

Histopathology of transgender breast specimens: expect the unexpected!

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Aim

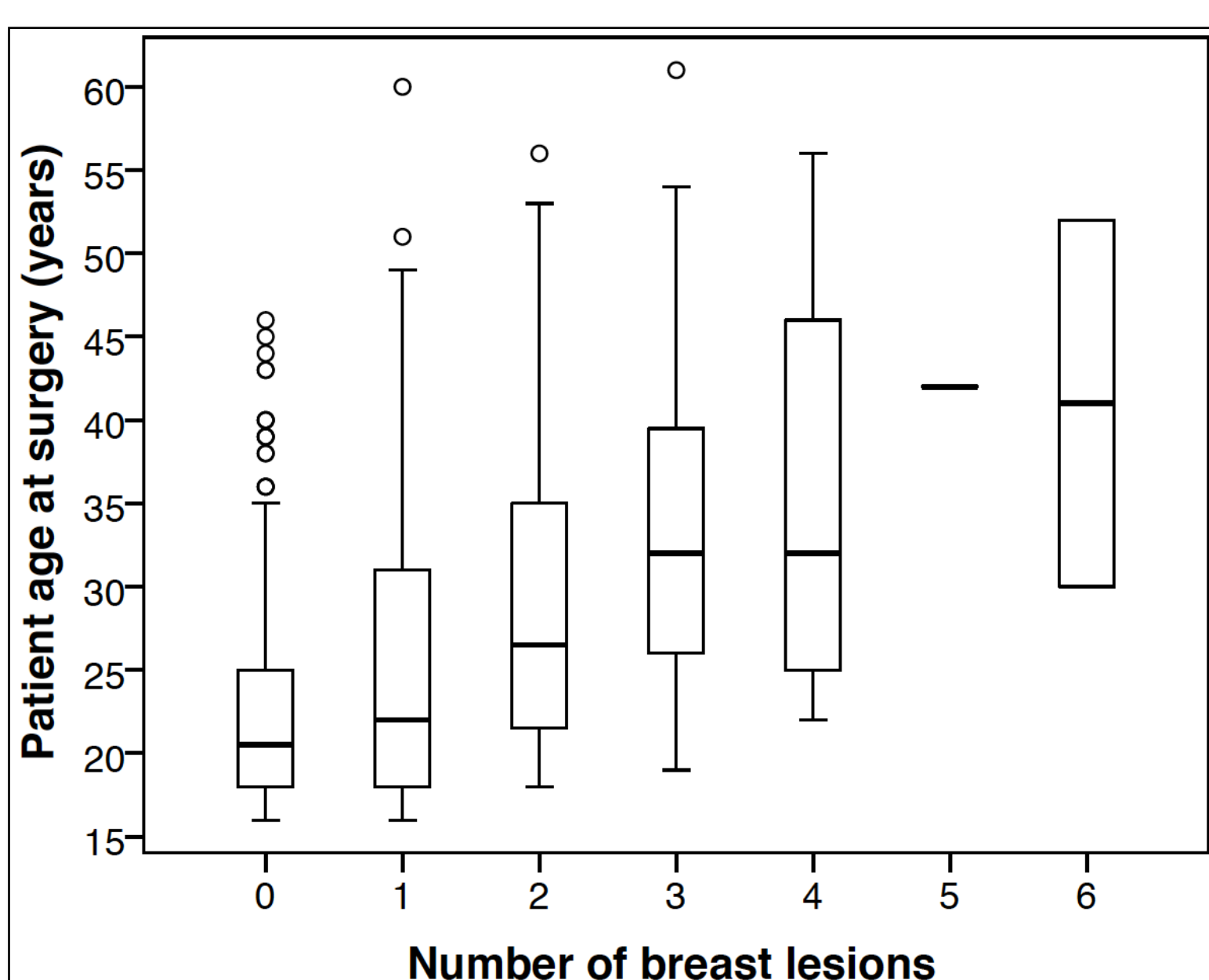
The number of trans men seeking for gender-confirming surgery has steadily risen throughout the past decade. Therefore, surgical pathologists are increasingly confronted with trans male mastectomy specimens. This study aimed to provide a detailed description of common and uncommon breast lesions in trans male breast tissue of patients treated at the University Hospital of Ghent. The utility of routine histopathological examination was investigated.

