

The Development of Breast Cytopathology Training in Sub-Saharan Africa (Senegal): An Urgent, Useful, Accessible and Relevant Alternative

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Cytopathology is a discipline that allows to diagnose diseases using a cytological examination of material taken from patients. Cytological examination is the analysis of cells spontaneously desquamated or removed by abrasion or fine needle aspiration. Its advantages are to be little traumatic, to have rare complications, to have a simple standard technique, to be inexpensive, with rapid implementation, to take samples often without anesthesia, on an outpatient basis and to have a short delay between sampling and diagnosis. A distinction is made between non-gynecological cytology and gynecological cytology. Fine needle aspiration cytology of the breasts and lymphadenopathy, used in breast cancer screening and its metastases, is one of the frequently used non-gynecological cytology. Despite progress in the diagnosis and breast cancer innovative therapies, this pathology remains a reality with a grim prognosis in countries with limited resources such as Senegal. Indeed, despite good codification of a treatment in this country, the results in terms of survival and morbidity and mortality are mediocre, in part due to a significant delay in diagnosis, conditioned first of all by the fact that patients often do not consults but only when it is really inevitable, then for lack of information, effective awareness and finally paraclinical examinations are expensive (mammography between 60 and 120 euros), often inaccessible, for a large fraction of the generally poor population (minimum guaranteed interprofessional wage is 80.03 euros). In this context, any strategy limiting the diagnostic time is capital for a gain in survival [1]. Thus breast cytology constitutes a sufficient alternative in the event of a concordant cyto-radio-clinical triad [2,3]. It also makes it possible to be inexpensive (between 7.6 to 18.3 euros in public structures), to save time for optimal care. The procedure is relatively simple (Figure 1) often painless, therefore without local anesthesia. Once the skin is cleansed, we locate the tumor or nodule which are immobilize between two fingers, then insert the needle with a rapid push by controlling the sag. After the needle has entered the tumor or nodule, back and forth movements are made, then a vacuum is created by forcefully but slowly retracting the syringe plunger five to seven times. Before removing the needle, the pressure in the syringe is allowed to equalize. The needle is then disconnected and the syringe filled with air. The contents of the needle are projected onto one or more microscopic glass slides. A second aspiration is always performed immediately after, in another area of the tumor or nodule [4]. The slides containing the material are then either fixed in the open air for staining with hematoxylin eosin or fixed with lacquer or alcohol for other cytological stains. The effectiveness and reliability of cytological diagnosis depend on the pathologist's experience [5]. Across the Senegalese territory, only 12 confirmed pathologists are in office, with 75% (or nine) concentrated in the capital (Dakar), and the majority of breast cytological examinations originating from or

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referred to this region. In Senegal, there is a lack of reliable statistical data on cancers at the national or even sub-regional level, due to the lack of a cancer registry. These statistical inadequacies, both on the incidence and on mortality linked to this cancer, hide the extent of the problem and divert strategies towards other priorities of no less concern (malaria, tuberculosis, HIV/AIDS, kidney failure, etc.) [1]. A study carried out in Senegal over a period of 5 years by Senghor and al shows that more than half of the patients (55.7% or 235 patients out of 422) with breast mass and satellite lymphadenopathy, present a cancerous pathology (Figures 2 and 3) and around 46.7% (i.e. 197 cases) fine needle aspiration of lymphadenopathy performed in then are in favor of metastasis. These results are alarming and confirm that the diagnosis of this pathology is often very late [6]. It is necessary to strengthen awareness, by increasing the information campaigns of the Ministry of Health, to create periodic cytological screening campaigns in remote areas, to integrate more community relays (resource persons knowing local realities, often respected and listened to by local populations) to involve medical universities and Health science training and research units. To insist on the education of the populations, on breasts' self-examination, to popularize the cytological examination by training more pathologists and by creating a channel for the training of cytopathologists, while decentralizing the pathological anatomy and cytology laboratories. It is also necessary to assign more doctors in the most remote places to target the patients to be screened. It is important to devote more investment for training in cytopathology, for the equipment of cytological diagnostic centers knowing that the lack of reliable statistics at the national level, being the consequence of the absence of cancer registry, divert national strategies towards other directions no less worrying.

