The 9th European Congress of Endoscopic Ultrasonography

with live Demonstration

Hybrid Event - 2-3 JUNE 2022 - Cluj-Napoca | Romania

Congress Presidents
Andrada Seicean
Cristian Gheorghe
Adrian Saftoiu

EGEUS Coordinators
Claudio de Angelis
Pierre Deprez

Scientific Programme

Thursday, 2nd of June

08.00-08.30	Registration
08.30-08.50	**Introduction** C. De Angelis, P. Deprez, C. Gheorghe, A. Saftoiu, A. Seicean
08.50-11.00	**SESSION 1** Moderators: L. Palazzo, C. Gheorghe, A. Saftoiu, M. Nayar*, Z. Sparchez
08.50-09.30	**Linear EUS Anatomy** **Focal and diffuse autoimmune pancreatitis:the EUS approach** L. Palazzo
09.30-11.00	**Live session 1** Operators: P. Deprez, C. De Angelis, J. Iglesias-Garcia, P. Arcidiacono, M. Jinga, M. Ciocirlan, M. Rimbas
11.00-11.30	**Break**
11.30-13.45	**SESSION 2** Moderators: C. De Angelis, C. Gheorghe, L. Czako, P. Fusaroli*, G. Constantinescu, M. Tantau, R. Badea
11.30-11.45	**Detection and staging in pancreatic solid tumors: the role of EUS versus CT scan and MRI** L. Czako
11.45-12.00	**EUS tissue acquisition tips and tricks (needles, technical issues, specimen handling)** C. Gheorghe
12.00-13.30	**Live session 2** Operators: P. Deprez, L. Palazzo, P. Arcidiacono, A. Saftoiu, A. Seicean, C. Kalayci, M. Rimbas, M. Ciocirlan
13.30-13.45	***Satellite Symposium Olympus*: Contrast Enhanced EUS, how to run it successfully** R. Ball
13.45-14.30	**Lunch Break**
14.30-16.45	**SESSION 3** Moderators: C. De Angelis, I. Tarantino*, C. Kalayci, S. Lopes*, G. Constantinescu, E. Dumitru
14.30-14:45	**New developments in EUS imaging of solid pancreatic masses** P. Fusaroli*
14:45-15:00	**RFA in EUS: overview of current indications and future prospects:** P. Arcidiacono
15.00-16.30	**Live session 3** Operators: L. Palazzo, J. Iglesias-Garcia, M. El-Nady, A. Seicean, A. Saftoiu, L. Csako, M. Ilie, M. Tadic
16.30-16.45	***Satellite Symposium Meditalia*: NECROLIT: The new device for necrosectomy** I. Tarantino*
16.45-17:00	**Break**

17.00-18.00	***Session 4. Video and free communication*** Moderators: C. De Angelis, P. Deprez, M. Tadic, L. Vandeputte
	1.Wet suction versus slow-pull technique for endoscopic ultrasound - guided fine needle biopsy of solid lesions: a multicenter, randomized, cross-over trial. Stefano Francesco Crinò, Mihai Rimbaș, Maria Cristina Conti Bellocchi, Roberto Di Mitri, Frediano Inzani, Andrea Lisotti, Guido Manfredi, Anthony YB Teoh, Benedetto Mangiavillano, Oriol Sendino, Laura Bernardoni, Erminia Manfrin, Daniela Scimeca, Elettra Unti, Angela Carlino, Theodor Voiosu, Bogdan Radu Mateescu, Cristiana Popp, Pietro Fusaroli, Stefania Lega, Elisabetta Buscarini, Lorena Pergola, Shannnon M Chan, Laura Lamonaca, Àngels Ginès, Gloria Fernández-Esparrach, Antonio Facciorusso, Alberto Larghi **2. Endoscopic ultrasound-guided portal pressure (EUS-PPG) measurement in portal hypertension (PH) syndrome: a case series** A. Mauriello, M. Gesualdo, F. Fimiano, F. Castellano, M. Sacco, W. Debernardi Venon, G.M. Saracco, C.G. De Angelis **3. The role of dynamic contrast harmonic imaging endoscopic ultrasound (chi-eus) and cd105 and cd31 immunostaining in tumor angiogenesis assessment on patients with gastric cancer – a feasibility study** Bogdan Silviu Ungureanu, Victor Mihai Sacerdoțianu Sevastiţa Iordache, Ion Rogoveanu, Dan Ionuț Gheonea, Tudorel Ciurea, Adrian Saftoiu **4. Shear wave elastography versus strain elastography with histogram analysis in solid pancreatic lesions: a pilot study.** Voicu Rednic, Ciprian Cioltean, Cristina Pojoga, Ofelia Mosteanu, Claudia Hagiu, Andrada Seicean **5. Pancreatic intraductal ultrasonography: a monocentric experience.** F. Castellano, M. Gesualdo, M. Sacco, A. Mauriello, F. Fimiano, Eleonora Dall'Amico, Maria Teresa Staiano, C.G. De Angelis **6. The application of EURCP concept just in time.** Marcantonio Gesualdo , Anna Mauriello, Fabio Castellano, Federica Fimiano, Maria Teresa Staiano , Eleonora Dall'Amico, Alessandro Gambella, Marco Sacco, Claudio G. De Angelis
18.00-18.15	**EGEUS General Assembly** P. Deprez, C. De Angelis
19.00-23.00	**Congress Dinner** Chios Restaurant (Central Park, Cluj-Napoca)

Friday, 3rd of June

09.00-11.00	**SESSION 5** Moderators: C. De Angelis, A. Saftoiu, J. van Hooft*, A. Teoh*, A. Popescu
09.00-09.30	**Tandem talk debate: indications for plastic stents or LAMS in pancreatic fluid collections, and how to manage adverse events** J. van Hooft* / A. Seicean
09.30-11.00	**Live session 4** Operators: P. Deprez, L. Palazzo, J. Iglesias-Garcia, P. Arcidiacono, M. El-Nady, L. Vandeputte, M. Tadic
11.00-11.30	**Break**
11.30-13.45	**SESSION 6** Moderators: C. Gheorghe, J. Iglesias-Garcia, I. Tarantino*, M. Kida*, R. Chira, R. Badea
11.30-11.45	**Cholangiocarcinoma: EUS, ERCP or both** P. Deprez
11.45-12.00	**Biliary and gallbladder EUS guided drainage** I. Tarantino*
12.00-13.30	**Live session 5** Operators: C. De Angelis, R. Gincul, M. Tadic, A. Saftoiu, C. Kalayci, M. Ilie, M. Sacco, L. Csako
13.30-13.45	***Satellite Symposium Janssen:* Histo-endoscopic mucosal healing: a new target in the treatment of IBD** C. Gheorghe
13.45-14.30	**Lunch break**
14.30-16.00	**SESSION 7** Moderators: C. Gheorghe, A. Saftoiu, C. Kalayci, M. Soria*, E.Dumitru
14.30-14.45	**EUS guided gastrointestinal anastomosis** A. Teoh*
14.45-15.00	**New devices and new technology: EUS highlights** J. Iglesias Garcia
15.00-16.00	**Live session 6** Operators: C. De Angelis, R. Gincul, L. Csako, M. Ilie, M. Ciocirlan, M. Sacco
16:00-16.30	**Break**
16.30-17.30	**SESSION 8** Moderators: C. De Angelis, C. Gheorghe, A. Saftoiu, A. Seicean
16.30-16:45	**Ampullary adenoma: the place of EUS** P. Fockens*
16.45-17.00	**Hypervascular pancreatic lesions** R. Gincul
17.00-17.15	**Algorithm of diagnosis in cystic pancreatic lesions** A. Saftoiu
17:15-17.30	**Future directions for EUS**
	C. De Angelis

online speakers/moderators

E-POSTER SESSION

(will be displayed in the congress venue on electronic format, throughout the event and available on the online platform)

