working jointly with Dr. Iván Roca, and another on cardiac interventional radiology with my friend Bruno García, head of the Hemodynamic Unit, with vascular interventionists and hemodynamic techniques.

The "la Caixa" Foundation, the hospital management and our team are all very excited about this new project and looking forward to getting these facilities up and running as soon as possible. We have yet to decide on Phillips or Siemens, but we will choose the newest and most up-to-date instrument, allowing us to do all this with ease.

How do you manage to bring together the best specialists from all over the world, year in year out?

I'd say that there are three factors. One is Barcelona that everyone likes; another is the Course in itself and that I have friends

all over the world; maybe some might not choose to come so often but they are my friends and good people, so they don't dare say no! And finally, these specialities have a very limited worldwide audience; in total there are only a few hundred of us interested in this topic; and the course becomes a type of super-specialist discussion forum on the very latest technology and techniques for endoscopy, vascular surgery, ablation.

We know all about your talents as an organiser but how many courses have you attended or taken part in during 2017?

A great many. The first course I attend every year, and for the last 29 years, is held in Tokyo (Japan), the Endoscopic Master Forum organised by Olympus, gathering together around twenty endoscopists from all over the world in order to generate ideas to develop instruments and new therapies.

I attended the Digestive Disease Week in the United States, which I go to every year. I went to Russia twice, firstly to Yaroslavl and, in August, to Ekaterimburgo. Afterwards, to the European Gastroenterology Congress in Barcelona, then I was in Udine (Italy) and in Seoul, at a congress attended by over a thousand people where we broadcast operations from Barcelona. And of course, in China, where we go three or four times every year.

I attend courses and conferences with the intention of teaching, but I always end up learning.

Which endoscopic techniques do you believe will have the greatest prominence in the coming years?

I am convinced that endoscopic radiology robotics, combining 3D virtual radiology in real time with endoscopy, will have a great future. I believe that this robot will help to carry out many techniques with less use of the echo-endoscopy and it will be a great achievement.

As for the rest, there are new technologies to apply in echo-endoscopy to treat biliary-pancreatic drainage in benign and malignant obstructions and in access to the biliary and pancreatic tract by means of mini-endoscopy techniques. And, of course, it is necessary to assess its great impact on resection of tumours in the digestive tract, particularly in small malignant and pre-malignant neoplasms in the colon, with a definitive treatment result that does not require more invasive techniques to be used.



INTERVIEW

Doctor

Joan Dot Bach

Head of the Digestive Endoscopy Service at the Vall d'Hebron Hospital in Barcelona.

Associate director of the 11th International NOTES WIDER-Barcelona

«Live surgery allows us to see NOTES techniques in real time performed by people with vast experience»

You have a key job during this course, organising the live surgery.

Live surgery is an important part of this course as it allows attendees to see NOTES techniques in real time performed by people with vast experience.

Consequently, this year we have prepared four cases of peroral endoscopic myotomy (POEM), in patients with achalasia. Two of them have been operated on previously. This technique is not inadvisable in patients who have been operated already but they are more complex cases. In addition, we are going to perform transmural resections of submucosal tumours.

We have also included two gastric bypass cases to treat obesity. This the first year that this type of operation will be performed live in the NOTES WIDER-Barcelona Course. In addition, submucosal dissections of colon and gastric polyps will be performed.

To perform these operations, we have doctors with vast experience in these techniques, both from China and the United States.

What would you highlight from this eleventh edition of the International NOTES WIDER-Barcelona Course?

One of the most important features of this course, both in this edition and in previous editions, is that we share and compare endoscopic techniques and minimally invasive surgery techniques. This cooperation is essential as it is boosting enormous progress in surgery. In some cases, specialists in endoscopy and minimally invasive surgery can work together, even in the same operating theatre, particularly concerning the resection of large gastrointestinal tumours where it is necessary to cut out the entire thickness of the intestinal wall.

In which phase is the new multi-purpose operating theatre planned for your service?

We intend to start the building work as early as possible to create this multidisciplinary operating theatre. This is a very ambitious project as it will have, among other instruments, an interventional radiology robot that can basically perform endovascular treatments. In this operating theatre, surgeons, interventional radiologists, hemodynamic experts and endoscopists will all be able to work together. As endoscopists, this would allow us to find out in much greater detail, and in real time, about the anatomy of the organs on which we are working. Doubtlessly, the multi-purpose operating theatre will provide great benefits.



