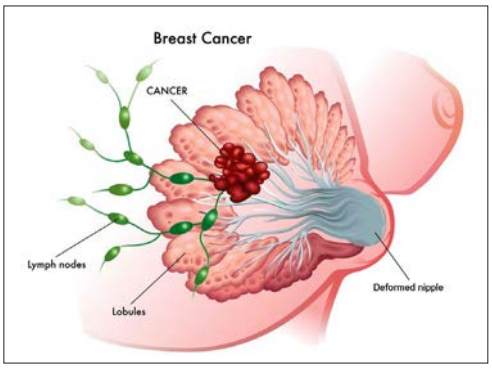
Olea MEDICAL
Improved diagnosis for life™

Did You Know?
Breast Cancer in Paget Disease

Take-home message

- Paget disease of the nipple accounts for 5 percent of all breast cancers **(1)**
- The disease is rare and could be mistaken with skin disease
- Paget disease is associated with ductal carcinoma in 90% of cases
- In approximately 50% of cases of Paget disease a breast mass is palpable



- **Paget disease of the breast (also known as Paget disease of the nipple)** is a **rare form of breast cancer** involving the skin of the nipple. It is characterized by infiltration of the nipple-areolar complex by adenocarcinoma cells.

The disease affects mostly women but very rarely it can also affect men.

More than **90% of Paget disease cases are associated with an additional underlying breast malignancy.**

It is almost always associated with an in situ or invasive ductal breast carcinoma ***(see "Did You Know" N° 7)*** and represents the retrograde extension of the underlying carcinoma into the epidermis.

In approximately 50% of cases, a breast mass is palpable. Mammographic findings may be negative in up to 50% of cases **(1). MR imaging can be useful for evaluation of the nipple-areolar complex and identification of an additional underlying malignancy in the breast.**

Symptoms

- Itching and/or redness of the nipple
- Thickened skin around the nipple
- Red or dark areole around the nipple
- Discharge from the nipple
- A deformed nipple

Possible treatment

- Removal of the nipple and areola, followed by whole-breast radiation
- Mastectomy (removing of entire breast)
- If needed lymph node surgery and/or irradiation

In Olea Sphere®?

The fast and automatic computation of SER, Ktrans, Peak and Vp maps within Olea Sphere® allows to detect the under-nipple extension and reveal the pathological nature of the latter **> Picture 1**
Automatic motion correction ensures optimal quality of computed maps.
The Ktrans map shows the contrast agent leakage from the vascular bed to the extracellular space, which reflects the pathological nature of the two lesions.
The MPR visualization and measurement tools provide the surgeon with essential information on the topography of the lesions that will drive the surgical decision (mastectomy, removal of nipple-areola complex NAP) **> Picture 2**

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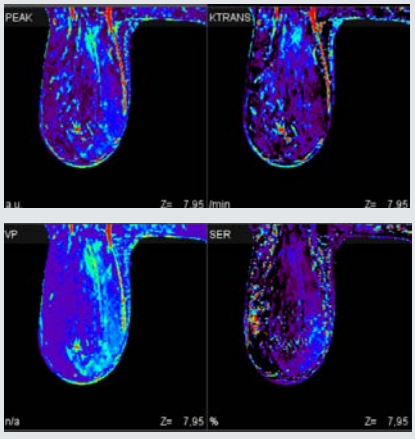
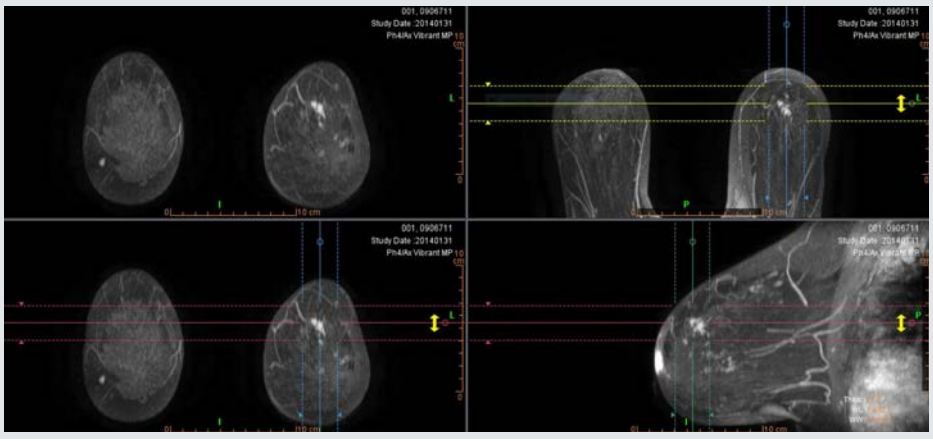
IVIM MR imaging reflects both tissue cellularity and vascularity in breast cancer. IVIM and non-Gaussian diffusion parameters, and their combination through integrated diagnostic approaches, may provide breast cancer diagnostic accuracy similar to BI-RADS without the need for contrast agents.



◄ Picture 1

Picture 2 ►



Sources: Ref ■ [1] https://rarediseases.org/rare-diseases/pagets-disease-of-the-breast/ ■ https://www.ncbi.nlm.nih.gov/pubmed/28223083 ■ https://www.cancer.gov/types/breast/paget-breast-fact-sheet ■ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3263015/ ■ https://www.cancer.org/cancer/breast-cancer/understanding-a-breast-cancer-diagnosis/types-of-breast-cancer/paget-disease-of-the-nipple.html ■ Intravoxel Incoherent Motion and Quantitative Non-Gaussian Diffusion MR Imaging: Evaluation of the Diagnostic and Prognostic Value of Several Markers of Malignant and Benign Breast Lesion. Mami Iima, MD, PhD, Masako Kataoka, MD, PhD, Shotaro Kanao, MD, Natsuko Onishi, MD, PhD, MakikoKawai, MD ■ Alvero R. Paget's disease of the breast. Ferri's Clinical Advisor 2017. Philadelphia: Elsevier Health Sciences; (2017) ■ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5660109/ ■ R.S. // V.A. // B.T. // A.M. // S.F.