

**Pathology Services in a Low Resource Setting: University of Abuja Teaching Hospital, Abuja, Nigeria Experience**

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## Introduction

- The practice of pathology in the developing world, where the majority of the earth's population lives, presents special challenges for the Western-trained physician accustomed to the high standard of living, long life expectancy, and predictable disease patterns that are prevalent in the developed world.<sup>1</sup>
- This health care gap will inevitably widen even further as sophistication of technology in those pathology laboratories increases by leaps and bounds, as their ability to fine-tune diagnoses is honed, and as medicine becomes more personalized, while many developing countries struggle to provide even the most basic pathology services.<sup>1</sup>

- **Objective:**

To highlight how pathology services in a low resource setting is been used to meet the health needs of our populace, teach medical students and getting involved in international collaborative studies.

# Introduction

- Brief History about University of Abuja Teaching Hospital



# Introduction

- UATH (formerly *Gwagwalada Specialist Hospital*) is located in the *Gwagwalada Area Council* of the *Federal Capital Territory (FCT)*. The foundation stone was laid in 1981 and was commissioned in 1992. It is a 360-bed Hospital with a future goal of extending it to 500 beds, and serves as a reference Hospital for the FCT and surrounding states.
- The Hospital started as a *General Hospital (1992-1993)* under the *Federal Capital Development Authority (FCDA)*, was later handed to the *Federal Ministry of Health (FMoH)* upgraded to *Federal Medical Centre/Specialist Hospital* in 1993 and approved for a teaching hospital for the *University of Abuja* in 2006.
- UATH has a mission to provide affordable qualitative and effective specialist health care and provide clinical teaching in all medical fields.

## Materials and Methods

- The use of specimen accessioning, gross specimen examination and automatic tissue processing to produce quality microscopic slides using routine, haematoxylin and eosin (H&E) stain.
- Fine needle aspiration cytology services, a low-cost and reliable diagnostic technique is available in our laboratory. This also contribute significantly to the number of specimens processed in the laboratory.
- As we speak there is no immunohistochemistry services in our facility, but we can access it in sister hospitals close to us.

## Tissue Processing

- **Specimen accessioning:** Tissue specimen received in the surgical pathology have a request form, that list the patient information and history along with a description of the site of origin. The specimen are accessioned by giving them a number that will identify each specimen for each patient and maintaining a registrar book.
- **Gross examination:** Tissue removed from the body for diagnosis arrive in pathology department and are examined by a pathologist.
- **Manual tissue processing** small specimens
- **Automatic tissue processing**
- **Embedding**
- **Sectioning**
- **Water bathing/Floating**
- **Making slide/numbering**
- **Staining**

## Results

- In a year, we received and processed around 4000 surgical specimens and around 2500 fine needle aspiration cytology specimens including Papanicolau smears.
- We diagnosed around 200-300 cancer cases that comprises of cervical, breast, prostate, ovarian, gastrointestinal tract, endocrine, lymphoid and some from the central nervous system.
- **International Collaborations**
- African Collaborative Microbiome and Genetic Research: PI, Clement Adebamowo; AIDS-Malignancies study: PI, Clement Adebamowo;
- Sub-Saharan Africa Lymphoma study: PI, Leona Ayers;
- Transatlantic Prostate Cancer Study; PI, Folakemi Odedina;
- Characterization of Cervical Cancer Genome (TCGA) Study: PI, Clement Adebamowo
- Men of Africa Descent Prostate Cancer (MADCap) Study: PI, Timothy Reebeck.

## Results

- **Publications**
- So far, over 50 scientific publications in both local and international peer-reviewed journals have been published by the academic staff in the department.
- **International Conference attendance**

## Lessons Learned

- Team work
- Good interpersonal relationship with supporting staff
- Good turnaround time
- Need to establish in-house immunohistochemistry
- Need to go back to the basics during troubleshooting
- Training and re-training of staff
- Continued Medical Education/Regular conference attendance to meet colleagues around the world
- International collaboration is a must for us to bridge the gaps between developing and developed pathology services

## Existing Problems

- Low resource allocation for healthcare services
- Inter-professional problems
- Poor archiving of patients' records and tissue blocks
- Lack of immunohistochemistry services in our center
- Lack of institution support to attend both local and International conferences
- Paucity of International due to inadequate laboratory facilities
- Paucity of trained molecular pathologists

## CONCLUSION

- Pathology services in low resource setting may be rudimentary, but it is undergoing gradual transformation in spite of the challenges that has bedeviled it and there is room for much development. Pathologists from the developed world can play a critical role in providing support for locally adapted services in low-resource nations, acting in cooperation with local medical and government institutions.<sup>2</sup>
- **References**
- 1. Easterly W. *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*. New York, NY: Penguin Books; 2006
- 2. Benediktsson H, Whitelaw J, Roy I. Pathology services in developing Countries: A Challenge. *Arch Pathol Lab Med* 2007;131:1636-1639.