NIGERIA: IMPROVING THE DIAGNOSIS & REPORTING OF BREAST CANCER IN LAGOS

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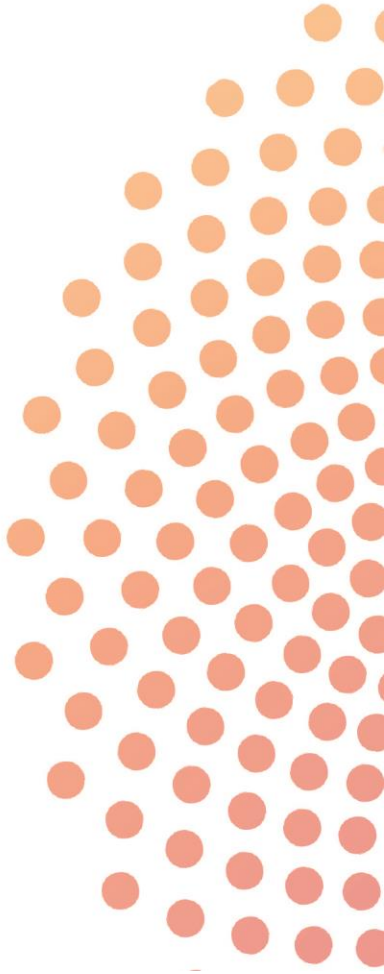
BACKGROUND

- The most common presentation of lesions that affect the female breast in Nigeria is a symptomatic breast lump.
- Malignant tumours comprise 20-26% of those lumps.

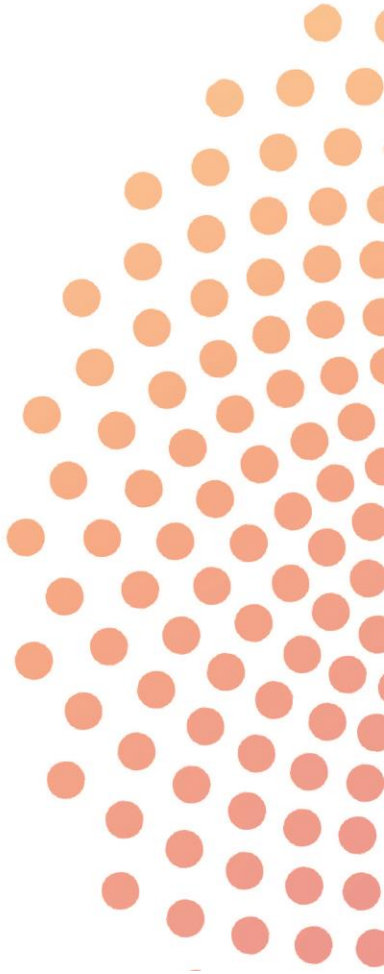
BACKGROUND

- At Lagos University Teaching Hospital, attempts to standardize breast cancer reporting have been ongoing since 2005.
- At that time, tumour grade was provided in only 25% of reports.
- Between 2007 and 2011 this increased to an average of 75% of cases.



AIM

- To determine the compliance and concordance of breast cancer histological parameters reported at a large Nigerian laboratory compared with the minimum dataset of RCPath.
- This is to inform training and education requirements for the Nigerian pathologists and ultimately improve patient management.

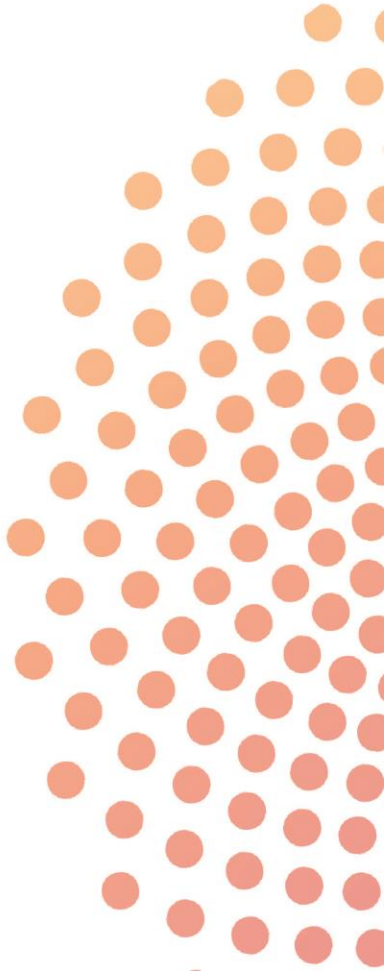


MATERIALS AND METHODS

- Breast cancer cases were identified from the pathology database of the Lagos University Teaching Hospital, Lagos, Nigeria.
- Dataset extracted from histopathology reports covering the period from January 2011 to March 2013.
- Number = 115