INTERVIEW

Doctor Antonio José Torres García

Head of Surgery 2 and Thoracic Surgery Service. Hospital Clínico San Carlos. Madrid Complutense University.
Associate director of the 11th International NOTES WIDER-Barcelona course

«Metabolic surgery has already been included in the medical algorithm for diabetes mellitus type 2»

What goal was set for this eleventh edition of the NOTES WIDER-Barcelona course?

This edition continues the aim of presenting and analysing the latest progress in minimally invasive surgery and in diagnostic and therapeutic endoscopy. This is made possible by live surgery sessions performed by great experts and presentations from the most important leaders from all over the world, tackling the most up-to-date and controversial topics in this field.

Cooperation between cutting-edge surgery and endoscopy specialists is making significant progress that can optimise and improve care for our patients.

You are a surgeon and a great expert in bariatric surgery. What role does endoscopy currently play in tackling obesity?

We are currently attempting to perform less aggressive treatments. Technology is moving forwards thanks to engineers, computer experts, surgeons, radiologists and endoscopists all working closely together. There can be no doubt that endoscopy has a clear present and, we hope, a significant future not only in the diagnosis process for patients with morbid obesity, but also when treating complications sometimes brought about by surgery.

On the other hand, endoscopy has a role both in first line treatment and when other treatments fail.

However, the most important message that I wish to put across today is that to move forwards in control of this chronic disease, we need a multidisciplinary approach involving all relevant specialists: surgeons, endoscopists, gastroenterologists, endocrinologists, nutritionists, psychologists, psychiatrists and general doctors. Obesity is definitively the 21st century's epidemic with all its consequences.

Why is bariatric surgery also known as metabolic surgery?

Because it is demonstrating that by manipulating the digestive tube, either by endoscopy or by minimally invasive laparoscopic surgery, the patient can not only lose weight but associated metabolic diseases can also be

improved, such as diabetes mellitus type 2, dyslipidemia and other disorders.

Who would have thought a few years ago that 21st century surgeons and endoscopists were going to help treat diabetes mellitus type 2, a disease that kills one person every 7 seconds. Having a tool that can help beat the epidemic of the obesity-diabetes combination is very important. Fortunately, metabolic surgery has already been included in the medical algorithm for patients with diabetes mellitus type 2.



INTERVIEW

Doctor Kiyokazu Nakajima

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

«The ideas and information that the industry receives from surgeons and endoscopists are proving to be enormously helpful to manufacture advanced instruments»

A few years ago, you set up the ENGINE PROJECT, a consortium for research into new instruments for endoscopy and laparoscopy. What products have you developed recently?

One of them is the swab or surgical cotton bud that can be used both in reduced port surgery and in endoscopic surgery. The advantage of this new bud is that as opposed to what is currently available, it is very fine and consequently it can be handled more easily, without affecting the abdominal wall.

Manufacturing this new, thinner surgical cotton bud has been possible thanks to precise and advanced technology used by a Japanese engineering industry.

Current surgical cotton swabs, measuring 5 mm, are made by rolling up the cotton fibre in the bud. This manufacturing process means that it cannot be made any smaller than 5 mm. However, in the new version, the cotton fibre is cut into very small fragments so that, using special biocompatible glue, they can be moulded very well around the bud and thereby reduce their diameter. We have already finished clinical trials with this surgical instrument and it has recently been put on the market.

Any other products?

We have also developed a new electro-cauterising probe for flexible endoscopes to mark out the periphery of the lesion, with multiple functions.

With this single device, it is possible to perform most procedures that include endoscopic submucosal dissection (ESD) such as irrigation, injection of substances for submucosal elevation, incision and dissection. It is also very cheap, so that the appearance of this new instrument could end up helping to spread the ESD technique not only in Japan but throughout the world.

These two new products have been a real success, as a result of doctors working closely with industry. The ideas and information that the industry receives from surgeons and endoscopists are proving to be enormously helpful to manufacture advanced endoscopy and laparoscopy devices.