P1	**TRANSESOPHAGEAL ENDOSCOPIC ULTRASOUND AS A LEADING METHOD IN THE DIAGNOSIS OF LUNG CANCER**	Ivan Budimir, Dejan Bakula, Stipe Pelajić, Marko Nikolić, Ivana Pavić, Zrinka Juroš, Ivan Turalija *(Croatia)*
P2	**RETROPERITONEAL NEUROGENIC TUMOR FINAL DIAGNOSIS: IS EUS FNA DIAGNOSTIC METHOD OF CONFIRMATION**	Ivan Budimir, Filip Babić, Tajana Pavić, Neven Baršić, Ivana Pavić, Marijel Kovačina, Ivan Vulić *(Croatia)*
P3	**ENDOSCOPIC RESECTION OF THE AMPULLARY LESION WITH AN EXTENSION IN THE MAIN BILIARY DUCT: A METHOD OF TREATMENT OF RECURRENT ACUTE PANCREATITIS**	Ivan Budimir, Filip Babić, Tajana Pavić, Neven Baršić1 Neven Ljubičić1 Pierre Henri Deprez *(Croatia)*
P4	**DEEP LEARNING FOR PANCREAS PATHOLOGY**	Irina Mihaela Cazacu, Daniel Pirici, Claudia Valentina Georgescu, Nona Bejinariu, Alina Constantin, Nicoleta Podină, Daniela Elena Burtea, Elena Codruța Constantinescu, Anca Udriștoiu, Lucian Gruionu, Bogdan Silviu Ungureanu, Adrian Săftoiu *(Romania)*
P5	**ADVERSE EVENTS ENCOUNTERED DURING 20 YEARS OF ENDOSCOPIC ULTRASONOGRAPHY: WHAT TO EXPECT WHEN ENDOSCOPY DAY IS NOT SUCH A GOOD DAY?**	Irina F. Cherciu Harbiyeli, Elena D. Burtea, Irina M. Cazacu, Carmen Florina Popescu, Claudia Valentina Georgescu, Daniel Pirici, Valeriu Surlin, Nona Bejinariu, Alina Constantin, Catalin Copaescu, Adrian Saftoiu *(Romania)*
P6	**EUS-GUIDED TISSUE ACQUISITION OF PANCREATIC MALIGNANCY: A RETROSPECTIVE STUDY AT A TERTIARY CENTER**	Alexandru Constantinescu, Madalina Ilie, Vasile Șandru, Ecaterina Rînja, Alexandra Jichitu, Gina Gheorghe, Andreea Butuc, Andreea Ghidersa, Oana Plotogea, Gabriel Constantinescu *(Romania)*
P7	**MALIGNANT INSULINOMA, A RARE CASE OF NEUROENDOCRINE PANCREATIC TUMOR**	Irina Paula Doica, Robert Cristian Godeanu, Robert Emanuel Serban, Adrian Saftoiu, Bogdan Silviu Ungureanu *(Romania)*
P8	**EUS-GUIDED CHOLEDOCHODUODENOSTOMY USING A LUMEN-APPOSING METAL STENT (LAMS)**	F. Fimiano, M. Sacco, A. Mauriello, F. Castellano, M. Gesualdo, M. Staiano, E. Dall'Amico, C.G. De Angelis *(Italy)*
P9	**THE ROLE OF EUS-FNA IN THE DIAGNOSIS OF RETROPERITONEAL METASTASIS**	Isabel Garrido, Susana Lopes, Guilherme Macedo *(Portugal)*
P10	**DUODENAL DUPLICATION CYST - A CHALLENGING DIAGNOSIS**	Isabel Garrido, Susana Lopes, Guilherme Macedo *(Portugal)*
P11	**DIAGNOSTIC ACCURACY OF INTRADUCTAL ULTRASOUND (IDUS) IN INDETERMINATE BILIARY STRICTURES IN A CHOLANGIOSCOPIC COHORT**	M. Gesualdo, M. Sacco , F. Castellano, F. Fimiano, A. Mauriello, E. Dall'Amico, M.T.Staiano, C.G. De Angelis *(Italy)*
P12	**ENDOSCOPIC ULTRASOUND FINE NEEDLE BIOPSY VERSUS FINE NEEDLE ASPIRATION IN FOCAL LIVER LESIONS**	Marcel Gheorghiu, Zeno Sparchez, Sorana D. Bolboacă, Ioana Rusu, Radu Seicean, Cristina Pojoga, Ofelia Mosteanu, Andrada Seicean *(Romania)*
P13	**SOLID PSEUDOPAPILLARY TUMOR: A RARE NEOPLASM OF THE PANCREAS. TWO CASE REPORTS**	Pavol Molčan, Ján Strachan, Jan Martínek, Ľubomír Skladaný *(Czech Republic)*

P14	**AN ACCURATE DIAGNOSIS OF PANCREATIC CASTLEMAN'S DISEASE MADE PREOPERATIVELY BY ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE BIOPSY**	Hemanta Kumar Nayak, Susama Patra, Chinmayee Panigrahi, Chandan Kumar, Bramhadatta Pattnaik, Tanmaya Dutta, Manas Kumar Panigrahi, Subash Chandra Samal *(India)*
P15	**DIAGNOSTIC VALUE OF ENDOSCOPIC ULTRASOUND (EUS) GUIDED FINE NEEDLE BIOPSY (FNB) FOR DIFFUSE GASTRIC CARCINOMA WITH NEGATIVE ENDOSCOPIC BIOPSY-A CASE REPORT**	Ruxandra Mare, Ioan Sporea, Taban Sorina, Amadeus Dobrescu, Roxana Sirli, Alina Popescu *(Romania)*
P16	**A RARE CASE OF A PATIENT WITH PLEURO-PULMONARY AND CEREBRAL TUBERCULOSIS, IN WHICH CASE THE SUSPICION OF LUNG CANCER WAS VERY HIGH.**	Marcel Narita, Georgiana Nagy, Vlad Ichim, Chira Romeo *(Romania)*
P17	**THE CONTRAST-ENHANCED ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION UTILITY IN THE DIAGNOSIS OF PANCREATIC CYSTS**	Miruna Patricia Olar, Sorana D. Bolboacă, Cristina Pojoga, Ofelia Moșteanu, Marcel Gheorghiu, Radu Seicean, Ioana Rusu, Zeno Sparchez, Nadim Al Hajjar, Andrada Seicean *(Romania)*
P18	**ENDOSCOPIC ULTRASOUND (EUS)-GUIDED PELVIC ABSCESS DRAINAGE WITH A LUMEN APPOSING METAL STENT**	Pereira M, Linhares M, Ramos D, Pestana I, Caldeira A, Pereira E, Banhudo A *(Portugal)*
P19	**CONTRAST ENHANCED ENDOSCOPIC ULTRASONOGRAPHY (CE-EUS) WASHOUT RATE IN PANCREATIC SOLID MASSES**	Voicu Rednic, Rareș Orzan, Cristina Pojoga, Ofelia Mosteanu, Claudia Hagiu, Andrada Seicean *(Romania)*
P20	**ENDOSCOPIC ULTRASOUND-ASSISTED CHOLECYSTOGASTROSTOMY (EUS-CG) IN A POOR SURGICAL CANDIDATE**	Marco Sacco, Marcantonio Gesualdo, Federica Fimiano, Anna Mauriello, Fabio Castellano, Maria Teresa Staiano, Eleonora Dall'Amico, Claudio Giovanni De Angelis *(Italy)*
P21	**GALL BLADDER METASTATIC MELANOMA REVEALED BY CHRONIC DIARRHEA**	Serban Seicean, Cristina Pojoga, Ana Maria Fit, Radu Badea, Andrada Seicean *(Romania)*
P22	**NEW-ONSET DIABETES MELLITUS AFTER ENDOSCOPIC NECROSECTOMY THROUGH LAMS: A PILOT STUDY.**	Alice Spulber, Lidia Neamti, Rares-Ilie Orzan, Despina Turcu, Voicu Rednic, Cristina Pojoga, Ofelia Mosteanu, Andrada Seicean *(Romania)*
P23 AS ORAL PRES	**THE ROLE OF DYNAMIC CONTRAST HARMONIC IMAGING ENDOSCOPIC ULTRASOUND (CHI-EUS) AND CD105 AND CD31 IMMUNOSTAINING IN TUMOR ANGIOGENESIS ASSESSMENT ON PATIENTS WITH GASTRIC CANCER – A FEASIBILITY STUDY**	Bogdan Silviu Ungureanu, Victor Mihai Sacerdoțianu Sevastiţa Iordache, Ion Rogoveanu, Dan Ionuț Gheonea, Tudorel Ciurea, Adrian Saftoiu *(Romania)*
P24	**PROGNOSIS ASSESSMENT OF CD44 EXPRESSION ON ENDOSCOPIC ULTRASOUND FINE NEEDLE BIOPSY PANCREATIC DUCTAL ADENOCARCINOMA SAMPLES**	Bogdan Silviu Ungureanu, Claudia Valentina Georgescu, Daniel Pirici, Alina Constantin, Daniela Elena Burtea, Irina Mihaela Cazacu, Adrian Saftoiu *(Romania)*

ABSTRACTS

1. EUS-GUIDED TISSUE ACQUISITION OF PANCREATIC MALIGNANCY: A RETROSPECTIVE STUDY AT A TERTIARY CENTER

Alexandru Constantinescu[1], Madalina Ilie[1,2], Vasile Șandru[1,2], Ecaterina Rînja[1,2], Alexandra Jichitu[1], Gina Gheorghe[1], Andreea Butuc[1], Andreea Ghidersa[1], Oana Plotogea[1,2], Gabriel Constantinescu[1,2]

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Background and Aims: In the last decade, endoscopic ultrasound (EUS) has developed into a cutting-edge medical procedure, gaining momentum as EUS-guided sampling amenable to histopathologic studies arose as standard of care for most pancreatic lesions. Though FNB (fine-needle biopsy) seems to provide a better diagnostic accuracy in comparison to the FNA (fine-needle aspiration), this conclusion is subject to further analysis.

Methods: The accuracy of sampling pancreatic malignant tissue was retrospectively assessed over a statistically significant 484 patients, of whom 401 were ultimately deemed by either EUS (n=369) or surgery (n=32) as having pancreatic cancer and included for further analysis: 329 of these were primary ductal adenocarcinoma, 26 primary neuroendocrine tumors, 18 cystadenocarcinoma, the rest being metastatic or other primary tumors (n=28).

Results: A total of 426 procedures were recorded, out of which 334 were EUS-FNA's and 92 EUS-FNB's. No marked difference was noticed regarding age, sex or lesional diameter. The first group's lesions were rather localized in the head of the pancreas (77.2%) and rather not stented by the time of the EUS (73.1%), compared to the FNB's cohort of 69.6%, respectively 60.9%. Number of passes was on average slightly higher for the FNA procedures: 1.99 versus 1.63.