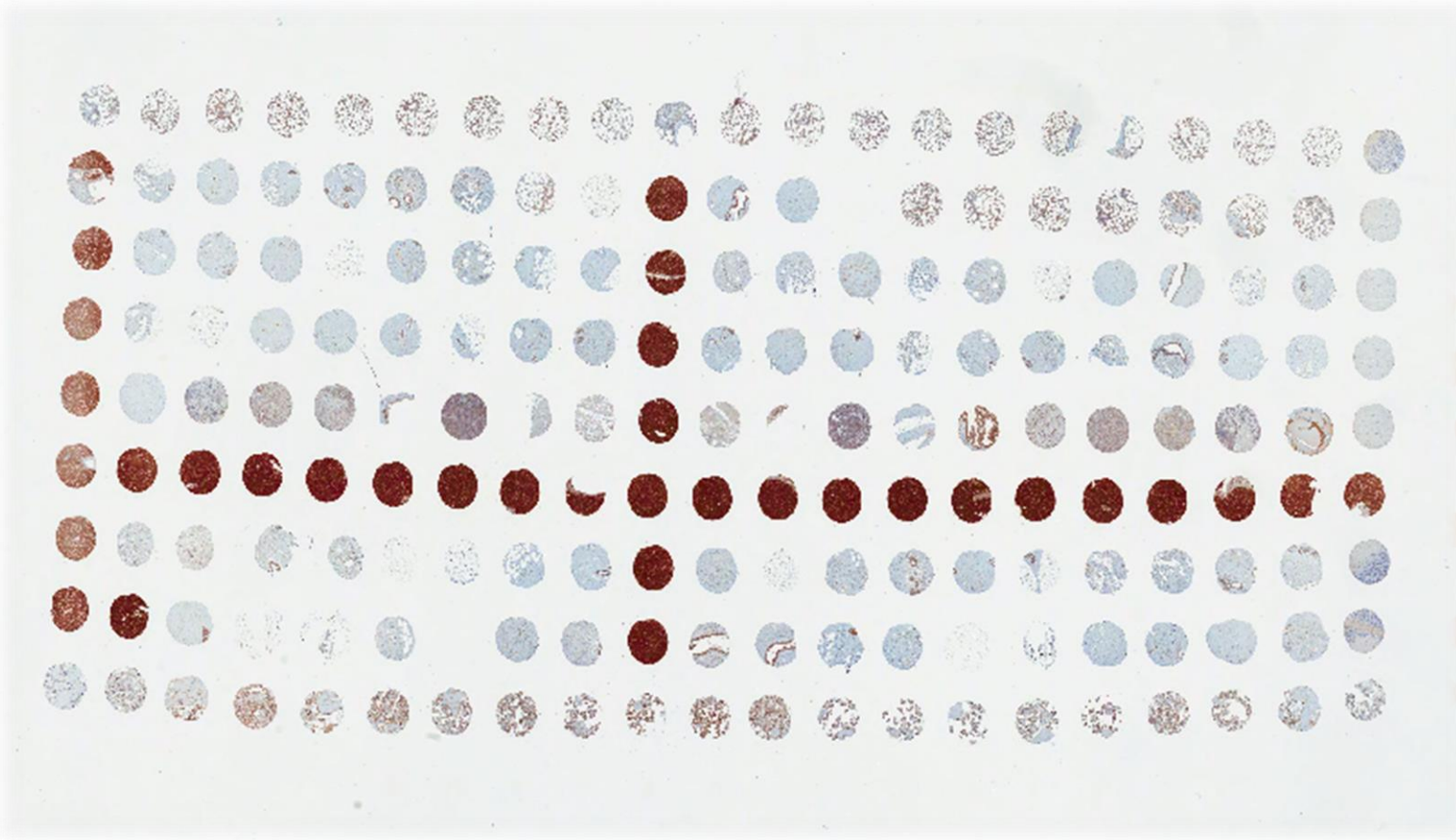
REPORTS ASSESSED FOR RCPATH MINIMUM DATASET

- Tumour type
- Size
- Grade (tubule formation, pleomorphism, mitoses)
- Lymphovascular invasion
- Margins
- Nodal status
- ER/PR/HER2 status



- Representative tumour slides and paraffin embedded blocks were collected.
- All tumours were jointly reviewed by **two pathologists** (A Daramola, Nigeria and A Shaaban, UK); both **blinded** to reported diagnoses.
- Concordance between dataset in original reports and result of histological review.

