



**ILC** 2024  
Leuven, Belgium

# Summary: Breakout session imaging

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# Patient perspectives

Christine Houser & Kirstin Spencer

# Summary



- Traditional imaging methods are not always accurate for ILC
- Accurate imaging desired for
  - Cancer detection and monitoring in screening and diagnostic setting
  - Response assessment
  - Coordination with histopathology and liquid biopsy
    - Further defining receptor status
- Beyond imaging accuracy, other concerns patients have include:
  - Radiation exposure
  - Contrast exposure
  - Difficulty with IV placement, claustrophobia, challenging positioning
- Options for advanced imaging varies widely worldwide. Many patients in the US are starting to access whole body MRI at freestanding clinics, but efficacy data from these centers is lacking





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Oncologist perspective local screening and diagnosis  
and response prediction in neo-adjuvant setting

Jason Mouabbi

# Summary



- Mammography sensitivity is reduced for screening ILC in dense breasts, and adding ultrasound or MRI to mammography increases sensitivity, but at the expense of specificity/positive predictive value.
- The oncology perspective is that false positives do matter due to psychosocial impacts on patients
- CEM performance is likely on par with MRI for CEM detection
  - Giannotti E et al, Clin Radiol
- Tomosynthesis is better than 2D mammography for ILC detection
- Volumetric locoregional tumor response can be completed with ultrasound or MRI for most ILC patients



# Oncologist perspective on imaging and tumor response prediction in metastatic setting

Julia Foldi, MD PhD

Assistant Professor of Medicine (Hematology and Medical Oncology)

Breast Medical Oncology

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# Summary



- Can imaging be used to accurately predict treatment response in patients with mILC?
  - “Currently, I think the answer is “No”
- Need quantifiable methods to accurately measure ILC
  - ? circulating tumor markers
  - ? PET imaging studies
- FES PET and FAPI PET may have promise
  - FES PET results may be impacted by certain endocrine therapies, potentially limiting treatment monitoring for these patients
- Need more research!



The logo for ILC 2024 Leuven, Belgium. It features the letters 'ILC' in a large, bold, black serif font. The letter 'I' is solid black, while the 'L' and 'C' are filled with a pattern of yellow circles of varying sizes. To the right of the 'C', the year '2024' is written in a smaller, black serif font, and below it, 'Leuven, Belgium' is written in a black serif font. The entire logo is set against a background of numerous yellow circles of various sizes, some overlapping the letters.

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# Tumor response prediction in neo-adjuvant setting

Caroline Malhaire



# Conclusion

- Invasive lobular carcinoma (ILC) presents unique challenges in imaging, especially in the neoadjuvant setting.
- Non-mass enhancements and fragmentation regression patterns complicate the evaluation of tumor response and residual disease
- Collaboration with engineers is needed to develop high-resolution MR sequences for better tumor assessment.
- Late contrast-enhanced imaging for accurate detection of residual disease, particularly due to delayed enhancement in ILC.
- Axillary metastases in ILC remain difficult to assess, but MRI may help identify patients with a high nodal burden after treatment
- Pleomorphic subtypes of ILC, with their distinct histomolecular characteristics, may be better evaluated by MRI due to their mass-like appearance.



# Imaging and tumor response prediction in metastatic setting: Perspectives on WB-DWI/MRI

Elleke Dresen

Vincent Vandecaveye

University Hospitals Leuven

# Summary



- Advantages of whole-body DWI/MRI include:
  - Ability to overcome ILC imaging challenges found with other imaging methods
  - No necessity for IV contrast
  - No ionizing radiation
  - Well-tolerated by most patients
- Disadvantages include:
  - Limited current availability
  - Need for wider acceptance and use
  - Need for increased reader/technical expertise to implement widely
- Current indications may include:
  - Staging locally advanced ILC
  - Imaging response assessment
    - Can utilize  $b$  values and ADC as measures of treatment response
  - Evaluation of suspected clinical or laboratory recurrence
  - Use of WB-DWI/MRI can change treatment decisions in up to 50% of cases





# Imaging and tumor response prediction in metastatic setting: Perspectives on PET modalities

Matt Covington, MD

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# Take Home Points



- PET imaging
  - *The future is not only FDG*
  - *The future is not only FES*
  - **Multiple new PET radiopharmaceuticals are being validated for breast cancer assessment, including ILC**
    - Promising candidates include
      - Fibroblast activating Protein (FAP or FAPI) PET
      - FFNP PET (Progesterone Receptor Imaging)
      - Fluorothantrace (FTT) PET (PARP-1) imaging
      - Many others
- **PET imaging will guide radioligand therapy (RLT) for breast cancer as part of the current theranostics revolution**
  - Promising candidates, at least for subsets of breast cancer, currently include
    - FAPI
    - PSMA (currently US FDA approved for prostate cancer)
    - Dotatate (currently US FDA approved for neuroendocrine tumors)
    - Many others are just now under study and proposed for clinical trials

Need to support ILC-specific imaging and theranostic trials!