2022-RA-779-ESGO HOW FREQUENTLY BENIGN UTERINE MYOMAS APPEAR AS SUSPICIOUS SARCOMAS ON ULTRASOUND EXAMINATION

[1]Nabil Manzour, [2]Stefano Guerriero, [3]Nieves Cabezas, [4]Patricia Diaz, [1]Ana Lopez-Pincazo, [3]Ana Redondo, [5]Serena Springer, [2]Mariachiara Pagliuca, [6]Maria Angela Pazcual, [7]Enrique Chacon, [8]Felix Boria, [1]Jose Angel Minguez, [8]Teresa Castellanos, [8]Daniel Vazquez, [1]Julio Vara, [1]Isabel Brotons, [1]Juan Gonzalez de Canales, [8]Luis Chiva, [1]Juan Luis Alcazar. *[1]Gynecology, Clinica Universidad de Navarra, Pamplona, Spain; [2]University of Cagliari, Cagliari, Italy; [3]Hospital Universitario Virgen Macarena, Sevilla, Spain; [4]Fundación Hospital Calahorra, Calahorra, Spain; [5]Department of Medical, Surgical and Health Sciences, University of Trieste, Trieste, Italy; [6]Institut Universitari Dexeus, Barcelona, Spain; [7]Gynecology, Clinca Universidad de Navarra, Pamplona, Spain; [8]Gynecology, Clinica Universidad de Navarra, Madrid, Spain*

10.1136/ijgc-2022-ESGO.162

Introduction/Background To determine the percentage of benign myomas that appear as suspicious for uterine sarcoma on ultrasound examination

Methodology Prospective observational multicenter study (June 2019-December 2021) comprising a consecutive series of patients with histologically proven uterine myoma after hysterectomy or myomectomy who underwent transvaginal and/or transabdominal ultrasound prior to surgery. All ultrasound examinations were performed by expert examiners. MUSA criteria were used to describe the lesions. Suspicion of sarcoma was established when three or more sonographic features described by Ludovisi et al as frequently present in uterine sarcoma were present. These features were no myometrium visible, irregular cystic areas, non-uniform echogenicity, irregular contour, cooked appearance and color score 3–4. In addition, the examiners had to classify the lesion as suspicious by her/his impression, independently of the number of features present.

Results 651 women were included. Median maximum diameter of the myomas was 48 mm (range: 10- 263 mm). 266 (41%) of the patients had more than one myoma. Using the criterion of > 3 suspicious features, 24 (3.7%) of the myomas had suspicious appearance. If we had used a criterion of > 2 features, this figure increased to 62 (9.5%) cases. By subjective impression, the examiners considered as suspicious 35 (5.4%) cases (18 cases had > 3 suspicious features and 29 cases had > 2 suspicious features)

Conclusion About 4–10% of benign uterine myomas may exhibit sonographic suspicion of sarcoma. This figure is not negligible.

2022-RA-855-ESGO EXTERNAL VALIDATION OF THE ADNEX MODEL TO TRIAGE ADNEXAL MASSES IN GREECE: A TERTIARY CENTER STUDY CONDUCTED BY NON-EXPERT SONOGRAPHERS

Christos Anthoulakis, Stavros Bisxiniotis, Dimitrios Zouzoulas, Dimitrios Tsolakidis, Kimon Chatzistamatiou, Vasilis Theodoulidis, Sotiris Pitis, Pinelopi Ioannidou, Antigoni Pana, Iakovos Theodoulidis, George Pados, Grigoris Grimbizis. *st Department of Obstetrics and Gynecology, AUTh, Thessaloniki, Greece*

10.1136/ijgc-2022-ESGO.163

Introduction/Background To externally validate the Assessment of Different NEoplasias in the adneXa (ADNEX) model and evaluate its performance in differentiating benign from malignant adnexal masses. This study aimed to assess the diagnostic accuracy of the ADNEX model in a tertiary center in Greece.

Methodology A retrospective analysis of prospectively collected single-center university hospital data was performed from 2019 to 2022 by non-expert, although IOTA (International Ovarian Tumor Analysis Group) certified, sonographers. All patients were examined by transvaginal and transabdominal ultrasonography. Serum CA125 levels were measured and the diagnostic performance of the ADNEX model was assessed with CA125 as a predictor.

Results We retrieved data from 91 patients with 92 adnexal masses, of which 29 were excluded based on IOTA Simple Descriptors (SD) and Simple Rules (SR). Of the 62 patients with 62 adnexal masses included, 22/62 (35.5%) had benign and 40/62 (64.5%) had malignant tumors. Empirical area under the receiver operating characteristic curve (AUC) for the distinction between benign and malignant tumors was 0.75, sensitivity was 1.0, specificity was 0.5, precision was 0.784, negative predictive value was 1.0, false positive rate was 0.5, false negative rate was 0.0, and diagnostic accuracy was 0.823. Data follow a degenerate distribution and imply perfect decision performance.