TISSUE MICROARRAYS



RESULTS

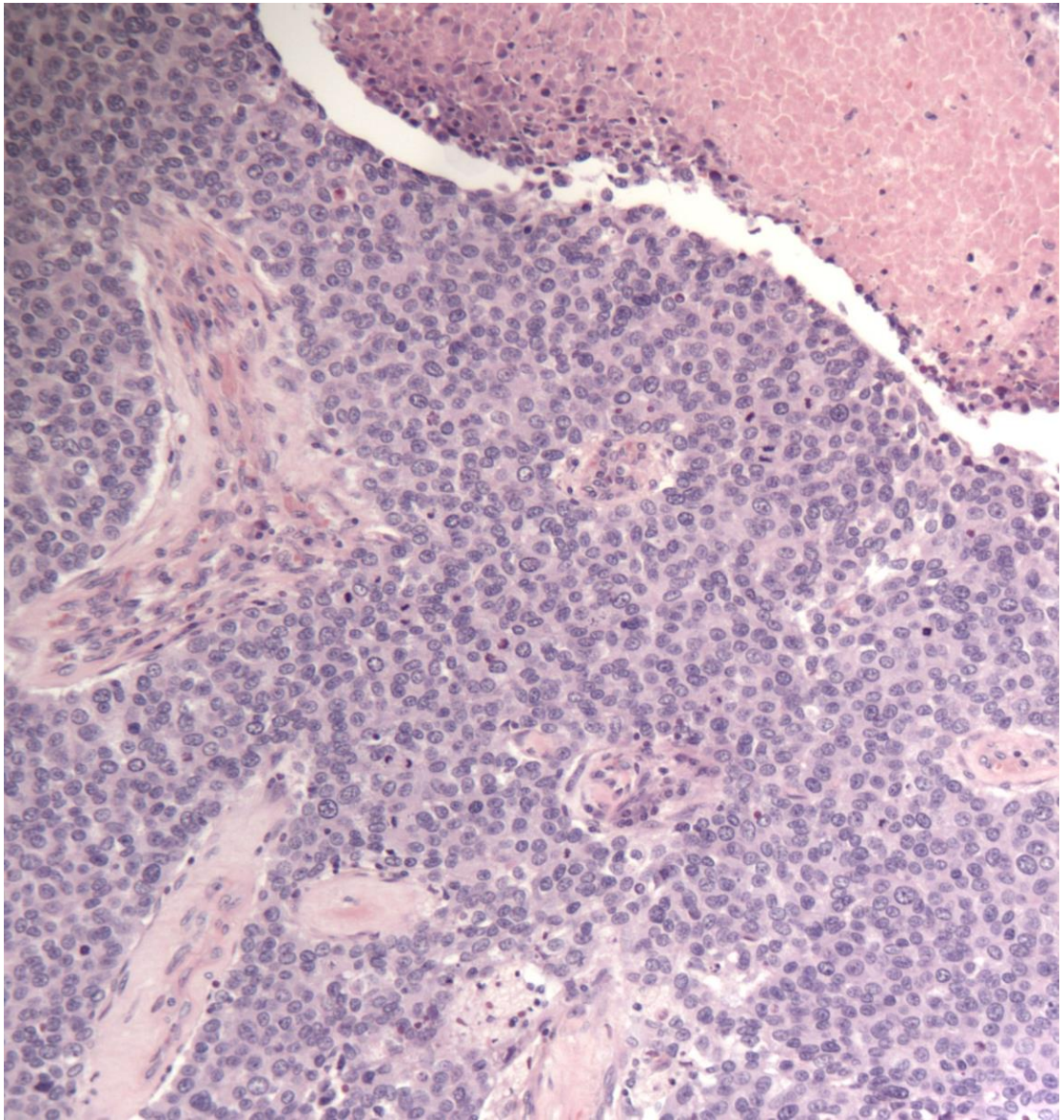
Tumour parameter	Stated (%)	Not stated (%)
Type	27.8	72.2
Size	100 (macroscopic only)	0
Grade	89.62	10.38
Lymphovascular invasion	2.6	97.4
Margins	50.4	49.6
Lymph node status	40	60
ER/PR/HER2	26	74