Materials & methods

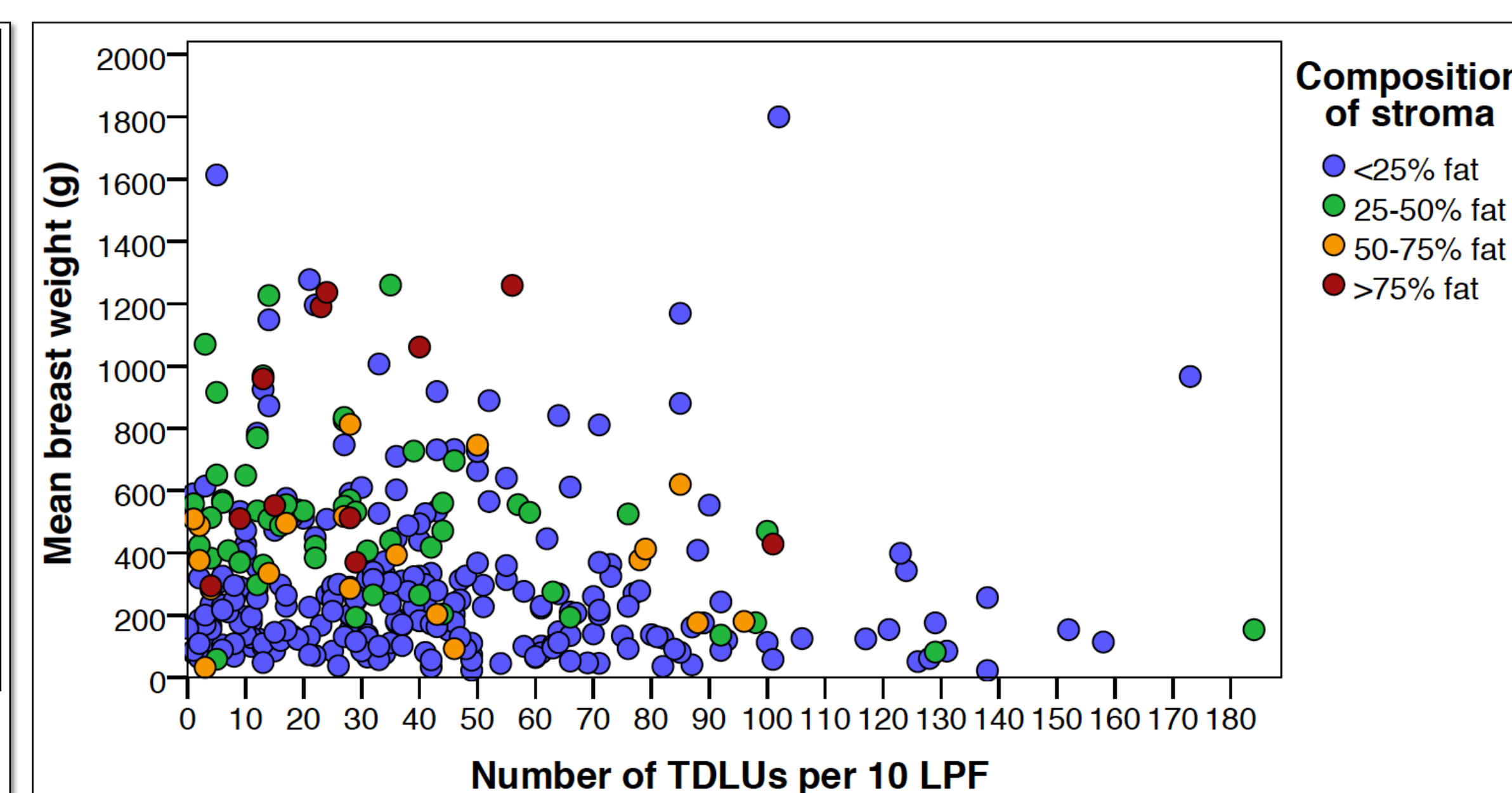
Breast tissue of 344 trans men who underwent bilateral mastectomy at the Department of Plastic Surgery between 01/01/2005 and 12/07/2017 were included. The following data were retrieved: date of birth, age at time of bilateral mastectomy, bilateral breast weight, presence of skin in the specimen, and the number of sampled tissue blocks. All HE-stained slides were retrieved from the archives of the Department of Pathology (Ghent University Hospital) and were systematically reviewed by two pathologists. In case of disagreement, a third pathologist was consulted to obtain a consensus diagnosis. Presence of benign, premalignant and malignant breast lesions was explored. The number of terminal duct-lobule units (TDLUs) per 10 low-power fields (LPF) was quantified. The stroma/fat ratio was macroscopically assessed based upon the HE-stained slides.