Conclusion Our findings suggest that, when used by non-experts, IOTA certified sonographers, the ADNEX model tends to overestimate the probability of malignant adnexal masses. The aforementioned accurately reflect the weaknesses of medical training and health care system in Greece.

2022-RA-872-ESGO PERCUTANEOUS UTERINE NEEDLE BIOPSY WITH MICROSCOPIC AND ARRAY-CGH ANALYSES IN PATIENTS WITH SUSPICIOUS MYOMETRIAL TUMORS ON MRI: A PROSPECTIVE STUDY

[1]Jeremy Smadja, [1]Vincent Servois, [2]Gaelle Pierron, [3]Sophie El Zein, [4]Enora Laas, [1]Toulsie Ramtohul, [4]Dimitri Tzanis, [5]Sarah Watson, [4]Sylvie Bonvalot. *[1]Department of Interventional Radiology, Institut Curie, PARIS, France; [2]Laboratory of Somatic Genetics, Institut Curie, PARIS, France; [3]Department of Pathology, Institut Curie, PARIS, France; [4]Department of Surgical Oncology, Institut Curie, PARIS, France; [5]Department of Medical Oncology, Institut Curie, PARIS, France*

10.1136/ijgc-2022-ESGO.164

Introduction/Background Preoperative diagnosis of uterine tumors is of utmost importance to avoid inadvertent morcellation of leiomyosarcoma (LMS) and unnecessary hysterectomy in childbearing patients. There are no pathognomonic criteria for malignancy on Magnetic Resonance Imaging (MRI). The diagnosis of malignancy includes microscopic and genomic analyses with array-Comparative Genomic Hybridization (CGH). To date, no study has evaluated preoperative percutaneous uterine needle biopsy (PUB) with microscopic examination (M-PUB) and array-CGH analyses (MCGH-PUB).

Methodology This is a prospective single-center cohort study including all consecutive patients who had uterine LMS suspicion on MRI and for whom a PUB was performed. Microscopic and array-CGH analyses with genomic index (GI) count for myometrial tumors were performed in order to guide the therapeutic strategy. Smooth muscle tumors of uncertain malignancy potential (STUMPs) with a GI superior to 15 were assessed malignant, as well as tumors with a complex genomic profile (GI superior to 30 and/or malignant profile). Preoperative diagnoses based on M-PUB and MCGH-

PUB were compared to the postsurgical pathological specimen or follow-up for non-operated tumors.
Results From November 2016 to February 2022, 34 patients were included. Based on surgical specimen (n=23) or follow up (n=11, including 4 metastasis), the final diagnoses were: 11 sarcomas and 23 non-sarcomas including 22 LM and one inflammatory myofibroblastic tumor[JS1] . The median follow-up was 12 months (IQR: 6–37). The diagnostic accuracy of M-PUB and MCGH-PUB were 94% and 100%. The sensitivity, specificity and Negative Predictive Value of MCGH-PUB were 100%, 100% and 100%. A high GI was significantly associated with malignancy (p<0·001). Genomic analyses allowed correct malignancy upgrade for four tumors after suspicious microscopic examination. There was no PUB complication and no dissemination on the biopsy track.
Conclusion MCGH-PUB is safe and accurate to discriminate pre operatively benign tumors from uterine sarcoma.

2022-RA-899-ESGO ELECTRODE BIOCHIPS COUPLED TO ISOTHERMAL AMPLIFICATION LAMP TECHNIQUE IN DIAGNOSTICS OF CERVICAL PRECANCER

[1]Martin Bartosik, [2]Milan Anton, [1]Nasim Izadi, [1]Ravery Sebuyoya, [1]Ludmila Moranova, [1]Roman Hrstka. *[1]Masaryk Memorial Cancer Institute, Brno, Czech Republic; [2]Univ. Hosp. Brno and Medical Faculty Masaryk University, Brno, Czech Republic*