TUMOUR TYPE

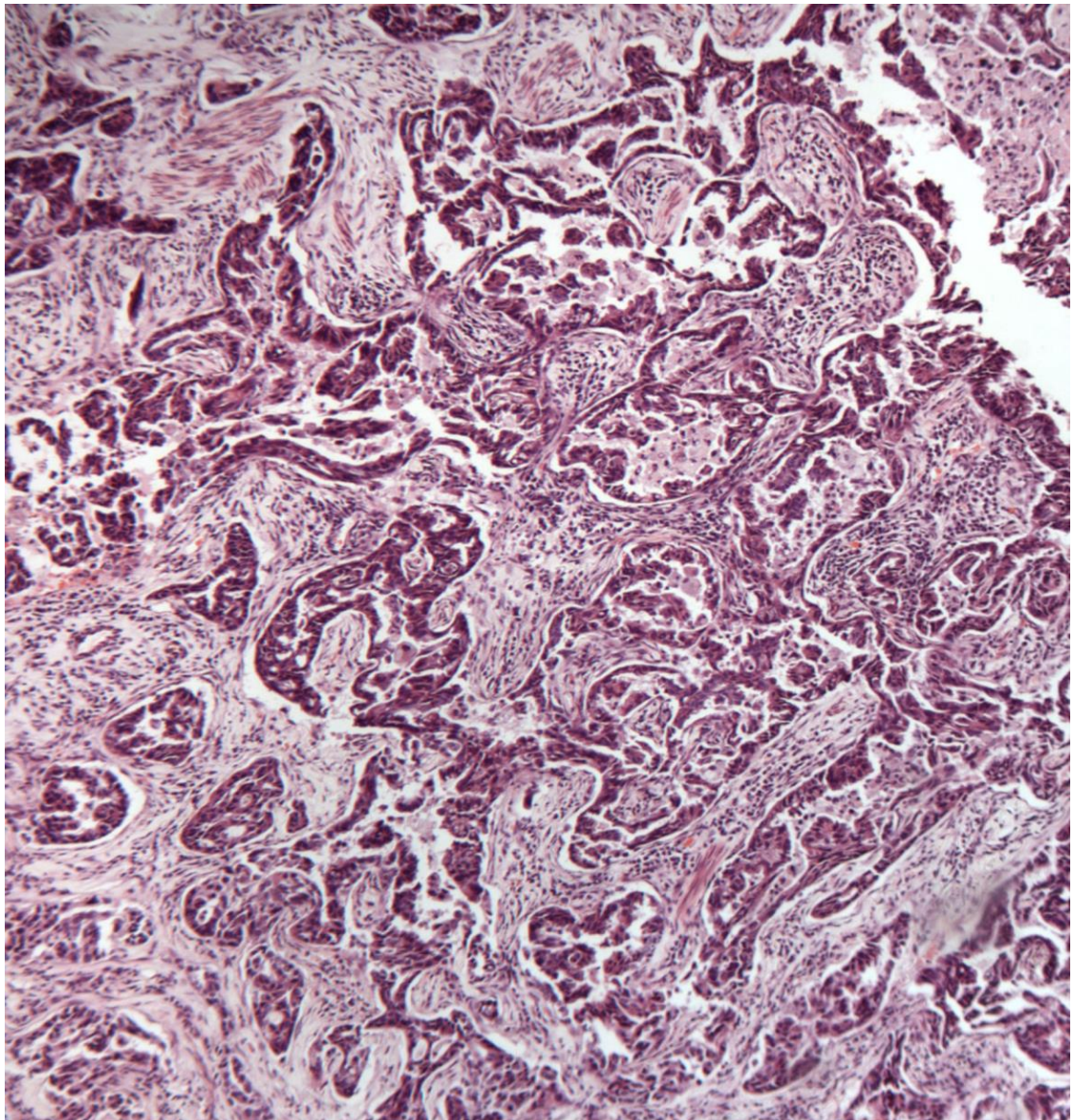
- Stated in 27.8% of reports.
- Following review, type was concordant in 53.1% of cases and discordant in 46.9%.
- In 47% of cases, the histologic type was stated as invasive ductal carcinoma with no further qualification.
- Some uncommon types were not recognised (e.g pleomorphic lobular ca).