As for procedural accuracy, we detected increased sensitivity for the FNB tissue acquisition, just 8 out of the total 92 FNB procedures being regarded as false-negative, compared to the much larger proportion of false-negative FNA's: 54 out of the 334. As such, diagnostic accuracy was rendered at 91.3% for the FNB's and a mere 83.8% for the FNA's. Periprocedural complications such as hemorrhagic incidents or infections were scarce, with a single major hemorrhage occuring in one patient, ultimately proving self-limiting.

Conclusion: In the face of overwhelming odds regarding topographical characheristics or stenting status, there was a much larger probability of obtaining a positive biopsy in the case of FNB's, this being added by the lesser number of passages required and by the relatively equal number of complications encountered.

2. SOLID PSEUDOPAPILLARY TUMOR: A RARE NEOPLASM OF THE PANCREAS. TWO CASE REPORTS

Pavol Molčan[1], Ján Strachan[1], Jan Martínek, Ľubomír Skladaný

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Introduction: Solid pseudopapillary tumor is a rare pancreatic neoplasm predominantly affecting young women with low malignant potential [1]. It usually has a favorable prognosis, with just over 95% of patients reported as being disease-free after surgical resection [2]. The aim of our review is to report two cases of young patients with solid pseudopapillary tumor.

Methods: Retrospective review of two patients with EUS and FNB confirmed solid pseudopapillary neoplasm, who consequently underwent surgery. Definitive histology was in accordance with histology from fine needle biopsy.

Results: First patient, 49 years old woman was admitted to hospital with jaundice. Abdominal CT scan showed tumor of the neck of the pancreas (22x27 mm in size). We performed EUS with FNB with histologic features that favors pseudopapillary tumor. Patient underwent surgery (cephalic duodenopancreatectomy) with good outcome.

Second patient is 25 years old woman with accidental finding of a pancreatic tumor. She underwent EUS with FNB,

which also confirmed pseudopapillary pancreatic tumor. Patient had laparoscopic cephalic duodenopancreatectomy with good outcome.

Conclusion: It is important to consider this rare tumors in patients with accidental finding of a pancreatic mass on imaging tests, especialy in young women. Up to date, there is limited data whether all patients should be surgical candidates at the time of diagnosis. Considering very low malignant potential of these tumors, watch and wait approach might be an option in selected cases.

References

1. Papavramidis T., Papavramidis S. Solid pseudopapillary tumors of the pancreas: review of 718 patients reported in english literature. Journal of the American College of Surgeons. 2005;200(6):965–972. doi: 10.1016/j.jamcollsurg.2005.02.011.
2. Law J. K., Ahmed A., Singh V. K., et al. A systematic review of solid-pseudopapillary neoplasms: are these rare lesions? Pancreas. 2014;43(3):331–337. doi: 10.1097/mpa.0000000000000061

3. A RARE CASE OF A PATIENT WITH PLEURO-PULMONARY AND CEREBRAL TUBERCULOSIS, IN WHICH CASE THE SUSPICION OF LUNG CANCER WAS VERY HIGH

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Purpose: The role of EUS-FNA in diagnostic of pleuro-pulmonar and ganglionar tuberculosis in a patient with ankylosing spondylitis, under biological treatment.

We present the case of a 39-year-old patient known with ankylosing spondylitis, being under biological therapy (Infliximab) for 11 years, who presented to our service for convulsions, paraesthesia and spasms on half of the left face and body. The computed tomographic imaging assessment raised the suspicion of a lung tumor with multiple mediastinal and abdominal lymphadenopathy, with a possible secondary cerebral determination.

The patient was sent to our service for performing the lung biopsy. Considering the peripheral location of the tumor, with parietal contact, an ultrasonographically-guided transparietal lung biopsy was initially performed, and the histopathological examination revealed chronic granulomatous, necrotizing inflammatory changes, without certain elements of malignancy.

We subsequently performed digestive endoscopic ultrasonography, visualizing suspicious infracentimetric lymph nodes in the mediastinum, without a bioptic approach. Hepatic and splenic lymph nodes with irregular contour were visualized, as well as multiple splenic nodules, with the performance of 3 EUS-FNA passages from their level. Histopathological examination is free of malignant cells, highlightning chronic inflammatory changes.

Later, bronchoscopy was performed, with broncho-alveolar lavage and biopsy, objectifying an ulcerative lesion at the level of the right lower lobe with caseum deposit, macroscopic aspect suggestive for bronchial tuberculosis. Histopathological examination and cultures advocated for pulmonary tuberculosis.

Conclusion: We presented the case of a patient in whom the high suspicion of lung cancer raised by imaging methods (tomography and ultrasonography) was refuted by EUS-FNA and bronchoscopy. The particularities of the case were: the development of pleuro-pulmonary tuberculosis 11 years after the initiation of Infliximab therapy, imaging changes suggestive for a pleuro-pulmonary neoplasia, the atypical clinical picture (absence of respiratory and systemic manifestations) and the atypical localization for secondary tuberculosis.

4. ENDOSCOPIC ULTRASOUND (EUS)-GUIDED PELVIC ABSCESS DRAINAGE WITH A LUMEN APPOSING METAL STENT

Pereira M, Linhares M, Ramos D, Pestana I, Caldeira A, Pereira E, Banhudo A

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A transrectal ultrasound guided prostate biopsy is the gold standard method to obtain prostatic specimen for histological examination. In most cases it is a relatively safe procedure and well tolerated even though complications can occur.

We present the case of a 74-year-old male patient with prior history of type II diabetes mellitus who was admitted to the emergency department with fever, asthenia and lower back and perineal pain. He had been previously admitted with similar complaints following a prostate biopsy one month prior to this event.

On observation he was febrile, tachycardic and presented a perineal wound suggestive of a Fournier's gangrene. Laboratory test results revealed raised inflammatory markers while the computerized tomography (CT) scan showed a pelvic abscess adjacent to the prostate. He started empiric treatment with meropenem.

A transrectal endoscopic ultrasound (EUS) followed, revealing a well-defined, oval, heterogeneous, 8x4cm collection on the left side of the prostate and adjacent to the rectum wall. Under EUS guidance, following Doppler confirmation of the absence of interfering blood vessels, the electrocautery-enhanced delivery system was used to puncture the collection and a Hot-Axios 15x10mm stent by Boston Scientific® was deployed. Immediate purulent drainage was observed on colonoscopy. After 9 days an endoscopic reevaluation was done, the abscess cavity washed and fibrous material removed with forceps and snare and the stent was then removed. After two weeks, a follow-up CT scan confirmed complete resolution of the pelvic abscess with no procedure related adverse events.

A pelvic abscess is an extremely rare complication of prostate biopsy and diabetes mellitus and other immunodeficiencies are known risk factors. Its diagnosis is very challenging and imaging studies are crucial. While transrectal ultrasound-guided aspiration is the gold standard treatment, more recently, lumen apposing metal stents have shown to be a safe and effective alternative.

Keywords: endoscopic ultrasound – lumen-apposing metal stents – pelvic abscess.

5. SHEAR-WAVE ELASTOGRAPHY IN SOLID ANCREATIC LESIONS: A PILOT STUDY

Voicu Rednic[1,2], Ciprian Cioltean[1,2], Cristina Pojoga[1,3], Ofelia Mosteanu[1,2], Claudia Hagiu[1,2], Andrada Seicean[1,2]

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Background: Strain elastography histogram endoscopic ultrasound (SH) has been proved as a valuable supplement to endoscopic ultrasound (EUS) in assessing solid pancreatic lesions, with sensitivity of 98% and specificity of 63%. However, the value of newly available shear wave EUS elastography (EUS-SWM) has been disappointing in one retrospective study.

Aim: to assess the diagnostic value of SH and EUS-SWM in solid pancreatic lesions.

Methods: Our prospective study was started in August 2021 in one tertiary medical center and we recruited patients with solid pancreatic masses> 2 cm in diameter at CT scan for EUS assessment first with strain histogram (SH) (3 measurements), followed by EUS-SWM (3 measurements with VsN>20). Patients with inconclusive pathology results were excluded. The final diagnosis was based on surgery or EUS tissue acquisition results.

Results: 37 patients with solid pancreatic lesions were evaluated. The final diagnosis was 26 pancreatic adenocarcinomas, 2 neuroendocrine pancreatic tumours (NETs). Nine patients (24,32%) were excluded because of inconclusive biopsy results or other kind of lesions. The mean value of SH for pancreatic adenocarcinoma was 35,93 and for NETs 38,83 ($p<0,05$). The mean values of EUS-SWM were 45,86kPa for pancreatic adenocarcinomas and 20,59kPa ($p<0,05$).

Conclusion: In this prospective study we found a significant difference between SH and EUS-SWM in differentiating pancreatic adenocarcinomas and NETs. Semiquantitative assessment by strain ratio was higher in neuroendocrine tumors compared with pancreatic adenocarcinoma, which was discordant compared to the results of shear-wave. Further research is needed in this topic with a larger database in order to face the challenges in standardizing the EUS-SWM procedure in pancreatic lesions.

Keywords: endoscopic ultrasound (EUS) – endoscopic ultrasound elastography (EUS-EG) – solid pancreatic tumor.