10.1136/ijgc-2022-ESGO.165

Introduction/Background Persistent infection with high-risk human papillomavirus (hrHPV) is a major etiological factor of cervical cancer. Hence, the effectivity of cytological screening can be improved by the implementation of hrHPV tests [1]. Current methods of HPV detection frequently involve expensive reagents and instrumentation or need for skilled personnel. Electrochemical methods of detection may address these challenges since they offer rapid detection times and require small, inexpensive instrumentation that is simple to operate.
Methodology We compared two different bioplatforms. Both utilized loop-mediated isothermal amplification (LAMP) to amplify HPV DNA from two most oncogenic HPV types, HPV16 and HPV18, taking 30–40 mins. Then, we used capture probes to bind amplified DNA, followed by an electrochemical detection using peroxidase reaction.
Results Using magnetic beads, we detected HPV DNA directly from crude lysates of cervical cancer cell lines (CaSki, SiHa, HeLa) and from 19 clinical samples (patients with high-grade squamous intraepithelial lesions or healthy controls), without DNA extraction step [2]. Detection was possible from as little as 10 cells. We obtained excellent concordance of our assay with PCR, reaching 100% sensitivity for both genotypes, 81.82% specificity for HPV 16 and 94.12% specificity for HPV 18. Later, we omitted magnetic beads to detect HPV directly on gold electrodes, obtaining very good sensitivity and specificity when determining HPV16/HPV18 infection in 15 clinical samples when compared to the PCR [3].
Conclusion Electrochemical detection might be a useful tool in cervical (pre)cancer diagnostics due to its low cost, speed, simplicity, and high sensitivity. Support from AZV NU21–08–00057, MH CZ – DRO (MMCI, 00209805) and BBMRI-CZ no. LM2018125 is acknowledged. References: (1) Koliopoulos et al., Cochrane Database Syst Rev. 2017, 8, CD008587. (2) Izadi et al., Anal. Chim. Acta 2021, 1187, 339145. (3) Sebuyoya et al., Biosens. Bioelectron. X, 2022, submitted.

2022-RA-900-ESGO PERFORMANCE OF A LAMP-BASED ELECTROCHEMICAL BIOASSAY FOR DETERMINATION OF HIGH-RISK HPV INFECTION IN CLINICAL SETTINGS

[1]Milan Anton, [2]Ludmila Moráňová, [2]Roman Hrstka, [2]Martin Bartošík, [1]Luboš Minář. *[1]Dept. Obstet. Gynecology, Univ. Hosp. Brno and Medical Faculty Masaryk University, Obilni trh 11, 602 00 Brno, Czech Republic; [2]Research Centre for Applied Molecular Oncology (RECAMO), Masaryk Memorial Cancer Institute, Žlutý kopec 7, 656 53 Brno, Czech Republic*

10.1136/ijgc-2022-ESGO.166

Introduction/Background Persistent infection with the high-risk types of HPV is considered a crucial initiating factor in cervical carcinogenesis. Tests detecting the presence and especially the activity of HPV infection offer a new quality to screening and diagnostics. The limitation of these tests is, however, the price. Standardly used PCR tests are time consuming and instrument-intensive. A perspective alternative, the LAMP isothermal amplification coupled to an electrochemical detection, is presented.
Methodology We developed an assay for parallel detection of two most oncogenic high-risk HPV types, HPV 16 and HPV 18, by combining loop-mediated amplification (LAMP) of viral DNA, its separation using magnetic beads and detection with an electrochemical technique – amperometry – at carbon-based electrode chips.
Results Optimization of the method was first published on pilot files with a small number of cases.[1] Later, we carried out a small clinical study using electrochemical LAMP-based assay for detection of HPV 16/18 DNA in LBC samples obtained from 61 women undergoing conisation for cervical precancerous lesion.[2] HPV 16 and 18 assays were performed by LAMP isothermal amplification combined with electrochemical reading. The results were confirmed by PCR amplification with gel electrophoresis and two commercial HPV assays (Cobas and INNO-LiPA). The best concordance was obtained with the PCR, reaching very good specificity for both genotypes (>93%) and positive and negative predictive values over 90%.
Conclusion These data indicate that the EC-LAMP isothermal amplification may serve as an interesting alternative tool for rapid screening of oncogenic HPVs.

A support from AZV NU21–08–00057 is greatly acknowledged.

REFERENCES

1. Bartosik *et al. Anal. Chim. Acta.* 2021;**1042**:37–43.
2. Anton *et al. Anal. Meth.* 2020;**12**:822–829.

2022-RA-1115-ESGO EVALUATION OF CERVICAL DYSPLASIA WITH NOVAPREP-MIR-CERVIX

[1]Margarita Kniazeva, [1]Lidia Zabegina, [1]Andrey Shalaev, [2]Olga Koneva, [1]Olga Smirnova, [1]Igor Berlev, [1]Anastasia Malek. *[1]NMRC of Oncology named after N.N.Petrov of MoH of Russia, Saint-Petersburg, Russian Federation; [2]Algimed Techno Ltd., Minsk, Belarus*

10.1136/ijgc-2022-ESGO.167

Introduction/Background Cervical cancer (CC) is one of the most common types of cancer and the fourth leading cause of cancer-related deaths in women. Cervical carcinogenesis is multistep process of the cervical dysplasia development and progression. Correct diagnostic and effective therapy of cervical dysplasia presents an important approach to reduce CC morbidity and mortality. MicroRNAs in cervical