Results

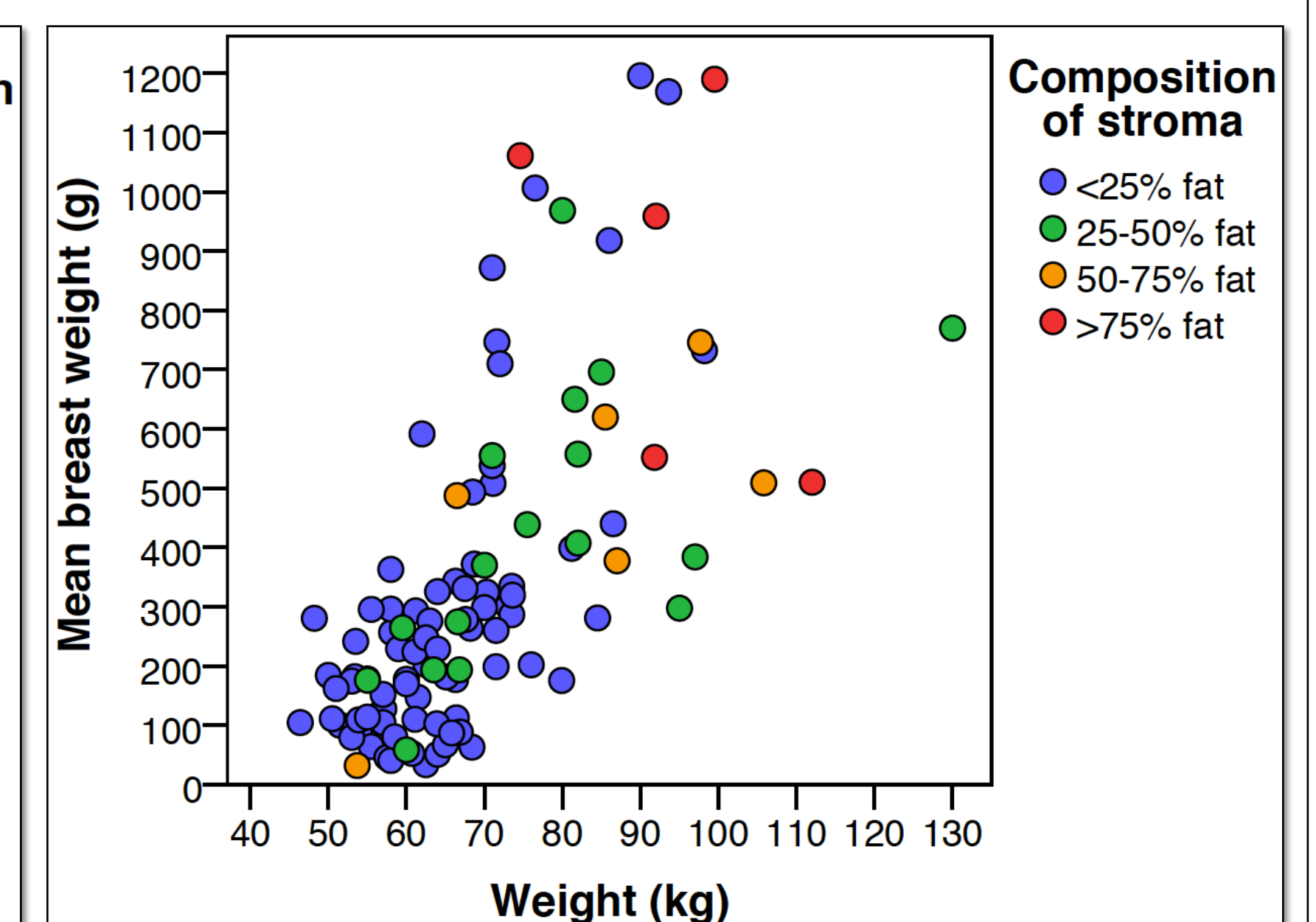
The number of breast lesions increased with increasing patient age ($p < 0,001$).