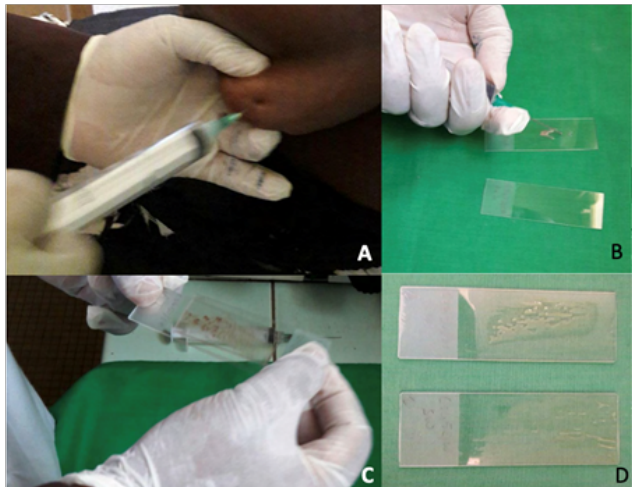


Figure 1: Technique of fine needle aspiration of a breast mass; A (fine needle aspiration of the nodule or mass) B (Fine needle aspiration product projected on the slide) C (Sread) D (air fixation).



Figure 2: It is about a young nulliparous girl, nulligeste of 22 years received in the south of Senegal in Ziguinchor who consulted late. A gynecology department referred her to an anapath for a cytological examination, for lack of means. She presents a bilateral malignant breast tumor, retractile and ulcerated on the left, firm with orange peel phenomenon and nipple retraction on the right. She also presents a bilateral axillary invasion.

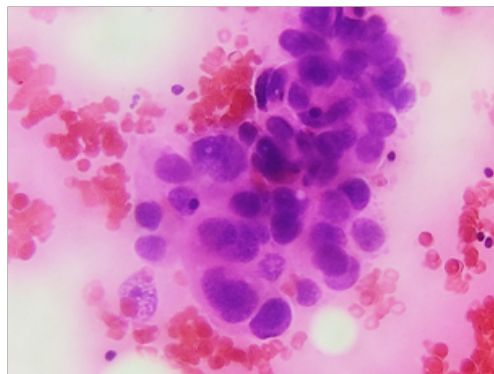


Figure 3: (HE X 400): Mammary carcinoma: three-dimensional clusters of glandular epithelial cells presenting marked cytonuclear atypia, in a hemorrhagic background.

References

1. Gueye SMK, Gueye M, Coulbary SA, Diouf A, Moreau JC (2016) Problem of the breast cancer's treatment in Senegal: A transversal approach. *Pan Afr Med J* 25: 33.
2. Kocjan G (2008) [Needle aspiration cytology of the breast: Current perspective on the role in diagnosis and treatment]. *Acta Med Croatica* 62: 391-401.
3. Kinkel K, Tardivon A (2008) European directive on breast intervention: French version of the European Breast Imaging Society (EUSOBI). *Women's imagery* 18: 83-88.
4. Zajdela A, Ghossein NA, Pilleron JP, Ennuyer A (1975) The value of aspiration cytology in the diagnosis of breast cancer: Experience at the Fondation Curie. *Cancer* 35: 499-506.
5. Vielh P (2005) La cytoponction à l'aiguille fine a-t-elle encore des indications en 2006 ? *Imagerie de la Femme* 15: 199-200.
6. Senghor F, Thiam I, Gaye AM, Ould Baba Tall LB, Dial CMM (2021) epidemiological and Cytological Profile of Breast Masses with Satellite Lymphadenopathies: About 422 Cases, Collected in Dakar, Senegal. *J Cytol Histol* 12: 565.



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