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

I have attended this Course every year and I have been impressed by its excellent scientific programme and its organisation every time. However, this time, if possible, even more so, due to the practical approach of the presentations. Before the scientific content tended to be more theoretical, such as how NOTES surgery should be performed or the future of endoscopy. However, the future is here, and the organisation and the guest experts are aware of it and this year they have planned their talks with a tremendously practical focus. This, in my opinion, is probably one of the most outstanding changes in this edition.



INTERVIEW

Doctor Sergey Kantsevov

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

«Now we can correct most surgical complications using endoscopy»

Today you gave a talk on “Endoscopic correction of surgical complications”.

This represented very important progress because in the past, the only way of correcting any complications derived from the surgery was to perform more surgery. The problem is that the second surgery is usually more difficult than the first due to the presence of lesions, inflammation, etc. Now we can correct most surgical complications using endoscopy. This means entering non-traumatically through natural orifices and, for example, stopping the bleeding or fitting a stent. Therefore, it is a great support for the surgeons.

On the other hand, in the opening event tonight I am going to talk about endoscopic rectal reconstruction after resection of large rectal lesions. The aim of this talk is to show how we can use endoscopy to cut out rectal lesions and then reconstruct the rectum practically into its natural state, functioning normally, and prevent subsequent strictures.

What do you think that NOTES has contributed?

The overall idea of NOTES was to bring together surgeons and endoscopists and this cooperation between different specialties has given us something new, that we didn't have years before.

The NOTES project has thereby made it possible for surgeons to work closely with gastroenterologists and this has meant a great advantage for the patient.

On the other hand, I consider that it is important to mention that whilst surgery is increasingly less invasive, endoscopy is increasingly more so. I am convinced that there will come at time when these two specialties will combine, creating a new discipline.

This new specialist will perform both flexible endoscopy and surgery.

As a great world expert in advanced endoscopy, this year you are going to take part in the live surgery once again.

Effectively, there are highly educational cases that encourage interactivity between specialists in the operating theatre and anyone watching in the auditorium. This is an excellent course. Every year, Dr. Armengol-Miró designs an extensive and varied scientific programme, invites the best speakers and includes the most interesting topics. It is extremely productive to come here every year.



INTERVIEW

Doctor Miguel Muñoz Navas

Digestive Service Director at the Clínica University of Navarra.
Pamplona

«We are using a new technique to treat fistulas and perforations, with spectacular results»

How can endoscopy currently manage gastrointestinal perforations, leaks and fistulas?

For the last few years, we have had a series of endoscopic accessories that often allow us to treat these lesions without requiring surgery. For example, we have different types of prosthesis made of metal, plastic and even biodegradable. We also have the opportunity to fit clips that, depending on the type, can treat lesions up to 2 cm. We can join these clips using loops, we can add a prosthesis to them, etc. In addition, we have the chance to perform endoscopic sutures or fit biological mesh to close these lesions. Another technique that is used above all in colonic fistulas consists of fitting a type of endoscopic drain with continual suction that helps large lesions close up in a few days.

What's new in this field?

Now it is possible to use a cardiac prosthesis - generally used for example to close atrial septal defects - in tracheoesophageal fistulas. This technique is getting great results. Today, I have presented the case of a patient who had three of this type of fistula. He had been operated on unsuccessfully using different techniques in several hospitals.

In addition, we are using another new technique to treat fistulas and oesophageal, duodenal or colonic perforations that is giving us amazing results. It consists of using a clip, recently brought on to the market, that can close these lesions very simply, quickly (in 3-4 minutes) and cheaply.

This makes it possible to completely change the subsequent treatment of these patients and particularly their prognosis. We had the extreme case of an 87-year-old woman with a duodenal perforation that we treated with this new clip and she was already able to go home after just 4 days. Just a short while ago we thought that this might actually bring about a patient's death despite using all the measures available, including surgery.

I recommend that all endoscopists have this technique in their therapeutic armoury to treat possible complications or lesions because it can be highly decisive.

How would you rate this eleventh edition of the International NOTES WIDER Course?