6. QUANTITATIVE ASSESSMENT OF CONTRAST ENHANCED ENDOSCOPIC ULTRASONOGRAPHY (CE-EUS) WASHOUT RATE IN PREDICTING MALIGNANCY IN PANCREATIC SOLID MASSES: A PILOT STUDY

Voicu Rednic[1,2], Rareş Orzan[1,2], Cristina Pojoga[1,3], Ofelia Mosteanu[1,2], Claudia Hagiu[1,2], Andrada Seicean[1,2]

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Background & Aim: Contrast enhanced endoscopic ultrasound (CE-EUS) is a sensitive method to evaluate pancreatic solid masses, with arterial hypoenhancement in adenocarcinomas and hyperenhancement in case of inflammatory masses or neuroendocrine tumors. However, the importance of venous wash-out has been less studied.

The aim: to evaluate the diagnostic role of CE-EUS wash-out rate in the early and late venous phase based on quantitative analysis.

Methods: We prospectively analyzed patients from one center with solid pancreatic masses on CT scan who underwent conventional EUS followed by CE-EUS and EUS-fine needle aspiration. Quantitative parameters were generated by time-intensity curve analysis. A standardized region of interest inside the tumor was examined and the quantitative uptake of Sonovue was recorded. The analyzed parameters in the wash-out phase were: peak intensity between 25-30 seconds, uptake at 45 seconds – defined as early washout and uptake at 60 seconds – defined as late washout. The early and late washout rates were analyzed as a ratio compared to the peak and as decrease in absolute values on the time-intensity curve. The final diagnosis was based on surgery or EUS tissue acquisition results and 6 months follow-up.

Results: A total of 31 patients were included, 23 adenocarcinomas and 8 chronic pancreatitis patients. In adenocarcinomas the early wash-out was 80,3%±26,4% (absolute values -3,6±-7,1) and the late wash-out was 73±34,1% (absolute values: -6,9±-15,7), showing slow wash-out. In case of chronic pancreatitis, the early wash-out was 81,8±15,7% (absolute values: -7,4±-3,25) and late wash-out was 61,4±18,4% (absolute values: -15±6,16). There was no statistically significant difference between the adenocarcinomas and chronic pancreatitis group.

Conclusion: The washout rates between pancreatic adenocarcinoma and chronic pancreatitis were not different. The high standard deviation value at 60 seconds in the adenocarcinoma group shows the heterogeneity of the washout rate and further assessment based on different grading of adenocarcinoma is needed.

Keywords: contrast enhanced endoscopic ultrasound (CE-EUS) – solid pancreatic tumor – chronic pancreatitis.

7. ENDOSCOPIC ULTRASOUND-GUIDED PORTAL PRESSURE (EUS-PPG) MEASUREMENT IN PORTAL HYPERTENSION (PH) SYNDROME: A CASE SERIES

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Background: Portal Hypertension (PH) is a complex clinical syndrome. A correct diagnosis is important to guide prognosis and therapeutic individual approach.

The hepatic venous pressure gradient (HVPG) is the gold standard to determine portal pressure but it is invasive, needs training and dedicated equipment. Endoscopic ultrasound-guided portal pressure (EUS-PPG) is a new minimally invasive technique to measure portal pressure gradient and to look for subclinical signs of PH.

Patients: From October 2021 to April 2022, we studied in deep sedation 3 patients (mean age 55 years, 2 Female and 1 Male) having ultrasonographic and endoscopic signs of PH.

Results: Two female patients had negative history of liver disease. In these patients EUS-PPG measurement showed an increase of portal pressure value (respectively 17 and 10,6 mmHg, in one patient without evident collateral circulation) confirming real diagnosis of PH.

A following liver biopsy confirmed in one case a reticular fibrosis associated with steatosis and a toxic damage with hepatic sinusoidal obstruction and perisinusoidal fibrosis in the other.

The last patient had HBV-related cirrhosis with large oesophageal varices and severe PH at previous HVPG measurement (the wedged hepatic venous pressure WHVP was 31 mmHg and the free hepatic venous pressure FVHP 4 mmHg).

After long term antiviral and carvedilol treatment, PP measured by EUS approach was 20 mmHg (hepatic venous pressure was not available for anatomic reasons); for this variceal ligation was excluded. No complications were observed during the procedures.

Conclusions: EUS-PPG measurement is a new endoscopic technique useful for studying patients with PH syndrome.

It is safe and can represent an additional useful tool for the hepatologist in clinical practice.

In selecting patients and when non cirrhotic PH is suspected, the portal vein pressure evaluation alone could be enough for the diagnostic setting.

Keywords: portal hypertension – EUS-guided PPG – cirrhosis.

8. THE CONTRAST-ENHANCED ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION UTILITY IN THE DIAGNOSIS OF PANCREATIC CYSTS

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Purpose: Endoscopic ultrasound fine needle aspiration (EUS-FNA) cytology from an intracystic fluid is useful in differentiation of pancreatic cysts, with low sensitivity, which increases when the solid component is targeted. The results of contrast-enhanced guided EUS-FNA (CH-EUS-FNA) in the solid component are not known. We aimed to assess the diagnostic value of CH-EUS-FNA in enhanced mural nodules and discrimination between different cysts using contrast enhanced endoscopic ultrasound (CH-EUS).

Material and methods: The prospective study recruited patients with pancreatic cysts with unclear diagnosis on transabdominal imaging. The CH-EUS was followed by CH-EUS-FNA towards the most enhanced part of the cysts. The final diagnosis was based on surgery or the correlation between clinical history, cross-sectional imaging, echoendoscopic morphology, cystic fluid analysis and follow-up.

Results: Eighty- five patients with pancreatic cysts were evaluated. The mucinous cysts had wall arterial enhancement more often than non- mucinous cysts ($p<0.0001$), with 90.2% sensitivity and 70.6% specificity, but without importance for diagnosing malignancy. The CH-EUS-FNA from cystic fluid and mural nodules identified mucinous cysts and malignancy with 82.4% and 84.2% sensitivity and 92% and 100% specificity. Twenty-one cysts had solid components, and 13 were enhanced mural noduls with conclusive cytology in all cases and malignancy in 76.9%.

Conclusions: CH-EUS should be done in all PCN with solid component in order to avoid unnecessary EUS-FNA and to guide FNA for identification of malignanct cyst. The wall enhancement helped to differentiate mucinous from non-mucinous cysts.

Keywords: CH-EUS(contrast-enhanced endoscopic ultrasound) – EUS-FNA (endoscopic ultrasound fine needle aspiration) – endoscopic ultrasound – pancreatic cyst – mural nodule.

9. GALL BLADDER METASTATIC MELANOMA REVEALED BY CHRONIC DIARRHEA

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Introduction: Malignant melanoma incidence is rapidly growing worldwide. The gall bladder is known to be a possible site for melanoma metastases, but the endosonographic aspect has been rarely described. The prognosis is poor , with survival of 6 to 22 months, depending on age, synchronous/ metachronous gallbladder metastasis and location of primary melanoma.

Case presentation: In this case we describe a 55-year-old male, admitted to the hospital with chronic diarrhea and weight loss. Transabdominal ultrasound imaging with contrast revealed multiple liver hypoechoic, hyper-vascular lesions suggestive of liver metastasis. In the gall bladder there were polypoid hyper-vascular lesions attached to the wall, being of a compatible aspect with gall bladder metastasis.

There were no peripheral or abdominal lymph nodes. The coproculture was negative and the upper and lower gastrointestinal endoscopies proved multiple pigmented mucosal lesions located throughout the stomach, small bowel, and colon. Histologically these lesions were metastatic melanoma. The inspection of the tegument revealed a non-pigmented nodular lesion of the scalp (2.4/1.4 cm), adherent to the underlying structures and with an atypical vascular network on dermatoscopy, which proved to be a desmoplastic melanoma.

The patient followed chemotherapy and died two months later.

Conclusion: This is a rare case of desmoplastic melanoma located on the scalp and lacking the usual pigmentation. It was revealed only through the existence of the metastasis which were hyperpigmented and were clinically manifested through diarrhea as the only significant symptom, without bowel obstruction.

This happened most likely because of malabsorption. Liver and gall bladder metastasis were present.

This case reveals the importance of dermatological examination with dermatoscopy, even in skin-colored nodular lesions.

Keywords: desmoplastic melanoma – gallbladder metastasis – liver metastasis; diarrhea.

10. DIAGNOSTIC RESULTS COMPARISON OF ENDOSCOPIC ULTRASOUND FINE NEEDLE BIOPSY VERSUS FINE NEEDLE ASPIRATION IN FOCAL LIVER LESIONS

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Introduction: Accurate diagnosis in focal liver lesions is related to the possibility of performing histology diagnosis and immunohistochemistry. The endoscopic ultrasound- fine needle biopsy(EUS-FNB) or fine needle aspiration(EUS-FNA) represents the way of their sampling when percutaneous biopsy is limited by ascites or poorly accessible lesions or when concomitant pancreatic or gastric lesions should be approached by endoscopic ultrasound (EUS). However, the superiority of different needles of same size has not been established.

Aim: to compare the diagnostic accuracy and adequacy for histology of core obtained with EUS-FNB needle compared to FNA needle in focal liver lesions.

Material and Method: In this prospective one center study(January 2019 to Mars 2021) were included patients with left lobe hepatic focal lesions with contraindication for percutaneous liver biopsy or need for EUS for concomitant lesions. Each patient had a sequence of EUS-guided tissue acquisition with a sequence of one pass of 22G FNB (Franseen) needle followed by one pass of 22G EUS-FNA. Specimens were then reviewed separately by pathologist to determine the diagnostic and the adequacy for histologic diagnosis. The final diagnosis was based on EUS-FNB or EUS-FNA results or suggestive imaging of the primary lesion in case of negative biopsies during follow-up.