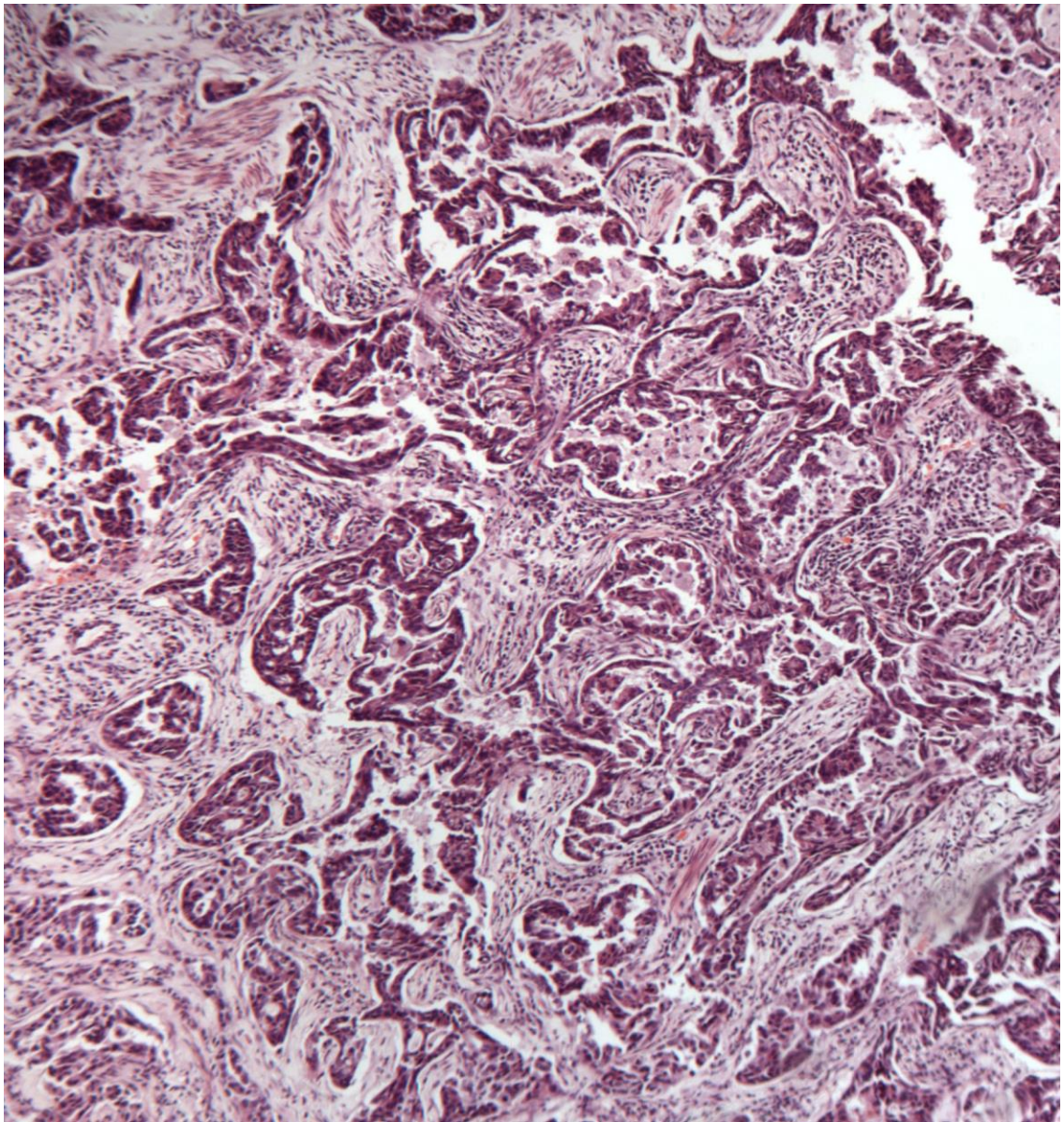
TUMOUR GRADE

- 89.62% lesions were graded in the original report
- 50.5% were correctly graded, 35.8% were down-graded, while 8.5% were up-graded.
- Under-grading was due to omitting or underscoring the mitotic count together with over emphasizing tubule formation.
- Effect of poor fixation.



PATHOLOGY IS GLOBAL





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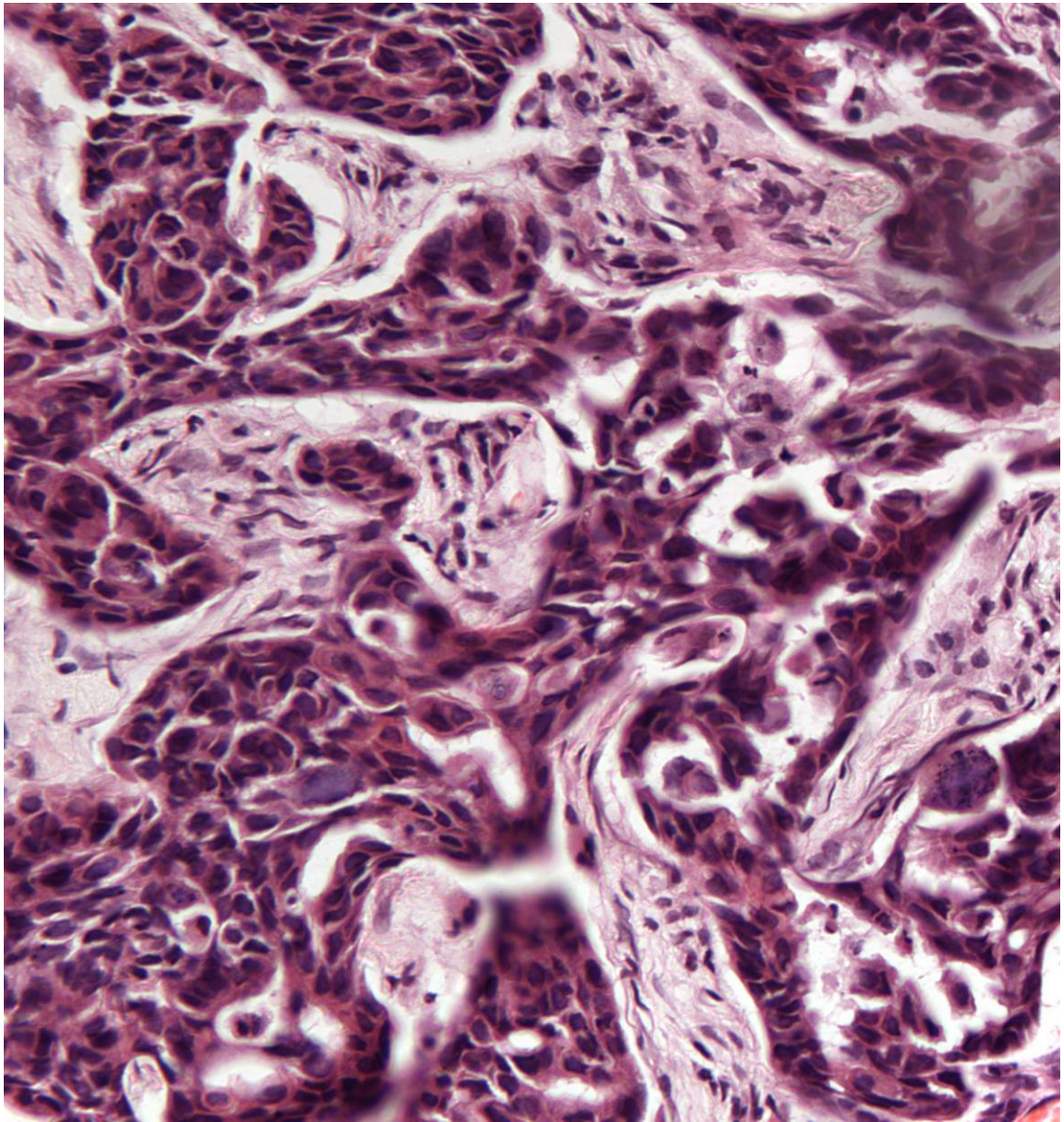


