

CLASSIFICATION OF MALE BREAST LESIONS ACCORDING TO THE INTERNATIONAL ACADEMY OF CYTOLOGY YOKOHAMA SYSTEM FOR REPORTING BREAST CYTOPATHOLOGY

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Background: The International Academy of Cytology (IAC) introduced a system for reporting breast fine needle aspiration biopsy (FNAB) cytology and defined five diagnostic categories. This research study aimed to determine the diagnostic utility of the system on reporting breast cytopathology in lesions of the male breast.

Study design: FNAB reports between 2015 and 2019 were retrospectively recategorized according to the 5-tiered IAC Yokohama Reporting System. Our database yielded a total of 1,532 FNAB reports from breast lesions, obtained from 1,350 male patients. The inclusion criteria consisted of all FNAB on patients aged 18 years and older, diagnosed at the Tygerberg hospital cytology laboratory. The risk of malignancy (ROM) and diagnostic performance of FNAB were determined using histopathological diagnosis and/or clinical follow-up, wherever available, for each category.

In line with the ethical procedure at the University of Stellenbosch, where the study was performed, ethical compliance was achieved with the Health Ethics Research Committee (HREC reference number: S18/10/241).

Results: The category distribution were as follow: inadequate, 40%; benign, 57%; atypical, 0.6%; suspicious for malignancy, 0.7%; and malignant, 1.6%. The ROM in each category was: non-diagnostic, 11%; benign, 3%; atypical, 28%; suspicious for malignancy, 56% and malignant, 100%. The sensitivity, specificity, positive predictive value and negative predictive value were recorded as 60, 100, 100 and 84.6% respectively, when only malignant cases were considered as positive tests.

Conclusion: This is the first study to categorized male breast lesions according to the IAC Yokohama System. It validates the system for reporting breast cytopathology and adds to the refinement of the ROM within each category.

| Table 1. Recategorization of male breast FNAB using the Yokohama System | | | | | | | |
|---|-------------|---|---------------|--|-----------------|---------------------------|--|
| Original data set N (%) | | Yokohama Category after slide review* N (%) | | Number of cases with follow-up data N (%) | Benign N (%) | Breast cancer N (%) | Metastatic carcinoma (non-breast primary) N (%) |
| Insufficient | 609 (40) | Insufficient | 610 (40) | 18 (3) | 16 (89) | 2 (11) | - |
| benign | 852 (56) | Benign | 874 (57) | 31 (4) | 30 (98) | 1 (3) | - |
| Total atypical | 54 (4) | Atypical | 9** (0.6) | 7 (78) | 5 (71) | 2 (29) | - |
| | | Suspicious for malignancy | 11 (0.7) | 9 (82) | 4 (44) | 5 (56) | - |
| Malignant | 17 (1)*** | Malignant | 25 (1.6) | 17 (68) | 0 | 16 (94) | 1 (6) |
| Total | 1532 | Total | 1529** | 82 (5.4) | 55 (65) | 26 (32) | 1 (1) |

*Cases with an original diagnosis of atypia were reviewed and redistributed to other categories.

**Slides were not available for review in three cases. These were excluded from recategorization.

***Reviewed malignant cases remained unchanged.

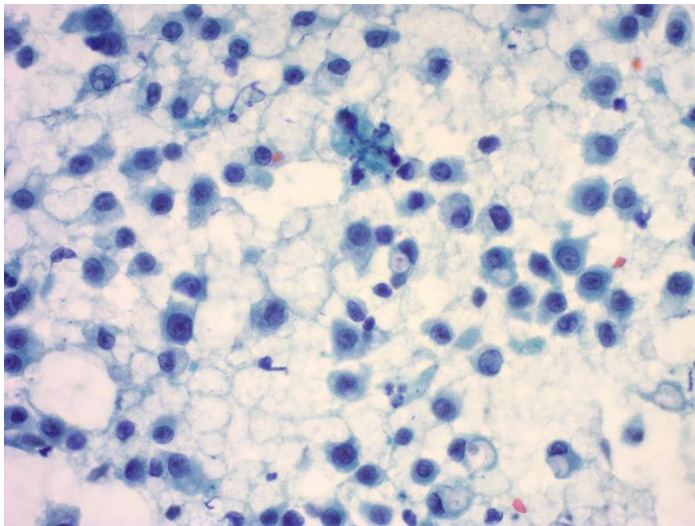


Fig. 5. Yokohama category 5: malignant.

Cellular discohesive aspirate showing malignant cells. Note scattered cells containing intracytoplasmic vacuoles with mucin (Papanicolaou stain, x400).