Heavier breasts showed less TDLUs per 10 LPF ($p = 0,006$). Heavier breasts showed an increased amount of fat ($p < 0,001$).



Breast weight increased when patient weight increased ($p < 0,001$).



Descriptives	mean (range)
Age	25.8 (16-61)
Weight of breast specimens	345.5g (22-1800g)
BMI	25 (20-38)
Number of TDLUs per 10 LPF	40 (range 0-184)
Amount of tissue blocks	5 (2-17)

The number of trans men seeking for gender-confirming surgery increased over time.

Patient age at the time of surgery significantly decreased over time.

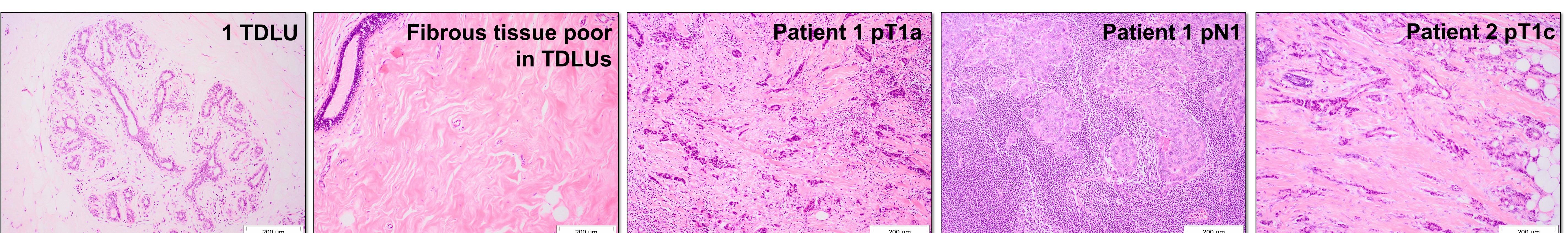
Older patients tended to have heavier breasts.

The amount of sampled tissue blocks correlated with the number of breast lesions.

Stroma/fat ratio	n (%)
<25% fibrous tissue	11 (3.2%)
25-50% fibrous tissue	19 (5.5%)
50-75% fibrous tissue	55 (16%)
>75% fibrous tissue	259 (75.3%)

Histopathological findings	n (%)
Columnar cell lesions	102 (29.7%)
Apocrine metaplasia	83 (24.1%)
Usual ductal hyperplasia (UDH)	57 (16.6%)
Lactational changes	13 (3.8%)
Fibroadenoma	13 (3.8%)
Sclerosing adenosis	11 (3.2%)
Cavernous haemangioma	1 (0.3%)
Atypical ductal hyperplasia (ADH)	5 (1.5%)
LCIS, DCIS and invasive breast cancer (NST)	2 (0.6%)

Invasive breast cancer	Patient 1	Patient 2
Age	31 years	52 years
Mode of detection	Unexpected finding	Screening mammography
Tumor type	Invasive carcinoma, NST	Invasive carcinoma, NST
Differentiation grade	Moderately differentiated	Well differentiated
TNM stage	pT1a N1	pT1c N0 (sn)
Medical history	None	Malignant melanoma
Oncological family history	None	Present
Genetic counseling	Performed elsewhere	No germline mutations
Androgens prior to surgery	16 months	None



Conclusion

- The discovery of an unexpected breast cancer in a 31-year-old trans man emphasizes the importance of thorough routine histopathological examination.
- We recommend more extensive tissue sampling in older patients and larger breasts: the older the patient and the heavier the breast, the more samples taken.