TUMOUR SIZE

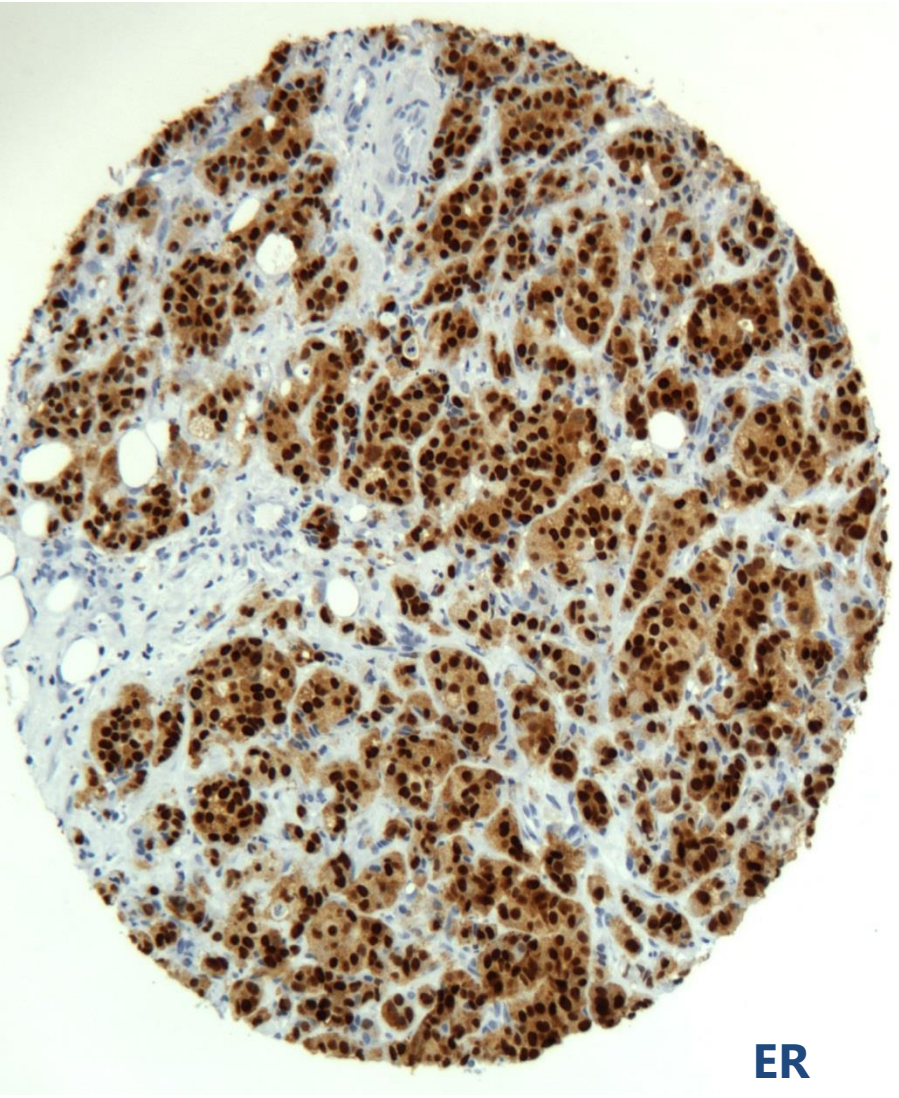
- The macroscopic tumour size was available in all cases, but this was not confirmed/revised based on the microscopic findings.
- No reports included a figure for the whole tumour size (DCIS+invasive).

