

**ID 950**  
**A NEW TOOL FOR INVESTIGATION PLATELET ACTIVATION IN ENDOMETRIOSIS PATIENTS**

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**Objectives:** Endometriosis (EM) is a gynecological disease characterized by chronic inflammation, due to the interaction of inflammatory cells with ectopic endometrium <sup>1</sup>. Platelets (PLTs), recruited by pro-coagulant factors released from endometriotic stromal cells, secrete angiogenic factors and induce overexpression of genes involved in pro-survival/anti-apoptotic propensity, inflammation and extracellular matrix remodeling <sup>2</sup>. We aimed to develop a tool to measure PLT activation (by small extracellular vesicles, s-EVs) in EM peritoneal fluids, as a potential predictive marker of EM severity.

**Materials & methods:** S-EVs were isolated from EM peritoneal fluids and characterized with imaging (Atomic Force Microscopy; AFM) and protein expression analyses (Western blot, WB) <sup>3</sup>. We explored gene expression in peritoneum and EM lesions using EndometDB <sup>4</sup>.

**Results:** We demonstrated the presence of s-EVs isolated from EM peritoneal fluids by liquid AFM, as showed by contact angle vs diameter scatterplot

(Fig.1A-B), and by WB detecting the s-EV markers CD63, CD9, and TSG101 (Fig.1C). Using EndometDB, we highlighted the differentially expressed genes between control and EM peritoneum samples (Fig.1D). The protein expression of a panel of biomarkers of PTL in s-EVs was further confirmed by WB (Fig.1E).

**Conclusions:** We propose applying s-EV research to EM investigation, generating a novel biochemical tool for PLT activation assessment and for the development of new diagnostics and therapies.

**References**

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3. Bortot B, Apollonio M, Rampazzo E, et al. Small extracellular vesicles from malignant ascites of patients with advanced ovarian cancer provide insights into the dynamics of the extracellular matrix. *Mol Oncol* 2021, 15, 3596-3614, <https://doi.org/10.1002/1878-0261.13110>.
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**Sabato 15 Ottobre 2022**

Sala D 08.00 - 09.00

**DIGITAL PATHOLOGY**

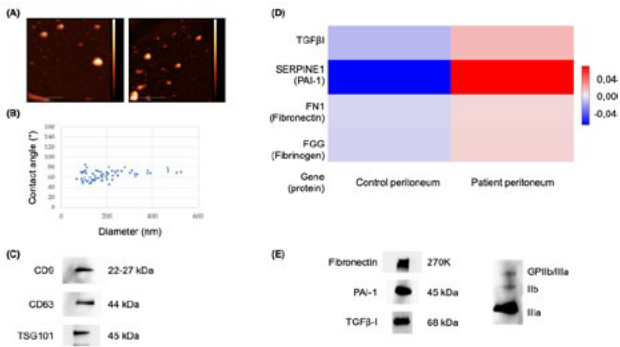
Moderatore: F. Fraggetta

**ID 756**  
**AI-BASED SOLUTION FOR SUPPORTING PRIMARY DIAGNOSIS OF PROSTATE BIOPSIES IN ROUTINE PRACTICE**

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**Objectives:** We aimed to clinically validate the use of an AI-based tool by pathologists for reviewing and reporting prostate core needle biopsies (PCNBs) as compared with Standard of Care review on microscope, also assessing improvements in efficiency and turnaround time.



**Figure 1.** A) Representative liquid AFM micrographs of s-EVs isolated from the peritoneal fluid of an EM patient. B) Contact angle vs diameter scatterplot of s-EVs. Each circle represents one individual s-EVs as measured via AFM imaging in liquid. C) CD63, CD9, and TSG101 were detected by WB in s-EVs samples. D) Heatmap visualizing the expression of genes across the control and EM patient's peritoneum samples. Data are collected from the EndometDB. E) Protein expression of a panel of biomarkers in s-EVs.