This is a course where we have the chance to bring in the pioneers and world leaders on many techniques for therapeutic endoscopy and minimally invasive digestive surgery. Initially, the aim of this encounter was above all to develop operations through natural orifices, offering an alternative to surgical or laparoscopic treatment. All this research has given us new technology and accessories allowing us to take enormous steps in possible digestive endoscopy therapies.



INTERVIEW

Doctor Sarbelio Rodríguez Muñoz

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

«We need to take the leap and take our endoscopy inside the papilla to improve diagnosis and treatment of bile duct diseases»

In this course, today you're going to give us an update on cholangioscopy. What's your message for the attendees?

The main message is that endoscopists are at a crossroads in the same way as 20 years ago with colonoscopy. Before the paradigm was the barium enema but now it is the colonoscopy. The "gold standard" these days to explore the bile duct is endoscopic retrograde cholangiopancreatography (ERCP). Using this technique, endoscopists generate radiological images but it is already time to take the leap and use cholangioscopy to visualise the bile duct directly. This means crossing the barrier represented by the papilla and taking our endoscopes inside the papilla to diagnose and treat bile duct diseases.

What are the advantages of the cholangioscopy?

It increases diagnostic sensitivity, particularly in complex stenosis or in stenosis that is difficult to diagnose because it allows biopsies to be taken directly and guided against the lesion. In addition, it allows advanced imaging techniques to be used such as Narrow Band Imaging (NBI), among others, making it possible to mark off the lesions and characterise them more easily. In addition, it also increases our ability to deal with complex gallstones. A complex gallstone measures more than 2 centimetres or is multiple and therefore hard to extract. Cholangioscopy reduces the number of successive explorations that need to be carried out to leave the bile duct completely clean because, in 98% of cases, just one exploration is enough.

In addition, it can be used to transport lithotripters and baskets inside the bile duct that make it significantly easier to extract the gallstones.

Every year, you run the Advanced Endoscopy Sessions, now in their ninth year. What does this scientific get-together have to offer endoscopists?

The Advanced Endoscopy Sessions are clearly progressing, with a growing number of specialists and increasingly younger doctors. The sessions attempt to show young people how the best world experts handle themselves in real time, through live surgery, in both difficult and easy cases. This is highly attractive as it is always very useful to see how a bullfighter deals with a difficult animal, but it is important to see how they fight a good one.

These same experts also give talks where they explain what they have done in the live surgery.

How would you rate this NOTES WIDER-Barcelona Course?

This course, set up by Dr. Armengol- Miró, has an extremely high scientific and practical level and some absolutely fascinating presentations. It also offers an important plus, bringing together endoscopists and surgeons under one roof where they might clash. However, this course has shown that not only do we not clash but we go so far as to strengthen one another.



INTERVIEW

Doctor Maurizio Zilli

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

«The dividing line between gastroenterologists and digestive endoscopy surgeons will probably disappear very soon»

What is your research focussed on these days?

Right now, we are researching techniques that combine the gastroenterological endoscopy and surgical focus points. We are currently working with our surgeons on advanced endoscopy techniques to close fistulas such as prosthesis or stents completely covered in metal and fitting the over-the-scope-clip system. In addition, we have started to perform total thickness resection of the wall in colonic lesions and we intend to do the same very soon around the stomach.

You are an expert in biliary and pancreatic endoscopy. What progress has been made in this field?

Endoscopic retrograde cholangiopancreatography (CPRE) will continue to be the most invasive and complicated endoscopic procedure for a long time. In any case, we have new options in this field, such as direct endoluminal cholangioscopy and the rendezvous technique with endoscopic ultrasound. We also have a wide selection of different metal stents that will give us more therapy options.

You have moderated several sessions in this eleventh edition of the NOTES WIDER-Barcelona course.

This year, I have moderated several very interesting scientific sessions and my first impression is that participation from our surgeon colleagues has increased significantly.

Gastroenterologists have been much more aggressive in therapeutic endoscopy and surgeons have begun to talk more about research and basic disciplines. This leads me to believe that the dividing line between gastroenterologists and surgeons in terms of digestive endoscopy will probably disappear very soon and that this is good for mutual cooperation and development of endoscopic platforms.

How can we promote collaboration between gastroenterologist endoscopists and surgeons?

