

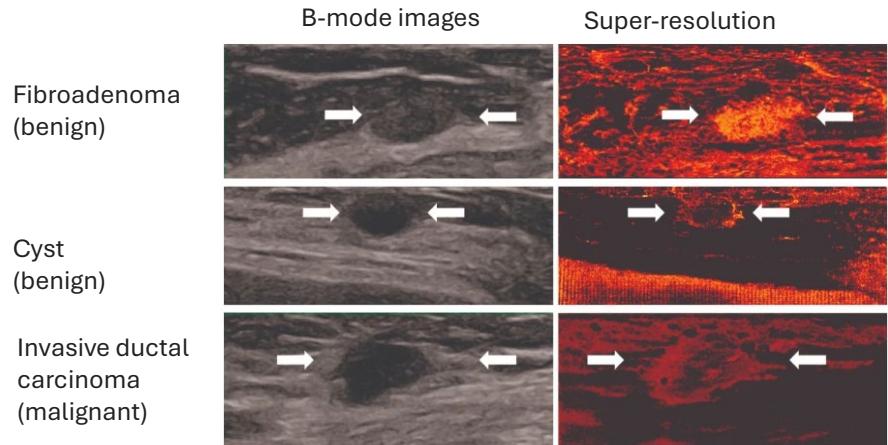


Super Resolution Vascular Ultrasound Imaging for Clinical Diagnostics



Reference Number: 2194 | Principal Investigator: Prof. Yonina Eldar | Patent Status: US 2024/0249384

An advanced deep-learning method for analyzing super-resolution Ultrasound Localization Microscopy (ULM) data to quickly and accurately reconstruct microvasculature structures, without needing prior knowledge of the system's characteristics. This enables improved US imaging for early diagnosis and clinical management of various diseases, including breast cancer and Crohn's disease.



Comparison of conventional B-mode and super-resolution US images of three breast lesions

APPLICATIONS

- Microvascular imaging using super-resolution US for clinical use
- Distinction between different types of breast tumors
- Early diagnosis and monitoring of various diseases characterized by microvasculature alterations

DIFFERENTIATION



Fast Analysis



Radiation free



Cost effective



Accessible



No prior knowledge of system parameters (PSF or UCAs) required

DEVELOPMENT STAGE

The method has been clinically validated in breast cancer patients and is being further tested for other applications.

REFERENCES

- Bar-Shira, O. et al. MICCAI, 2021

