Cytology is undergoing a change. The focus of this one-day meeting is on the need of cytologists to embrace such change and to integrate molecular cytopathology into practice.

In many instances, cytology represents the only source of sampling and it often substitutes histology as an independent diagnostic modality. Thus, DNA molecular targets to stratify patients for targeted therapy are often evaluated on cytology. In addition, DNA mutational tests may refine indeterminate thyroid and pancreas cytology. This meeting will discuss the applications and limitations of DNA mutational testing on cytology. Respect to histology, most cytological samples have the advantages of a purer population of tumor cells, with low stromal component and of better preserved DNA. However, since in vitro diagnostic tests are licensed only for paraffin-tissue, all mutational assays on cytology are “home brew”, requiring a rigorous validation process. This should take into account not only the performance characteristics of the molecular assay but also features inherent to any given cytological samples, such as its source, preparation type, fixation and staining modalities and the most effective tumour cell enrichment methods. This calls for a change of cytotechnologists and cytopathologists mentality to collect and process the cytological samples not only for microscopy but also to assess clinically relevant molecular markers.
MEETING OVERVIEW

9.30-9.40 Lucio Palombini (Napoli); Giancarlo Troncone (Napoli)
Introduction

9.40-9.50 Sabino de Placido (Napoli)
The oncologist’s reasons

9.50-10.00 Ambrogio Fassina (Padova)
The pathologist’s reasons

I session: The cytological sample as a biomolecular specimen
Chairmen: Gian Luigi Taddei (Firenze); Gaetano De Rosa (Napoli)

10.00-10.15 Dara L. Aisner (Denver)
Sample type and preparation

10.15-10.30 Umberto Malapelle (Napoli)
DNA quality and quantity

10.30-10.45 Giovanni Tallini (Bologna)
Molecular techniques on cytological specimen

10.45-11.00 Discussion

Coffee Break

II session: Diagnostic Molecular Cytopathology
Chairmen: Pietro Micheli (Napoli); Bernardette Biondi (Napoli)

11.30-11.45 Giuseppe Giuffrè (Messina)
Cervix

11.45-12.00 Aldo Scarpa (Verona)
Lung

12.00-12.15 Giovanni Tallini (Bologna)
Thyroid

12.15-12.30 Pio Zeppa (Salerno)
Lymphnode

12.30-12.45 Discussion

Lunch

13.30-14.00 Chairman: Lucio Palombini (Napoli)
Magistral lecture

14.00-14.15 Carlos Bedrossian (Chicago)
Bridging the gap: cytopathology at the threshold of personalized medicine

III session: Predictive Molecular Cytopathology
Chairmen: Antonio Vetrani (Napoli); Giancarlo Troncone (Napoli)

14.00-15.15 Gilda da Cunha Santos (Toronto)
EGFR: Toronto experience and opportunities

15.15-15.30 Gabriella Fontanini (Pisa)
EGFR: Pisa experience

15.30-15.45 Claudio Bellevicine (Napoli)
EGFR: Napoli experience

15.45-16.00 Dara L. Aisner (Denver)
Oncogene mutational testing on cytology

16.00-16.15 Discussion

Coffee Break

IV session: Perspectives in Molecular Cytopathology
Chairmen: Gerardo Botti (Napoli); Oscar Nappi (Napoli)

16.30-16.45 Philippe Vielh (Paris)
Developments in breast molecular cytopathology

16.45-17.00 Libero Santarpia (Prato)
FNA-based mutational profile in breast cancer.

17.00-17.15 Gilda da Cunha Santos (Toronto)
FTA cards and biobanking

17.15-17.30 Fiamma Butitta (Chieti)
Next gene sequencing in cytopathology

17.30-17.45 Discussion

17.45-18.00 Take home messages
Lucio Palombini (Napoli); Giancarlo Troncone (Napoli)

Faculty

D.L. Aisner (Denver)  F. Butitta (Chieti)  A. Fassina (Padova)  O. Nappi (Napoli)  G. Tallini (Bologna)
C. Bedrossian (Chicago)  G. da Cunha Santos  G. Fontanini (Pisa)  L. Palombini (Napoli)  G. Troncone (Napoli)
C. Bellevicine (Napoli)  (Toronto)  G. Giuffrè (Messina)  L. Santarpia (Prato)  A. Vetrani (Napoli)
B. Biondi (Napoli)  S. de Placido (Napoli)  U. Malapelle (Napoli)  A. Scarpa (Verona)  P. Vielh (Paris)
G. Botti (Napoli)  G. de Rosa (Napoli)  P. Micheli (Napoli)  G. Taddei (Firenze)  P. Zeppa (Napoli)