We are proposing to run mutual sessions, such as group sessions with common interests and aims, and working together in practical terms as much as possible. We provide intraoperative endoscopic assistance almost every day. This is how we learn from each other, but we also learn to manage the clinical risk and the responsibilities better.

We also organise our annual meeting in Udine, "Updates in Gastroenterology" and invite many surgeons. In this way, we have the chance to meet with our colleagues and swap opinions.



INTERVIEW

Doctor
Marco Frascio

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

«Single port laparoscopic surgery seems to cost less than traditional or multiport surgery»

You presented the session on “Cost analysis of single port cholecystectomy compared to multi-port cholecystectomy”. What were the main conclusions?

One problem when introducing new technology into regular clinical practice in surgery is the allegation that this type of procedure is too expensive. For this reason, we wished to look at this field in greater depth. To do so, we ran excellent analysis on the cost of single port laparoscopic cholecystectomy. We saw that the cost of this procedure, actually the cost of the surgical instruments, is less than the cost of the traditional technique, that consists of fitting 4 trocars.

It is true that the overall cost of both procedures is currently still similar, although this is due to the fact that single port surgery takes a little longer, as we are still on the “learning curve”. We generally take around an hour and a half to perform a single port cholecystectomy and less than an hour on the traditional procedure. However, to get a little perspective, single port surgery is probably cheaper than multi-port surgery. This is a new concept because, I might insist, clinics and hospital administrators generally believe that new techniques are more expensive than traditional procedures.

How do you see the future of NOTES surgery?

This is one of the most important questions. We have seen, for example, that scientific publications on NOTES have been dropping off over time. So, we might wonder about the future of this type of surgery. The answer is that it is worth continuing in this field because many of these new techniques and new surgical instruments that have been developed with NOTES are not only used in NOTES operations but also in routine surgery. These techniques and new devices are making surgery easier, safer and more advanced.

What message would you like to send out to surgeons and endoscopists?

I wish that we could have a Dr. Armengol-Miró and an institute like WIDER-Barcelona in every country because as specialists, we have to avoid getting stuck in a routine and we should take an interest in what is going on around us and this is exactly what Dr. Armengol-Miró is helping us to do.



INTERVIEW

Doctor
Alberto Montori

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

«NOTES surgery has allowed great progress for endoscopy»

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

These meetings began 11 years ago in order to keep on top of progress in natural orifice transluminal endoscopic surgery (NOTES). However, over the years, this type of operation has dropped off significantly, particularly in Western countries. NOTES surgery drove our colleagues in India, China, Japan and Korea, who have great endoscopy skills, to research other ways to perform certain operations. All this ended up giving an enormous boost to endoscopy, developing new instruments and new techniques, such as endoscopic submucosal dissection or peroral endoscopy myotomy (POEM).

The POEM technique, used to treat achalasia, uses an endoscope to do from the inside what a surgeon usually does on the outside. This type of surgery is encompassed within what is known as third space or intraluminal surgery, a new minimally invasive surgery concept that can treat several diseases effectively. Endoscopic submucosal dissection is recommended to treat benign submucosal lesions such as the case of lipomas, myomas or benign polyps but also for malignant lesions located in the duodenum and particularly in the rectum and the sigmoid colon.

With your extensive experience as a surgeon, what advice would you give to specialists interested in advanced techniques?

Surgeons shouldn't get stuck in a rut and should always move forwards, with an ethical focus, keeping in mind that the patient is the most important aspect.

This type of operation is not very frequent in the West but in countries such as China or Japan, techniques such as POEM are used a great deal to treat achalasia, oesophageal dysfunction, or even for alterations in gastric motility. The latter is known as gastric POEM or G-POEM. In these countries - and also in the West - endoscopic submucosal dissection (ESD) is also used a lot. We have performed many ESDs in the rectum and 18 around the duodenum and we have seen with great satisfaction that this type of operation is effective and also safe as long as it is performed by expert hands.

It is clear that surgery is an art and not all surgeons are artists. This is the great problem. Now some gastroenterologists are performing this type of operation. This is very positive but, in my opinion, to perform them correctly, they should be following guidelines and anatomosurgical lines from a technical point of view. This is the only way to be a good surgeon and a good endoscopist.