Results: Sixty biopsies (30 each with 22G FNB and 22G FNA needle) were obtained. Tissue adequacy and cellularity was greater for FNB samples (90% vs 63.3%,p=0.014 and 53 vs 39 cells/mm^3, p=0.0039). After processing, core tissue aggregates length was higher for the FNB versus FNA (12.1 vs 7.9 mm, p= 0.0085). EUS-FNB accuracy was 100% while EUS-FNA was 86.7%(p=0.038). No post-procedure complications were noted.

Conclusion: The 22G EUS-FNB needle proved as safe and better method of tissue acquisition diagnostic accuracy compared to 22G EUS-FNA in focal liver lesions.

The core aggregates length is higher for EUS-FNB than for EUS-FNA samples.

Keywords: focal liver lesions – EUS-FNB – EUS-FNB, diagnostic – adequacy.

11. DIAGNOSTIC ACCURACY OF INTRADUCTAL ULTRASOUND (IDUS) IN INDETERMINATE BILIARY STRICTURES IN A CHOLANGIOSCOPIC COHORT

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Introduction: Indeterminate biliary strictures (IBS) are a diagnostic challenge. Biliary strictures are indeterminate, when basic work up (i.e., CT, MRI, EUS +/- FNA/B, ERCP with brushing/biopsies) is not satisfactory. In the last years several new diagnostic techniques, such as Intraductal Ultrasound (IDUS), have been proposed in this scenario.

Aim and method: Aim of our study is to assess the diagnostic accuracy of IDUS compared to other techniques in our tertiary referral center in Turin, Italy. Diagnostic accuracy is the ability to correctly classify a stricture as malignant or benign.

We retrospectively analyzed data of patients with IBS, who underwent both IDUS and cholangioscopy from January 2018 to March 2022; based on clinical setting, targeted biopsies and/or cytology brushing were also performed. Patient data were extracted from a prospective collected database. IDUS findings were considered malignant in presence of asymmetric wall thickening, hypoechoic mass and/or vegetations in the bile duct. Final diagnosis was based on surgical pathology or clinical and radiological follow up of at least 6 months. Diagnostic accuracy was calculated with Fisher's exact test.

Results: 45 patients were enrolled, mostly male (71%) with a mean age of 67.86 ± 9.57 years. The majority of IBS were in the common bile duct (47%). Final diagnosis was malignant in 29 patients (65%), principally due to cholangiocarcinoma (20 patients, 44%). Cholangioscopic evaluation and IDUS showed the highest accuracies (respectively 93% and 85%); targeted biopsies and cytology had lower accuracy rates (respectively 75% and 50%). The difference between IDUS and cholangioscopy was non-significant ($p=0.31$), while IDUS versus cytology was statistically significant ($p<0.001$).

Conclusion: In our cohort, IDUS had high diagnostic accuracy in IBS. IDUS is useful to support the characterization of IBS bringing to a faster diagnosis reducing the demand for multiple interventions.

Disclosure: Claudio Giovanni De Angelis is a consultant for Olympus and Boston Scientific. All other authors have no conflict of interest.

Keywords: intraductal ultrasound – cholangioscopy – indeterminate biliary strictures.

12. RETROPERITONEAL NEUROGENIC TUMOR FINAL DIAGNOSIS: IS EUS FNA DIAGNOSTIC METHOD OF CONFIRMATION

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Aim: The value of EUS FNA versus surgical extirpation in retroperitoneal tumors (RT).

Methods: A cross-sectional database retrospective study from January 2012 till December 2021 performed to detect the number of RTs detected by abdominal ultrasound (US). Hospital abdominal US, computed tomography(CT), tumor markers testing(CEA, CA 19-9, chromogranin A), endoscopic ultrasound fine-needle aspiration(EUS FNA), conventional cytology slide analysis, surgical extirpation, pathohistological and immunohistochemical analysis were performed in all studied cases. EUS FNA was performed with 22 or 19 G needle entering two times through entire diameter of the RT for collection sampling by negative pressure applying suction moving the needle back and forth at least 10 times, placing samples on the pre-labeled glass for conventional cytology slides analysis. Surgical extirpation, pathohistological and immunohistochemical (chromogranin A, S100, vimentin) analysis followed cytology report to determine the RT origin.

Results: Database revealed 9 patients admitted to Department of Internal Medicine with detected RT. Six out of 9 patients were female aged between 40 to 55 years, with unremarkable tumor markers. Hospital abdominal US showed circumscribed oval irregular RT measured between 25 to 65 mm. The main symptom was back pain, one female signalized weight loss, nausea and vomiting suspicious for sphincter Oddi dysfunction. CT described tumors located near the aorta, between celiac trunk downward to the renal arteries ramification as hard expansive RT.Tissue sampling performed with EUS FNA and analyzed by conventional cytology were inconclusive. All patients were admitted to the surgical department for RT surgical extirpation. In addition pathohistological and immunohistochemical analysis confirmed RT as of neurogenic origin (5 ganglioneuromas, 3 paragangliomas and 1 neurofibroma).

Conclusion: The surgical extirpation of RT detected by either US or CT and in addition supported by pathohistological

analysis appears to be the best and necessary method of choice in retroperitoneal neurogenic tumor confirmation.

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13. NEW-ONSET DIABETES MELLITUS AFTER DIRECT ENDOSCOPIC NECROSECTOMY THROUGH EUS-GUIDED LAMS DRAINAGE: A PILOT STUDY

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Background: Walled-off necrosis (WON) is a common complication of severe pancreatitis and patients with necrotizing pancreatitis have an increased risk of developing diabetes mellitus (DM). The endoscopic treatment of WON consists of transgastric necrosectomy after application of a lumen-apposing metal stent (LAMS).

Aim: to assess the frequency of new-onset DM after endoscopic drainage through LAMS using a Hot AxiosTM Stent Device if obstruction or infection of the WON is present.

Methods: We included and retrospectively analyzed patients in one tertiary medical center who had developed WON after a severe episode of acute pancreatitis between October 2016 and April 2022. Necrosectomy was performed through application of LAMS with complete resolution of the WON. Blood glucose levels were monitored before endoscopic placement of the LAMS, one month and one year after its removal.

Results: Of 50 included patients (male-to-female, 33:17; mean age, 60.06±11.54) with Hot Axios stent drainage of WON secondary to necrotizing pancreatitis, 24% (12 patients) had pre-existing DM. The follow-up of one year was available in 19 patients and 21% of these patients developed DM one year after the stent's endoscopic removal, while 31% had pre-existing DM (p=0.011, Fisher's test).

Conclusion: Our study showed that a small number of patients without DM prior to endoscopic drainage using a Hot Axios Stent Device developed DM one year after endoscopic removal of the stent. Considering the small group of patients, further multicenter prospective studies on this topic are needed to predict the risk of developing DM after drainage of WON using LAMS.

Keywords: walled-off necrosis (WON) – LAMS (lumen-apposing metal stent) – diabetes mellitus – endoscopic ultrasound.

14. THE ROLE OF EUS-FNA IN THE DIAGNOSIS OF RETROPERITONEAL METASTASIS

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A 45-year-old Caucasian female, with no relevant past medical history, was admitted due to abdominal and back pain with one week of evolution. Physical examination revealed a soft and depressible abdomen, with pain on palpation in the left hypochondrium. Blood tests showed an elevation of inflammatory markers (C-reactive protein 180mg/L). Abdominal ultrasound revealed a heterogeneous lesion with 8 x 6 cm located in the left hypochondrium.

The abdominal computerized tomography scan confirmed the presence of a 7.5 x 5.5 x 6.5 cm mass in the left hypochondrium, posteroinferior to the tail of the pancreas and adjacent to the lesser curvature of the stomach. This lesion was ovulated, hypodense, without internal uptake of the contrast product but showing thickened and hyper uptake walls. However, it was not possible to establish the etiology of this lesion through these imaging exams. Thus, the patient underwent endoscopic ultrasound (EUS) that revealed a well-delimited, hypoechoic and heterogeneous lesion, with calcifications inside (Fig. 1). Endoscopic ultrasound fine-needle aspiration (EUS-FNA) was performed using a 22-gauge needle and a total of 3 passes were achieved. Aspirate smears revealed spindle cells with marked cytological atypia and abundant melanic pigment in the cytoplasm. The tumor cells were immunoreactive for Sox-10 and MELAN-A, confirming the diagnosis of melanoma. The patient was diagnosed with

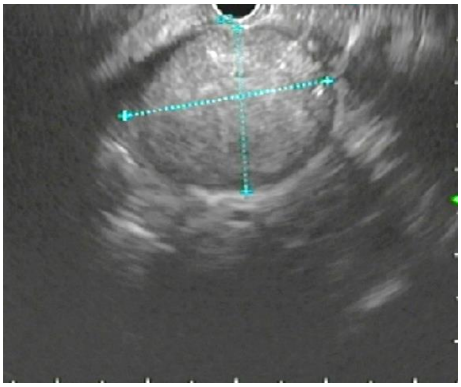

Fig. 1. Endoscopic ultrasound showing a retroperitoneal lymph node metastasis.

occult primary melanoma with retroperitoneal lymph node metastasis. No BRAF gene mutations were identified. She started treatment with nivolumab with favorable clinical and imaging evolution.

