

PATHOLOGY AT ST. JOSEPHS'S HOSPITAL, KOFORIDUA, GHANA

Report By Ray Ofori

Background Information

The republic of Ghana, formally the Gold Coast, lies to the western coast of tropical Africa and although this is not a large country, by African standards, it is similar in size to that of Great Britain. The capital of Ghana is Accra but our mission was to the Eastern Region of Ghana in the metropolis of Koforidua.

The Mission

Motec-Life's aim on arrival among others was the overall development of the laboratory, improving procedures in all aspects of pathology but with particular focus on microbiology, where my expertise lay. For a country in which many infectious diseases, (e.g., bacillary dysentery, typhoid, TB) are endemic, it seems ironic that the diagnosis of these conditions often relies upon simple microscopic examination and/or notoriously unreliable investigations such as the Widal test.

The pathology department offers haematology, clinical chemistry and blood transfusion services. The laboratory is very basic and has little in the way of automation. Haemoglobin, ESR, blood glucose, creatinine total protein and bilirubin are measured on an old spectrophotometer. There is a large amount of microscopy work involving the examination of slides for malaria, and of stools and urine for ova, cysts and parasites. Nematodes are the most common finding, especially *Ascaris lumbricoides* and *Stongyloides stercoralis*. Surprisingly, microscopic slides are washed and reused until they are so scratched they cannot be used anymore.

The transfusion section is very busy, as patients are required to encourage relatives or friends to donate blood prior to any surgery. All donated blood is screened for HIV, Syphilis (rapid plasma reagin), Hepatitis B and Hepatitis C. **I was informed that donors are not told when their HIV screening was positive but simply that they did not qualify to donate!!**

The microbiology section is quite limited, with few samples submitted for culture. Culture media are prepared in house using glass Petri dishes and are washed for reuse. Nosocomial infections, which were very evident in the wards, could not be assessed properly bacteriologically. The main area of work is screening sputum for the presence of acid-fast bacilli to aid in the diagnosis of tuberculosis. This is an area that I found very worrying, as health and safety issues are not always followed. The laboratory lacks safety cabinet so high-risk respiratory specimens are processed on an open bench using gloves but no facemasks. Tuberculosis and HIV is very common in the region and it would be easy under these working conditions for a member of staff to contract infection within the laboratory environment.

The laboratory staffs collect most of the samples submitted to pathology. Patients begin to arrive soon after the laboratory opens, then, having provided a specimen, they wait patiently in the hospital grounds for their results, which they take back to the doctor in order to receive their medication. The process can take all day, but most

of the time they remain calm and relaxed. The majority of the outpatients travel many miles, so they are just relieved to get their test results and then receive treatment.

The laboratory staffs of five are hardworking and reasonably well trained in basic laboratory practices. However health and safety issues are not always implemented as eating and drinking in the laboratory was common, but generally things run well, with few accidents or incidents.

Everything I observed about St Josephs Hospital also applies to Nkawkaw Holy Family Hospital, a sister hospital within the Eastern Region. However, Holy Family laboratory is more equipped than St Josephs. They have been supplied with an analyser by the Ministry of Health to be able to measure CDT⁴ & CDT⁸ levels for HIV patients so that they could be supplied antiretroviral therapy. Holy family microbiology is slightly more functional and receives more requests for culture and susceptibilities.

Rest and Relaxation

Our hosts were extremely friendly and genuinely generous. At the weekend, we were taken to Kakum National Park, where there is the only high tropical forest canopy walk in Africa. One or two members of our group were a little bit anxious about this 40 to 50 metre high wooden rope walkway, suspended in the tropical rainforest, but after encouragement from other colleagues they enjoyed being able to look at the forest canopy from high up. We were then taken back to Cape coast to St George's castle at Elmina, which etches a poignant reminder of the influence European's had in that area, regarding the transatlantic slave trade. It was a moving experience within the tour of the fort. We had the opportunity to spend some time at a coconut tree lined beach further west, which was relaxation well deserved!

I can't over-emphasized the deep satisfaction I feel with my life as a result of knowing that I am helping to provide access to quality healthcare for those who need it most. **The opportunities for field studies and research in these two hospitals are immense.**

Recommendations.

- Standard Operation Procedures (SOPs) for all the procedures performed should be compiled.
- Health and Safety documents should be written and staff educated about health and safety.
- Record of HIV positive voluntary donors should be kept.

The way forward are not limited to but would require the following equipments and reagents to help set up the microbiology laboratory so that it could function to a reasonable standard.

- Incubators
- Microscopes
- Water baths
- Disposable Petri dishes
- Disposable inoculation loops
- Anaerobic incubation jars

- Staphaurex reagents
- Streptococcus grouping kits
- Antibiotic susceptibility discs
- Prolab cryovials
- Microscopic slides
- Facemasks
- Centrifuges
- Complete environmental sampling of the operating theatre to determine sterility periodically would be essential.
- Preoperative bacteriological assessment of patients for scheduled orthopaedic surgery.
- Assessment of nasal carriage for *Staph. aureus*/MRSA from staff eg OR/wards
- Due to long hospital stay, postoperative wound infections were observed to be very common. Culture of infected wounds is required to assess the type of bacterial present with antibiotic resistant patterns e.g MRSA.
- Beds in the ward require swabs taken from them for culture to assess type of bacteria and resistant patterns.
- For effective surveillance programmes to be implemented to assess the presence of resistant bacteria, the strengthening of the laboratory services, with a long-term commitment to resources, training and quality control, is essential.