INTERVIEW

Doctor
Yuri Starkov

Department of A.V. Surgery Vishnevsky Institute of Surgery.
Moscow. Russia

«Endoscopic ultrasound typing of gastrointestinal stromal tumours can optimise their surgical treatment»

How can treatment of gastrointestinal stromal tumours be optimised?

We have developed an intelligent focus for surgical treatment of gastric and duodenal gastrointestinal stromal tumours (GIST). This treatment focus is based on an endoscopic ultrasound classification we drew up, helping us to pick the optimum way of extracting this type of tumour. For treatment, we use minimally invasive techniques, using laparoscopic methods or endoluminal endoscopy. The choice of technique depends on the size of the tumour, and its location among other criteria. This pre-operative endoscopic ultrasound classification helps the surgeon identify the type of tumour that the patient is presenting and consequently choose the best treatment option, implicating less invasive surgery that is more accurate with fewer complications.

This represents a great advantage for our patients.

What has been your experience with this new classification method?

We have analysed our own experience, based on results from 18 patients submitted to different minimally invasive surgery focus points. Based on these results, we can determine the best option for each patient, individually. Our experience indicates that these surgical techniques are associated with good functional and aesthetic results.

What have you found most interesting at this meeting?

This meeting has the capacity to bring together endoscopists and surgeons to present their achievements and results. In addition, it encourages discussion on new techniques and ideas to be able to understand and offer the best treatment options to our patients. The combination of talks and live surgery makes this understanding so much easier. Consequently, we are extremely happy with participation in this course.

As an expert surgeon, what's your advice for surgeons and endoscopists?

My main advice is that they should not get stuck in a rut and should continue making progress, learning about new technology. In our operation today, we have described different endoscopic techniques, and this represents acquisition of advanced skills. So, each surgeon and endoscopist should learn more every year. General surgeons are advised to learn endoscopic skills and gastroenterologists or endoscopists are advised to learn surgical skills.



INTERVIEW

Doctor
Jean Escourrou

Gastroenterology Service at Rangueil Hospital. University of Toulouse.
France

«Endoscopy can treat many bariatric surgery complications effectively and safely»

In this final part of the course, you are going to talk about endoscopic treatment of bariatric surgery complications.

As we all know, surgery currently constitutes a frequently used alternative for treating obesity, but this type of surgery is associated with many complications, when applying either restrictive or malabsorptive techniques. For example, the rate of complications in bariatric surgery is approximately 30% for gastric bands and vertical banded gastroplasty and 5-10% for gastric bypasses. Some of the main complications such as strictures, effusion, fistulas or abscesses, among others, can be treated using endoscopy.

How can endoscopic surgery treat these complications?

Using techniques such as dilatation, fitting a prosthesis or a stent, a pigtail catheter or external drain or by using clips. These techniques are safe, effective, they can be reproduced, and they are first line treatments. For example, stenosis, that is a frequent complication of the gastric bypass, can be corrected by dilatation or fitting a stent. Fistulas on the gastroesophageal junction are the main complication in sleeve gastrectomy. This technique, frequently used in France, is currently one of the most popular procedures in bariatric surgery. This type of fistula can be closed with endoscopy using several techniques.

It is very important to remember that early treatment of this fistula is necessary, in the postoperative period, to prevent the risk of infection. When an infection occurs, they are more difficult to treat as they require prior debridement and the abscess and necrotic debris must be cleaned using endoscopy. Fistulas on the gastroesophageal junction can, for example, be closed using the over-the-scope-clip system. When there is infection, it is firstly necessary to fit pigtail catheters for internal drainage or an external drain. Occasionally, before closing the fistula using the clip, a stent can also be fitted in parallel to the external drain.

Which of the topics covered in this edition have seemed the most interesting to you?

One thing that was very interesting for us this year was a presentation given by Dr. Y. Starkov and Dr. S. Dzhantukhanova from Russia, on the endoscopic ultrasound classification to optimise surgical treatment of gastrointestinal stromal tumours.

I believe that this course, organised by Dr. Armengol-Miró, always has an excellent and varied scientific programme. That's why I'd like to encourage specialists to attend so that they can expand their endoscopy knowledge.