Despite advances in diagnostic imaging techniques and the use of tumor markers, the differentiation of retroperitoneal lesions remains problematic. This case highlights the potential role of EUS-FNA as an easy-to-use and safe device in the diagnosis workout of suspected lesions. Indeed, it provides cytological or pathological confirmation of benign or malignant disease.

15. DUODENAL DUPLICATION CYST - A CHALLENGING DIAGNOSIS

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A 55-year-old woman, with chronic hepatitis b virus infection, was admitted due to vomiting and epigastric pain with four days of evolution. Physical examination revealed a soft and depressible abdomen, with pain on palpation in the right hypochondrium. Blood tests showed an elevation of inflammatory markers (leukocytes 13 x 10^9/L, C-reactive protein 56 mg/L). Blood tests showed no relevant changes. The abdominal ultrasound revealed a cyst lesion with 64 × 34 mm between the gallbladder and the pancreatic head region, in the topography of the second portion of the duodenum, with no signs of hemorrhage or calcification. The abdominal computerized tomography scan confirmed the presence of a duodenal mass, predominantly endoluminal. Therefore, an esophagogastroduodenoscopy was performed and revealed gastric stasis and a bulging formation with normal mucosa close to the major duodenal papilla, causing stenosis not transposable with the endoscope. Endoscopic ultrasound was then performed and showed a cystic lesion (52 x 33 mm), with a small amount of debris inside and a wall in which three layers could be identified, compatible with the diagnosis of a duodenal duplication cyst (Fig. 1). No perilesional lymph nodes were detected. Biliary and pancreatic ducts and pancreatic parenchyma were normal. The patient showed progressive clinical improvement, so it was decided to maintain clinical surveillance.

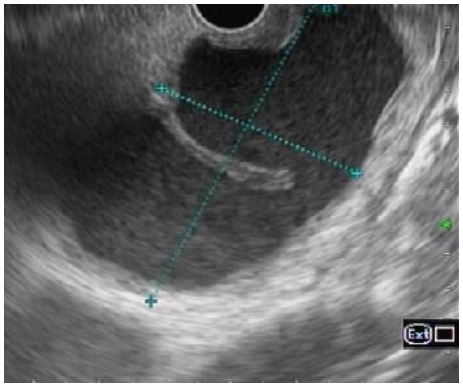

Fig. 1. Endoscopic ultrasound showing a duodenal duplication cyst.

Duplication cysts are rare congenital abnormalities that form during the embryonic phase of alimentary tract development. Less than 30% of all cases of intestinal duplications are diagnosed in adults. In addition, intestinal duplications in the duodenum are extremely rare and comprise less than 5% of all intestinal duplications. Because of their rarity, duodenum duplications can represent a diagnostic challenge. Endoscopic ultrasound is helpful in discriminating a duplication cyst from a solid mass. Indeed, the diagnosis can usually be made by the characteristic endoscopic and endosonographic appearance.

16. THE ROLE OF DYNAMIC CONTRAST HARMONIC IMAGING ENDOSCOPIC ULTRASOUND (CHI-EUS) AND CD105 AND CD31 IMMUNOSTAINING IN TUMOR ANGIOGENESIS ASSESSMENT ON PATIENTS WITH GASTRIC CANCER – A FEASIBILITY STUDY

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Introduction: Angiogenesis is a critical process for tumor growth and metastasis, it is now considered an important marker of disease prognosis and sensitivity to anticancer therapy. However, gastric cancer (GC) studies are rather scarce. CHI-EUS was proposed in this study as a useful method to assess GC vascularization patterns.

Material and Methods: Patients initially diagnosed with GC, only adenocarcinoma type, who subsequently performed CHI-EUS examinations before any treatment decision, were included in this study. Dedicated software named Vuebox (Bracco Imaging S.p.A., Milan, Italy) was used to quantitatively evaluate angiogenesis in the chosen regions of interest (ROI). As a result, this software generated automatically parameters derived from time-intensity curve (TIC) like peak enhancement (PE), rise time (RT), time to peak (TTP), wash in perfusion index (WiPI), ROI area, and others were compared to immunohistopathological data. CD105 and CD31 immunostaining was performed to calculate the vascular diameter (vd) and the microvascular density (MVD). The final results were compared with CHI-EUS parameters.

Results: A total of eighty CHI-EUS video sequences were assessed. Multiple high statistical correlations ($p<0.05$) were highlighted between TIC analysis parameters, MVD, and vd CD31. Also, strong correlations were found between tumor grade and CHI-EUS parameters, $p<0.005$. Differences in TIC parameters and immunohistochemical markers between the

group of patients without (M0) versus the group with (M1) metastasis were noted.

Conclusions: Our study demonstrated that GC angiogenesis assessed by CHI-EUS was a feasible method and may be considered for future studies based on TIC analysis.

Keywords: CHI-EUS – angiogenesis – gastric cancer.

17. PROGNOSIS ASSESSMENT OF CD44 EXPRESSION ON ENDOSCOPIC ULTRASOUND FINE NEEDLE BIOPSY PANCREATIC DUCTAL ADENOCARCINOMA SAMPLES

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Pancreatic ductal adenocarcinoma (PDAC) is ranked as the second cause of mortality cancer worldwide with a 5-year survival rate of 7-8%. One of the PDAC features is the intense fibrosis which enhances the growth of tumor cells and drives an epithelial-mesenchymal transition process with angiogenesis and hypoxia. The consequence is the uncontrolled proliferation of cancer cells, including pancreatic cancer stem cells (PCSC), which can enhance the metastatic potential.

Objective: The aim of this study is to assess the expression of CD44, which is a PCSC marker on pancreatic endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) specimens.

Material and Methods: A total of 31 patients diagnosed with pancreatic tumors within the Research Center of Gastroenterology and Hepatology of Craiova, Romania between 01.01.2021 and 31.12.2021 underwent EUS-FNB for diagnosis confirmation. After pathologic examination of the harvested tissue 22 patients were diagnosed with PDAC and further on underwent immunohistochemical staining for CD44 staining on the FNB samples.

Human CD 44 (clone DF 1485, Agilent Technologies Denmark, cod M7082) antibody was used. The slides were incubated with primary antibodies for 30 minutes at room temperature. Immunolabeling was visualized with Bond Polymer Refine Detection (DS9800) kit, incubated with post-primary for 8 min, polymer for 8 min, 3.3 ,- diaminobenzidine (DAB) for 5 min, and then with hematoxylin for 5 min. Immunolabeling for CD 44 in the study group was considered positive if more than 10% of tumor cells showed a present signal and negative if less than 10% of tumor cells were immunolabeled. The intensity of immunolabeling in positive cases was assessed as weak (1), moderate (2), and intensely positive (3). We also used normal pancreatic tissue, from the existing library of the Pathology Department.

Results: In ductal adenocarcinomas, the CD44 immunolabeling was heterogeneous, with variable intensity and a variable number of positive cells in the same case. All cases analyzed were CD44 positive. Compared to normal ducts, the ductal structures in pancreatic adenocarcinomas showed the same heterogeneous (variable) immunolabelling in terms of location and intensity of immunostaining. Well and moderately differentiated adenocarcinomas that formed tubular or papillary structures showed variable expression of CD44 in contrast with poorly differentiated or undifferentiated adenocarcinomas that had a more intense expression of CD44 ($p>0.001$). Also, CD44 moderately correlated with metastasis ($p>0.05$) and lymph node involvement ($p>0.05$).

Conclusions: At the subcellular level, basolateral membrane and cytoplasmic staining (in direct relation to the surrounding stroma and neighboring tumor cells) of CD44 in ductal adenocarcinoma could be correlated with tumor invasion and the unfavorable evolution of this type of carcinoma.

18. MALIGNANT INSULINOMA, A RARE CASE OF NEUROENDOCRINE PANCREATIC TUMOR

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Clinical Case Summary: We present the case of a 46 years old patient known with a personal pathological history of skin psoriasis and rheumatoid arthritis hospitalized for repeated episodes of hypoglycemia manifested by sweating, confusion, and speech disorders, symptoms which improved after carbohydrate administration. The blood test revealed a high-level of insulinemia (71µU/ml with a normal range of 2.6-24.9). Standard abdominal ultrasound highlighted a 2 cm round tumor in the head of the pancreas, with no other visible lesions.

Contrast-Enhanced Endoscopic Ultrasound (CE-EUS) of the pancreatic mass was performed and showed a 2.1/ 1.9 cm round tumor with an irregular shape, high enhancement in the early arterial phase, and discrete washout in the late venous phase. EUS-Guided Fine Needle Biopsy (EUS-FNB) was performed with tissue sampling for histopathological and immunohistochemistry (IHC) examination. Pancreatic specimens showed malignant proliferation with a growth pattern in the form of anastomosed cords, trabeculae, and solid islands with neuroendocrine features (at least 30% of the tumor surface) that associate a moderately differentiated G2 carcinoma component with tubular-glandular growth pattern. Tumor proliferation has fibrodesmoplastic stroma, intra and perineural invasion, and intravascular emboli. Synaptophysin, CK7, and P40 were diffusely positive and the cell proliferation index ki67 was positive with a value of 10-15. IHC appearance suggested for mixed pancreatic ductal neuroendocrine carcinoma with an intermediate degree of G2 anaplasia.

Malignant insulinoma is rare, with an incidence of 0.17 per million person-years. By using EUS-FNB we managed to

hamper the existing flaws of previously used EUS-FNA and provided enough tissue to allow IHC studies that managed to shift the patient's management.

