

Press release

Rapid intraoperative evaluation of fresh cytological biopsies using the *VivaScope 2500* Technology

Role of fluorescence confocal microscopy for rapid evaluation of EUS fine-needle biopsy sampling in pancreatic solid lesions

Publication Link: [Serena Stigliano et al. *Gastrointest Endosc* 2021](#)

In this publication, the authors described the possibility and advantages of using the **VivaScope 2500** microscope to overcome the main challenges in intraoperative microscopic evaluation of cytological and micro-histologic specimens.

Pancreatic cancer is the third leading cause of cancer death in the United States and the fourth in Western countries. Early detection of pancreatic tumors has relevant impact on clinical behavior. Endoscopic ultrasound-guided fine-needle aspiration/biopsy (EUS-FNA/FNB) has become the standard procedure for tissue sampling of pancreatic solid lesions. The samples collected consist of cellular material and micro-fragments of tissue. Such material must be handled carefully to avoid fragmentation, loss of cells and often requires rapid on-site evaluation (ROSE) for adequacy and cellblock preparation for integrative analysis (i.e. immunohistochemistry or mutational analysis). The rate of adequate biopsies varies between centers with high volume having about 90% adequacy and low volume centers with lower adequacy rates of about 70%.

This study evaluated the diagnostic performance of VivaScope technology in predicting the histologic adequacy of EUS-FNA/FNB specimens in pancreatic solid lesions and the agreement with the final histological evaluation in 81 patients.

The sensitivity of VivaScope evaluation was 100%, specificity 66.7%, accuracy 97%, positive predictive value 97%, and negative predictive value 100%.

The VivaScope 2500 approach represents a new technique, which is successfully applicable to fragile cytological micro-histological specimens. It provides immediate information about sample adequacy of small specimens showing very good agreement with the final histology. Moreover, in a subsequent study, EUS-FNA/FNB VivaScope images were evaluated by pathologists from 10 international centers to investigate inter-observer agreement with the final diagnostic report. The corresponding manuscript is currently in preparation.

The main advantages of this novel approach are:

- Real-time On-site evaluation of the EUS-FNA/FNB samples
- Sample preparation does not require a specialized operator
- Complete tissue integrity for subsequent laboratory examination
- Significant time & cost savings
- Remote diagnoses via telemedicine

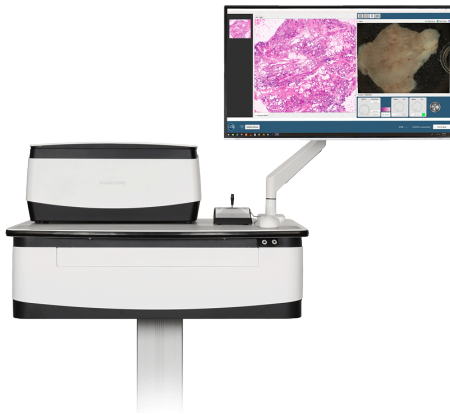
Contact person:

Dr. Roberto Banchi

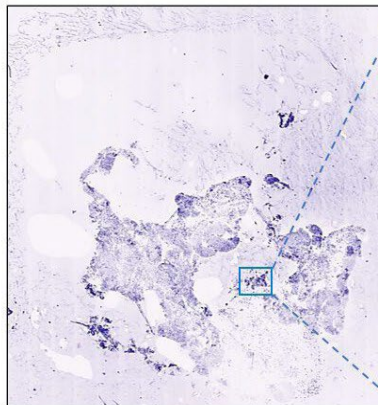
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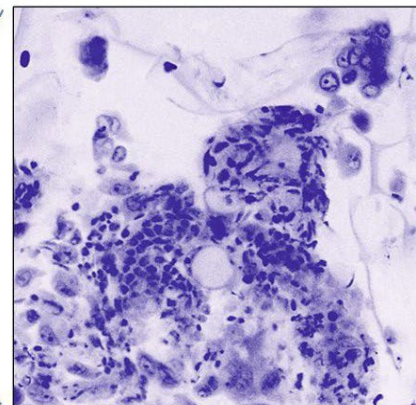
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Macro image of the biopsy



High resolution image of the entire biopsy



Courtesy of Dr. Anna Crescenzi, University Hospital Campus, Bio-Medico, Rome (Italy)

About VivaScope GmbH:

VivaScope GmbH is a market specialist for the development and distribution of confocal laser scanning microscopes. Confocal laser scanning microscopy enables rapid differentiation between pathogenic and healthy tissue. VivaScope products are used for medical in vivo and ex vivo applications.

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