LYMPH NODE STATUS

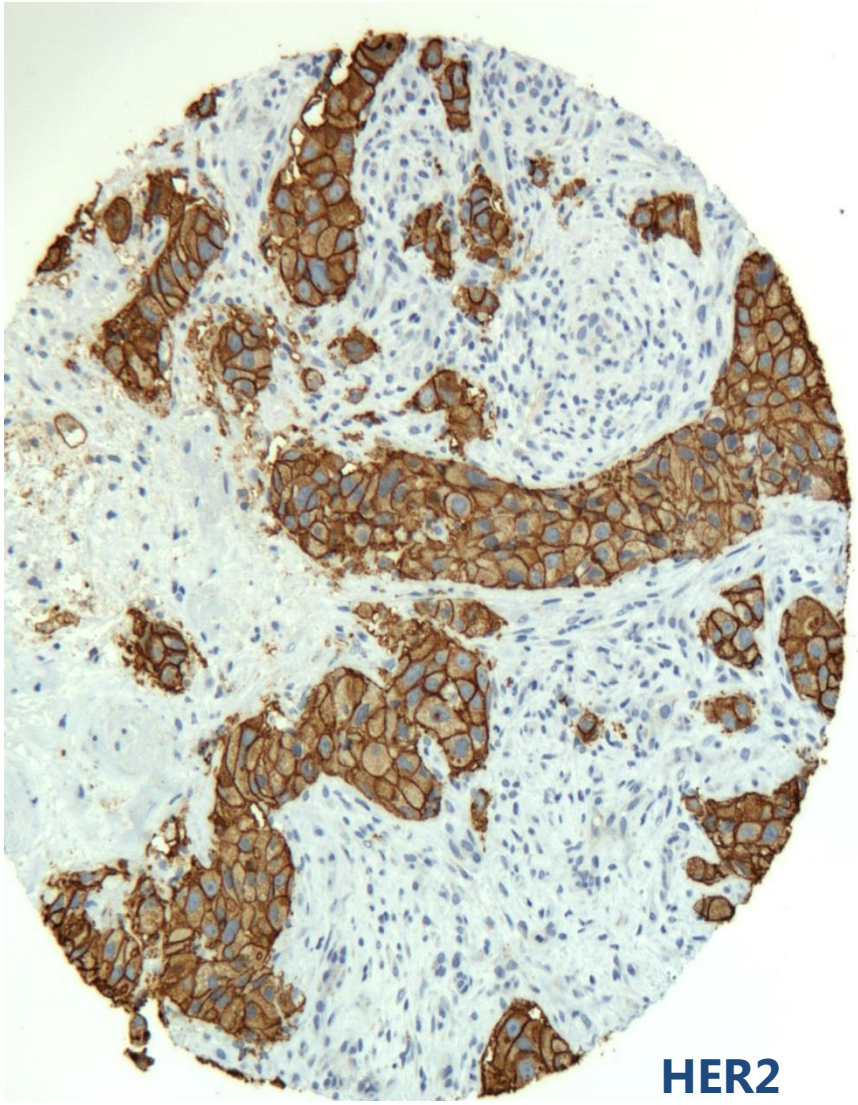
A comment on lymph node status was available in 40% of reports.

ER/PR/HER2

Only 26% of the 115 cases reviewed had prior hormone receptor and HER2 testing done. This number was insufficient to adequately assess for concordance of marker expression.



ER



HER2

ACTIONS

- Protocol for immediate fixation of breast specimens.

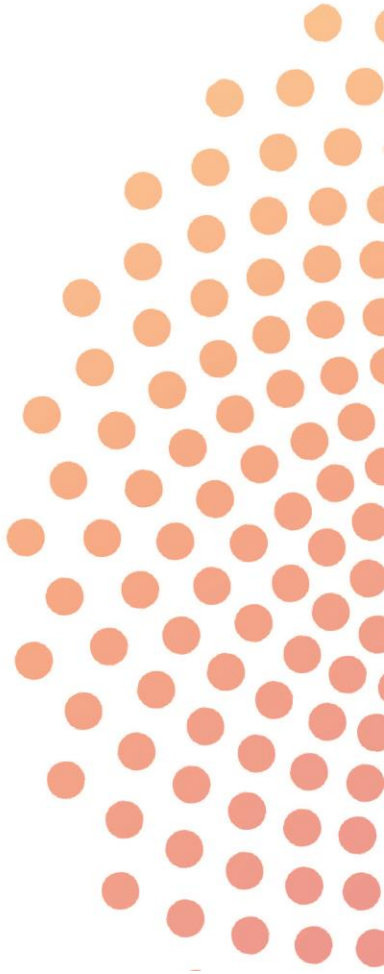
-Training in macroscopic handling and tissue selection

- Standerdisaton of reporting and use of proforma.