19. AN ACCURATE DIAGNOSIS OF PANCREATIC CASTLEMAN'S DISEASE MADE PREOPERATIVELY BY ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE BIOPSY

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An accurate diagnosis of Pancreatic Castleman's disease made preoperatively by endoscopic ultrasound-guided fine needle biopsy

Castleman's disease is a rare lymphoproliferative disorder of unknown etiology and has mainly three pathologic variants. Primary pancreatic Castleman's disease is very rare with only a handful of cases reported in the literature. Here, we are reporting one such rare case of pancreatic Castleman's disease which was accurately diagnosed preoperatively by endoscopic ultrasound-guided fine needle biopsy (EUS-FNB).

A 38-year-old man presented with epigastric pain. On evaluation, he was found to have a hypervascular mass of approximately size 4.7x4.1cm in the head of the pancreas. EUS showed a 40x30mm well-defined isoechoic pancreatic head lesion with increased vascularity, suspicious of pancreatic Neuroendocrine tumor. EUS FNB specimen showed mostly blood clots admixed with mature lymphoid cells. There were 4 lymphoid follicles with regressive germinal centers, one of the follicles showed penetrating vessels with hyalinization of the wall. Foci of calcification and occasional stromal fragments were noted. Pancreatic ductal epithelial cells and acinar cells were not identified. IHC demonstrated CD23 positivity, which highlights the dendritic cells around the follicles giving an onion skinning appearance. Scattered plasma cells (IgG4 positive(2-3%) were also seen within the follicles. All these features were consistent with unicentric Castleman disease, hyaline vascular type. Subsequently, he is planned for Whipple's surgery.

This is probably the second case where a positive yield of EUS-FNB for the preoperative diagnosis of Castleman's disease was made. Preoperative diagnosis of Castleman's disease is essential for reassurance, prognostication, avoidance of unnecessary neoadjuvant therapy, and appropriate future elective surgical planning. Castleman's disease should be considered in the differential diagnosis of pancreatic masses with increased vascularity. Radiographic and endosonographic characteristics of Castleman's disease are although non-specific and may sometimes give a clue for diagnosis. EUS-FNB may be a useful tool in establishing a pre-operative diagnosis.

20. DIAGNOSTIC VALUE OF ENDOSCOPIC ULTRASOUND (EUS) GUIDED FINE NEEDLE BIOPSY (FNB) FOR DIFFUSE GASTRIC CARCINOMA WITH NEGATIVE ENDOSCOPIC BIOPSY-A CASE REPORT

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Background & Aim: Diffuse gastric carcinoma is a rare disease entity, often characterized by early age of the onset and sometimes attributable to heritable genetic mutations. Overall prognosis is usually poor due to diagnosis at late stages. Histopathological examination reveals that the gastric mucosa is often spared from tumor cell invasion, therefore, conventional superficial endoscopic biopsy sampling is negative.

The aim of this case presentation was to emphasize the role of endoscopic ultrasound guided fine needle biopsy (EUS-FNB) in patients with diffuse gastric carcinoma and negative endoscopic biopsy findings.

Materials and Methods: 47-year-old woman was admitted to our hospital complaining of 3 months history of postprandial vomiting, fatigue, dysphagia related to solid food, and loss of appetite which led to weight loss. Before admission in the hospital she performed several upper endoscopies that revealed a narrow gastric lumen, moderately diffuse inflammation and edema. Repeated conventional biopsies were performed but the histopathological results were negative for malignancy. The patient underwent an abdominal computer tomography (CT) that revealed a thickened gastric wall at the level of the antrum and pylorus. In the current admission blood samples were taken and EUS-FNB using a 22-gauge Franseen-tip core biopsy needle was used.

Results: Under EUS guidance we observed a thickened gastric wall of 1.1 cm mainly with a thickened submucosa and muscle layer. EUS-FNB with three passes was performed from the thickened gastric wall. The histopathological examination revealed the presence of poorly cohesive diffuse gastric carcinoma with signet-ring cell G3. The patient was referred to the surgery department were a total gastrectomy followed by esophagojejunostomy with Roux-en-Y reconstruction was performed.

Conclusion: EUS-FNB might contribute to the accurate diagnosis of diffuse gastric carcinoma in cases where standard endoscopic biopsy fails to confirm malignancy.

Keywords: diffuse gastric carcinoma – endoscopic ultrasound – EUS-FNB.

21. WET-SUCTION VERSUS SLOW-PULL TECHNIQUE FOR ENDOSCOPIC ULTRASOUND-GUIDED FINE-NEEDLE BIOPSY OF SOLID LESIONS: A MULTICENTER, RANDOMIZED, CROSS-OVER TRIAL

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Background: Limited data on EUS-FNB comparing wet-suction (WS) and slow-pull (SP) found no difference in cellularity scores and blood contamination based on technique utilized. We aimed to compare histological yield, sample quality, and diagnostic accuracy of EUS-FNB performed with WS versus SP technique.

Methods: Consecutive patients with solid lesions ≥1cm who underwent EUS-FNB with a 22G fork-tip or Franseen needle were enrolled in a multicenter, randomized, single-blind, cross-over trial. Lesions were sampled with both WS and SP alternating the sampling techniques in a randomized fashion. Samples taken during 1st/3rd and 2nd/4th passes were placed in separate vials and processed as standard histology. The primary aim was the histologic yield, defined as the rate of samples containing a tissue "core". Secondary endpoints were: sample quality in terms of tissue integrity and blood contamination measured using predefined scores; diagnostic accuracy measured against the final diagnosis after resection surgery or a clinical follow-up of at least 6 months.

Results: 210 patients (men 55.5%; mean age 65.9) with 146 pancreatic and 64 nonpancreatic lesions were analyzed. A tissue core was retrieved in 150 (71.4%) and 129 (61.3%) cases using the WS and the SP, respectively (p=0.03). Mean tissue integrity score was higher using the WS (2.6±0.6 vs 2.5±0.5, p=0.02). Blood contamination was higher using the WS (2.1±0.8 vs 2.4±0.5, p<0.001). Similar results were observed for nonpancreatic lesions. Differently, for pancreatic lesions tissue core rate and tissue integrity score were similar but with a higher blood contamination using the WS. Diagnostic accuracy was similar in the two groups, overall and in subgroups of pancreatic and nonpancreatic lesions.

Conclusions: For pancreatic lesions, WS negatively impacts blood contamination of EUS-FNB samples without significantly influencing diagnostic accuracy. Differently, EUS-FNB of nonpancreatic lesions could be performed using WS, but the risk of higher blood contamination should be further evaluated.

Keywords: EUS-FNB – wet suction – slow pull.

22. ENDOSCOPIC ULTRASOUND-ASSISTED CHOLECYSTOGASTROSTOMY (EUS-CG) IN A POOR SURGICAL CANDIDATE.

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We present a videocase of a 64 years old lady presenting to the emergency department with abdominal pain in the upper-right quadrant and fever (39°C); at physical examination the Murphy's sign was positive and blood tests showed increased white blood cell count (11.3 x 10^9/L), C-reactive protein above the upper limit (113 mg/L) with a slight increase in transaminases and GGT (respectively x2 and x7 the normal values).

Patient had a history of multiple sclerosis, urothelial cancer with bone metastases and peritoneal carcinomatosis, and she was recently treated for a lithiasis and cholangitis with ERCP, stones extraction and plastic stent placement in the common bile duct (CBD).

Abdominal ultrasound showed an enlarged gallbladder with thick, striated hyperechoic walls and multiple stones; the plastic stent correctly in place in the CBD.

Antibiotic therapy was started and, since the patient was considered unfit for surgery due to the peritoneal carcinomatosis, she was referred for an endoscopic ultrasound (EUS)-guided gallbladder drainage.

A cholecysto-gastrostomy with electrocautery-enhanced lumen apposing metal stent (LAMS) was placed between gastric antrum and gallbladder, and a double pigtail plastic stent was then placed through the LAMS to reduce the risk of migration of the LAMS and to ensure long-term patency.

Procedure was uncomplicated and patient's conditions and blood tests rapidly improved; she was finally discharged after 9 days.

23. THE APPLICATION OF "EURCP" CONCEPT JUST IN TIME

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The video presents a case of a 78-year-old male with a previous laparoscopic cholecystectomy for biliary lithiasis. During clinical follow up, onset of persistent abdominal pain with fever; in blood tests transaminases and amylase were regular, while GGT 120 IU/mL (x3-4 ULN) and ALP 400 IU/mL (x3 ULN). MRI showed obliterating tissue in the middle part of the common bile duct (CBD).

To characterize the mass, Endoscopic Ultrasound (EUS) + Endoscopic retrograde cholangiopancreatography (ERCP) + Intraductal Ultrasound (IDUS) + cholangioscopy (the "EURCP" concept) were planned. In EUS view obliterating tissue was evident in the CBD with vascularization on e-flow, mass confirmed also in IDUS; then, cholangioscope was inserted with evidence of a mass with papillary and micropapillary aspect. We also performed SpyBite biopsies; on histological examination, intraductal papillary neoplasm of the bile duct (IPN-B) with high grade dysplasia came out. Finally, a plastic biliary stent was placed.

We sent the patient to surgeon, that indicated biliary resection + biliodigestive anastomosis; on pathological examination, adenocarcinoma with papillary and micropapillary growth rose on IPN-B with high grade dysplasia (pT1-N0) emerged; lymph nodes were negative, resection margins disease free. In the next oncological consult, no indication for CT or RT.