INTERVIEW

Doctor Suvranu De

Head of the Department of Mechanical Aerospace and Nuclear Engineering.
Rensselaer Polytechnic Institute.
New York. United States

«In not particularly prevalent NOTES operations, training based on virtual reality has a very important role to play»

You have presented a talk today on “Preclinical training on NOTES techniques”. What is the role of an engineer in NOTES surgery?

Approximately 10 years ago we began to develop simulation technologies for preclinical training in NOTES surgery. Traditional NOTES surgery acts outside the lumen towards the peritoneal cavity and carries out procedures in the major organs. Nevertheless, the field has now evolved towards endoluminal or third space surgery.

We are researchers working on simulation technologies for a university. We do our research from a systematic academic focus and this differentiates us from industry. So, firstly we analyse the tasks to be carried out, then we develop the simulation technology and finally we carry out the preclinical validation studies.

We are currently working with a grant from the National Cancer Institute in the United States concerning Endoscopic Submucosal Dissection (ESD). This is the first year of the grant and we are still in the task analysis phase. We have examined approximately 16 videos for this procedure carried out by experts, after which we were able to identify the different ESD steps.

Why is virtual training on NOTES surgery important?

ESD, for example, is a reasonably frequent operation in Asian countries but not in the United States. In fact, there are few experts on this technique in the United States. In Asia, gastric cancer is much more prevalent than in the United States and in Europe and consequently, specialists have many more opportunities to receive training on EDS in this group of patients. Consequently, training based on virtual reality takes on a very important role.

On the other hand, we have also been capable of showing that developing simulation technology, as in companies, is not enough although it is necessary to make

sure that learning with the simulator can be transferred into real clinical practice. So, an academic focus is required to carry out this type of research.

As an engineer, how would you rate this NOTES WIDER-Barcelona Course?

It's my fourth time at this course. I believe that this is one of the most important meetings in the world on gastrointestinal surgery and endoscopy. The greatest world experts all come.

I have made many professional contacts and new friends at this meeting. To develop simulation technology, we have worked with many clinics and I met many of them here. This is definitively an excellent course.



INTERVIEW

Doctor Pedro Alonso Aguirre

Head of the Digestive System Service at the A Coruña University Hospital Complex

«The latest publications indicate that fitting a colon prosthesis as a bridge to surgery is a strategy that should not be withdrawn»

Can a colon prosthesis be fitted as a bridge to surgery?

Fitting a prosthesis or stent before operating on a patient for a colon neoplasm that has caused an obstruction is a popular strategy that began a while ago.

Urgent surgery on an obstructive neoplasm has high morbi-mortality and, therefore, it seemed logical firstly to remove the obstruction by fitting the prosthesis and then operate, once the obstruction has been dealt with.

Effectively, this procedure had many advantages in peri-operative patient management, as it was associated with a smaller number of complications, shorter hospital stays and lower costs.

However, a couple of years ago, some authors began to question the suitability of this technique. As a consequence, the European directives to handle colon neoplasm were published, recommending that, although this strategy should not be withdrawn, it should be relegated to specifically selected cases. This publication had a high impact, generating a new concern among clinics, by questioning the convenience of this procedure. However, in my opinion, this is a technique that should not be withdrawn, backed by the latest publications.

Why has this technique been questioned?

Because some data suggested that long-term oncological monitoring of patients who had been fitted with a prosthesis as a bridge to surgery was worse than patients who had received urgent operations on the obstructive neoplasm. And this is what raised the alarm.

However, the latest publications suggest that the observation that fitting a prosthesis is associated with a greater number of relapses was based on few studies, some of them controversial, and that an insufficient number of patients had been included. In addition, they estimate that this greater risk of relapse occurs when there is a high number of perforations or a high number of technical failures when fitting the stent.

In these circumstances, the best thing is to operate. However, with a low complication rate, it is preferable to continue using this strategy, particularly if the patient is a high surgery risk.

What is the point of this type of event for the endoscopists?

It is very useful for several reasons. Firstly, because it attracts a very high level of specialists and they perform really complex procedures. It is precisely a forum for learning thanks to the vast number of specialists attending. What's more, this meeting gives us a chance to exchange opinions with experts and with each other on the latest trends in NOTES surgery, endoscopic surgery or conventional surgery.