- Ensure testing for ER and HER2 status.

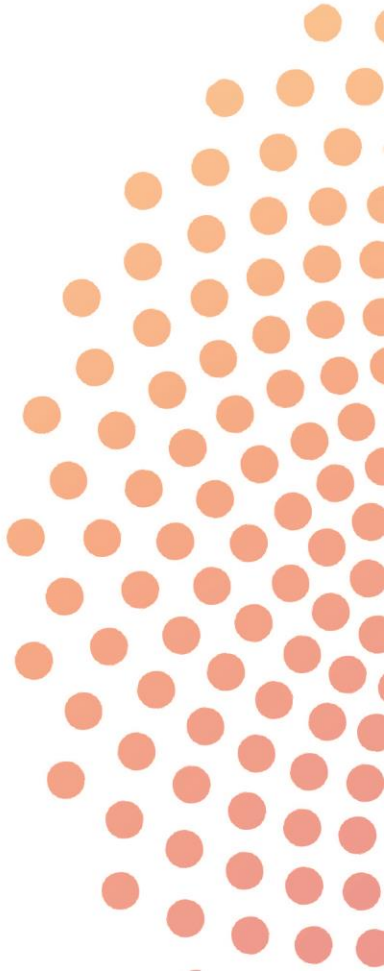
THE RING PROJECT (ONGOING)

For inter laboratory comparison and standardisation of ER and HER2 testing.



AIM

To facilitate and enhance quality and consistency in staining and reporting of ER and HER2 testing in Nigerian laboratories.



OBJECTIVES

- To validate and the standardize breast cancer receptor results.
- To update participants on scoring guidelines for ER & HER2.
- Participants are expected to share skills and the knowledge that they acquire from the project with colleagues at their centres.

PARTICIPATING CENTRES

1. Aminu Kano Teaching Hospital (AKTH), Kano
2. Ahmadu Bello University Teaching Hospital (ABUTH), Zaria
3. National Hospital, Abuja
4. University of Benin Teaching Hospital (UBTH), Benin
5. University of Ilorin Teaching Hospital (UITH), Ilorin
6. University of Nigeria Teaching Hospital (UNTH), Enugu
7. University College Hospital (UCH), Ibadan
8. Lagos University Teaching Hospital (LUTH).

\+ UK facilitator: Queen Elizabeth Hospital Birmingham

STANDARDISATION

- Two stages:
  - laboratory staining
  - microscopic interpretation
- Involve laboratory scientists and pathologists

METHODS

- Each participating centres will provide 2 representative breast cancer blocks for testing.
- Sections will be stained by H&E, ER, HER2 at a local Nigerian laboratory and also a UK lab.
- The UK stained slides will be scanned (virtual slides) and made available online.

IMMUNOHISTOCHEMICAL STAINING

- Training will be provided remotely: as a subsidiary meeting of the TSL- WADIAP workshop in one of the venues in Nigeria.
- Nigerian pathologists will score their stained anonymised cases before and after training.
- Concordance before and after training assessed.

LESSONS LEARNED

- African pathologists are very keen on learning and education
- Collaborative work can identify training and education needs.
- Short periods of attachment at UK centres are very helpful.
- Small changes can make big differences: e.g fixation.
- Good progress towards improving specimen cut up and reporting has been made.

THE FUTURE

- Focus on achieving consistency of reporting and improving quality of ER and HER2 testing.
- Role of RCPath, NEQAS, IAP, other
- Training opportunities and education programmes.
- Potential for digital pathology.
- Collaborative research into breast cancer in Africa.

ACKNOWLEDGEMENTS

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International Committee of the RCPath

- R Emodi
- K Fleming

Thank you

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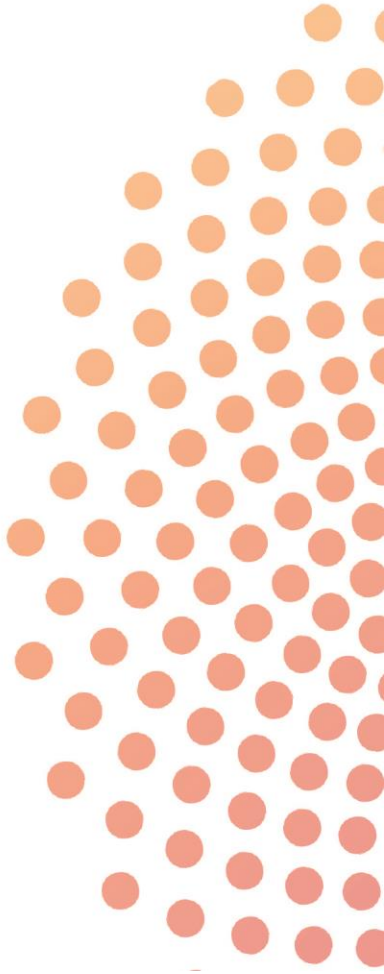

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