The combination of EUS and ERCP in the same session, the so called "EURCP" concept, is useful in one-step diagnostic procedure and cost-effective management of biliopancreatic diseases.

24. EUS-GUIDED CHOLEDOCHO-DUODENOSTOMY USING A LUMEN-APPOSING METAL STENT (LAMS)

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We present a case of 73 years-old Caucasian male with a medical history of dyslipidemia and a previous endovascular repair of abdominal aortic aneurysm.

On January 2022, due to epigastric pain, the patient underwent abdominal ultrasound which showed a suspect pancreatic mass; 7 days later a CT-scan revealed a hypodense lesion of 43 mm, between pancreatic head and body, with multiple pathologic lymph nodes in the peripancreatic tissue. The lesion surrounded the upper mesenteric vein with 2 cm extended neoplastic thrombosis. Blood tests showed increased levels of total and direct bilirubin (bilirubin 28.4/19.9 mg/dl), transaminases (AST/ALT 101/110 IU/L) and GGT (103 IU/L).Therefore, EURCP (sequential EUS+ERCP) was scheduled: fine needle biopsy (FNB) of the pancreatic mass was performed with a 22 gauge FNB needle with Franseen tip ("slow-pull" technique), but the subsequent attempt of ERCP failed because of difficult cannulation of the common bile duct (CBD).

Then, a second attempt of ERCP was tried with a second failure in the cannulation of the CBD; since the histology on FNB confirmed a malignancy (pancreatic adenocarcinoma), we went for an EUS-guided biliary drainage with a lumen apposing metal stent (LAMS) during the same procedure. EUS showed a dilated common bile duct of 14.6 mm above the pancreatic mass; the puncture with electrocautery delivery system was performed from duodenal bulb into CBD, and a 8 mm x 6 mm LAMS was successfully released. A plentiful dark bile flow through the LAMS in duodenum confirmed the proper placement of the LAMS and the patency of the choledocho-duodenostomy; procedure was uncomplicated.

25.PANCREATIC INTRADUCTAL ULTRASOUND IN CHRONIC PANCREATITIS: A MONOCENTRIC EXPERIENCE

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Strictures of the main pancreatic duct (MPD) are usually developed in the setting of chronic pancreatitis (CP), due to acute or chronic inflammation with subsequent fibrosis [1,2]. According to the Rosemont criteria, the dilatation of MPD and the finding of its hyperechoic margin are minor criteria for the echo endoscopic (EUS)-based diagnose of PC [3].

Endotherapy could be useful to bypass MPD strictures reducing the pain related to ductal obstruction. Ancillary technique such as the Intraductal Ultrasound (IDUS) of the MPD could represent an important tool to better define the course of MPD, highlighting the nature of the strictures and the echogenicity of the margin.

In our tertiary academic center, between November and December 2021 we perform twice the IDUS of MPD to better define its outline in a setting of CP in the first case and in a mass forming groove pancreatitis in the second one.

In both cases, a 61-year-old man with a CP due to a story of severe alcohol intake and smoking habit and an 81-year-old man with a story of IgG4-related recurrent acute pancreatitis, multiple stentings were performed in order to resolve recurrent acute pancreatitis (AP) due to the presence of multiple stones in the biliary and pancreatic duct.

During another replacement of pancreatic plastic stent, an MPD-IDUS was performed with the evidence of hyperechogenic, thickened (up to 6 mm), asymmetrical wall with irregular outline as could be observed in severe MPD's inflammation; the parenchyma of the pancreas was characterized by an accentuation of the physiological lobulation as could be observed in CP.

In our experience, MPD-IDUS has become an ancillary tool useful to better define the irregularity of the course of MPD, detected by other imaging techniques, and the changes in the pancreas parenchyma in a setting of CP.

Keywords: chronic pancreatitis – main pancreatic duct – intra ductal ultrasound.

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26. ENDOSCOPIC RESECTION OF THE AMPULLARY LESION WITH AN EXTENSION IN THE MAIN BILIARY DUCT: A METHOD OF TREATMENT OF RECURRENT ACUTE PANCREATITIS

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Case report: A 45-year-old patient has presented with recurrent episodes of acute pancreatitis of unknown etiology. After one of the episodes cholecystectomy was made and ERCP was performed. After the last episode of acute pancreatitis, an adenoma of papillae Vateri which is showing a lateral extension without invasive signs on area of about 2x3 cm was visualized with a duodenoscope. Endoscopic ultrasound confirmed a lesion limited to the mucosa and submucosa with a 4.6 mm intra-biliary extension and main bile duct dilatation up to 11mm. There were no signs of invasion, adenopathy and pancreatitis. ERCP was performed, which excluded intra-biliary involvement or lithiasis. Endoscopic piecemeal resection of adenoma from periphery with submucosal injection of Geloplasma, methylene blue and adrenaline was performed. Afterwards, pancreatic duct was identified and 0.035 Jagwire guide was placed. Soft coagulation was made on the entrance of the pancreatic duct, the edges of the mucosectomy and on the entrance zone of main biliary tract on the unresectable fragments of adenoma. Complementary coagulation and hemostasis of a bleeding vessel was made. Closure of the lower part of the mucosectomy, insertion of 7 French pancreatic prosthesis and then the insertion of self-expandable metal stent (SEMS; 10 mm diameter, 4cm length) was performed. There were no complications observed during the procedure or the recovery phase. Histology showed adenoma with a low-grade dysplasia. Extraction of the prosthesis and biopsies of the resected site were made after 2 months. No tumor was found on histology. 6 months after the procedure the patient is symptom-fee. Control duodenoscopy is planned in a two-month period.

Conclusion: Papillary adenoma without the signs of malignancy with short intra-biliary extension up to 5mm is amendable to complete endoscopic

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27. ADVERSE EVENTS ENCOUNTERED DURING 20 YEARS OF ENDOSCOPIC ULTRASONOGRAPHY: WHAT TO EXPECT WHEN ENDOSCOPY DAY IS NOT SUCH A GOOD DAY?

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Aims: Endoscopic ultrasound (EUS) is widely accepted as a safe, minimally invasive and effective procedure. Even though a number of adverse events (AE) are associated with EUS procedures, the overall incidence is low. Interventional EUS-guided techniques are associated with higher incident rates when compared with routine EUS. The aim of this study was to comprehensively assess the AE which might be associated to routine EUS with or without fine-needle aspiration (FNA) or fine-needle biopsy (FNB) during an extensive period of time.

Methods: This multi-centric study is a retrospective analysis of a prospectively maintained database of patients who underwent EUS for the evaluation of lesions located within the gastrointestinal tract and the proximal organs. Study data base recorded: patients' demographics, referral details and indications, provisional diagnosis, management plan, site/number of EUS-FNA/FNB passes, pathology diagnosis, technical success, AE. AE related to sedation and/or anesthesia, which are not specific to EUS, were not included. Prior to all EUS procedures, pre-existing hematological conditions (coagulopathy, thrombocytopenia, intake of thienopyridines) were excluded.

Results: A total of 2935 patients undergoing EUS between 2001-2021 were included, out of which 1880 were diagnostic EUS and 1052 EUS-FNA+FNB (80% FNA and 20 % FNB, respectively). Most complications occurred during the first 7 days after EUS-FNA/FNB or pseudocyst drainage. The main AE recorded during the study period were: mild acute pancreatitis, retroperitoneal bleeding, subcapsular hematoma, peritonitis, abscess, myocardial infarction, biliary peritonitis, significant bleeding, superinfected pseudocysts. A total of 50% of these patients recovered with conservatory therapy whilst 33% required surgical intervention. Two deaths were registered during the first week after the EUS procedures, in ASA III/IV patients.

Conclusions: EUS is characterized by high technical success rates and low rates of adverse events. Nevertheless, endoscopists performing EUS procedures should be conscious of the associated adverse rates and acknowledge the related risk factors in order to improve EUS periprocedural techniques.

Keywords: Endoscopic ultrasound, Fine needle aspiration, Fine needle biopsy

28. DEEP LEARNING FOR PANCREAS PATHOLOGY

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The accuracy of pancreatic cancer (PC) diagnosis has been greatly improved by endoscopic ultrasound -guided fine needle biopsy (EUS-FNB). The specimens obtained can be used for molecular profiling or immunohistochemistry. However, in certain cases, the diagnosis of PC remains a challenge. The recent advent of digital pathology with whole-slide imaging (WSI) has revolutionized clinical research and daily practice, especially when enhanced by artificial intelligence (AI) techniques, based on novel convolutional neural network models for automated diagnosis. The aim of this review was to assess the possible applications of AI used for pathology analysis and automated confirmation of the diagnosis based on EUS-FNB samples, obtained during the initial work-up of patients.

Artificial intelligence has been used to assist pathologists and endoscopists in the evaluation of pancreatic lesions with encouraging results. Through a deep learning (DL) model, the diagnosis of PC was assessed on histopathological whole-slide images with successfully detection in difficult cases of isolated or low volume tumor cells. Furthermore, a DL method applied on stereomicroscopic images with marked core tissue seemed to be comparable with macroscopic onsite evaluation done by experts.

Computer models have been shown to be helpful to both pathologists and gastroenterologists who perform EUS, not only in improving the learning curve, but also in solving difficult cases. However, there is a lack of data concerning pancreas pathology, although the method has been applied in other digestive cancers. The benefit of AI for pathology analysis of EUS-FNB samples should be evaluated in future prospective, multicentric studies.