INTERVIEW

Doctor
Rajesh Gupta

Asian Institute of Gastroenterology.
Hyderabad. India

«By monitoring a medical algorithm, endoscopy can offer results that are just as good as surgery when treating pancreatic collections»

What role does endoscopy play in extracting difficult gallstones?

When we started to perform endoscopic retrograde cholangiopancreatography (ERCP) decades ago, we extracted small gallstones. However, right now, thanks to progress in endoscopy, we are capable of extracting gallstones that are not only large but that are located in very complicated places, that would have required surgery a few years ago to access them. Currently more than 95% of biliary lithiasis can be dealt with using endoscopy. This progress has been highly positive for the patient as endoscopy is a minimally invasive procedure whilst surgery on the bile duct is very difficult and it is associated with many complications even when laparoscopy is used.

How should pancreatic fluid collection be managed?

Pancreatic fluid collection is another area where endoscopists have made a niche for ourselves even though it was clearly surgeons' territory. Now we can perform endoscopic procedures and treat these collections that mainly include pancreatic pseudocysts and walled-off necrosis. Walled-off pancreatic necrosis is a complication that represents a very difficult challenge and a few years ago surgery was the only answer. However, these days, thanks to the experience that we have been amassing over the last 2 years, we can handle this type of necrosis using an endoscope.

To pick the most appropriate management method, it is necessary to follow a medical algorithm where the quantity of necrotic debris is the most determining factor.

If there are a lot of necrotic debris, a pancreatic necrosectomy is required that can be performed using endoscopy, although not all patients will need it. So then, it is necessary to take it step by step, following an algorithm where there are multiple options or alternatives depending on the patient's clinical situation and the quantity of necrotic debris present. By following this medical algorithm, endoscopy can give just as good if not better results than surgery.

This is your fourth time participating in this International NOTES WIDER-Barcelona Course.

I attend international meetings on a regular basis, but I consider that this course is unique because Dr. Armengol-Miró invites not only veterans who have been coming to this meeting since it first began but also younger specialists, new clinics and scientists. So, this magnificent family gets bigger every year.



INTERVIEW

Doctor
Giuseppe Galloro

Professor of General Surgery. Head of the Digestive Endoscopic Surgery Service.
University of Naples Federico II-Policlinico

«Tungsten instruments seem to reduce delayed perforations of the intestinal wall after endoscopic resection»

You have carried out research on new materials for endoscopic surgery. Tell us about the results so far.

Right now, all surgical procedures are focussed on being as minimally invasive as possible. Endoscopic surgery is making great progress and progressively obtaining better results. Current research is aiming to obtain new materials for endoscopic instruments in order to compare results between endoscopy and surgery.

Tungsten is a material that is used to produce light bulb filaments and therefore it is particularly appropriate for transmitting electrical energy.

The results of our research, carried out on animal models and published in the Endoscopy journal, have demonstrated that tungsten heats up and cools down much faster than steel. This means that there is much less heat damage on the deep tissues of the intestinal wall with tungsten than with steel. This suggests that it is preferable to use tungsten over steel to reduce delayed perforations in the intestinal wall after endoscopic resection.

The use of polypectomy handles made of tungsten in pigs offers truly impressive results compared with steel handles. Therefore, we believe that it is best to manufacture endoscopic surgery instruments out of tungsten and not steel.

Are there differences in handling a polypectomy handle made of tungsten or of steel?

No, they are completely similar. Both have a single-filament. A tungsten polypectomy handle can be a little more rigid, but it can be handled very easily.

These tungsten polypectomy handles have already been patented and put on the market. I can say that with every assurance because I contributed to this patent and I have not received any type of royalties. They are produced by a small Italian company called INNOVAMEDICA.

What does it mean to a surgeon who performs endoscopy, as in your case, that there is a discussion forum such as the International NOTES WIDER-Barcelona Course?

This forum allows the two specialities to meet up and work closely together. And this is how we will obtain the best result, not for the surgeon or the endoscopist but for the patient. I am very grateful to Dr. Armengol-Miró and everyone who is making it possible to hold this course to offer us all the chance to participate in this get-together with such a high scientific level.

We expect you all!

12th INTERNATIONAL NOTES W.I.D.E.R.-BARCELONA

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