

IRC Report: Operation Hernia Mission to Takoradi, Ghana, November 2012

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Introduction

Operation Hernia is an independent, registered charity with the aim of repairing inguinal hernias in low and middle income countries. Its mission statement is to 'provide high quality surgery, at minimal cost, to patients who otherwise would not receive it'. The programme was initially established in Ghana in 2005. Since this time, it has significantly expanded; surgical teams from 22 nations have repaired over 6000 hernias in 11 different countries to date. In November 2012, I joined a team on a week-long mission to Takoradi, in the western region of Ghana.

The prevalence of inguinal hernias in Ghana is estimated at 7.7%. Of those requiring surgery, merely 20% are repaired. Hence this pathology results in unnecessary morbidity and mortality for a significant proportion of the population whose hernias remain untreated.

The Team

Our team consisted of 3 consultant surgeons, 2 surgical registrars, 1 scrub nurse/ODP and 1 anaesthetic registrar from the UK. We divided into 3 teams, rotating between 3 separate medical facilities; Ghana Ports and Harbour Authority (GPHA), Takoradi and Dixicove Hospitals. My role within the team was to administer general and regional anaesthesia and to support and educate the local anaesthetic nurses on technique and safe practice. I worked at GPHA and Dixicove, rotating between the two hospitals according to clinical need.

Facilities

GPHA, (a metropolitan hospital), was seemingly well equipped, with running water, a modern anaesthetic machine, copious airway equipment and drugs, (a legacy of previous Operation Hernia teams). The oxygen supply to theatre was from a manifold of two cylinders outside the building. On my first day at GPHA I rapidly realised that the Ghanaian anaesthetic nurses were unaccustomed to checking their anaesthetic machine. There was a leak in the breathing circuit, (which had been present for several months). I immediately exchanged this for a new Bain circuit, (brought from the UK) and corrected the problem; however the oxygen failure alarm could not be silenced, owing to poorly filled cylinders. Therefore we elected to perform all operations under local or regional anaesthesia at GPHA.

Dixicove is a rural hospital, with basic medical facilities; there was no running water and power cuts were a frequent occurrence, with limited backup from the generator.

Anaesthesia was administered via a Boyles mark two machine, running isoflurane and taking its oxygen supply from a cylinder, directly attached to the machine. The ventilator did not function, therefore patients would breathe spontaneously whether intubated or with a supra-glottic device in situ. Interestingly, I felt more in control in this basic environment, where the anaesthetic machine was easy to check and trouble shoot problems.

Both hospitals actively employed pulse oximetry and a DINAMAP in theatre. Propofol, suxamethonium, atropine, ephedrine, morphine and hyperbaric bupivacaine 0.5% were freely available. We also brought propofol, bupivacaine, airway equipment, spinal needles, chlorhexidine, sterile gloves and dispersible paracetamol and diclofenac from the UK. The oral analgesia was particularly useful both pre and post-operatively, as patients were not routinely given a pre-med and would not pay for analgesia to take home.

Recovery Facilities

Recovery facilities were non-existent. I was shocked to discover that following general anaesthesia, all patients, (including children), were wheeled on a trolley, (flat on their backs), into a corridor outside theatre. They were left here, unmonitored, unobserved and without supplemental oxygen, whilst the theatre team started the next case.

One significant improvement that I instituted whilst in Takoradi was rigorous education of the theatre team about the need for post-operative care and regular patient observations, in particular airway management and its potential complications. By the end of the week, patients were emerging from theatre in the recovery position, monitored with pulse oximetry and a dedicated member of staff, until they were fully awake.

Workload

A typical day would start at 7am, with surgical and anaesthetic assessment of patients on the list. We then operated continuously until all patients listed that day had undergone a hernia repair; the working day often did not finish until 9-10pm.

During the mission, we performed 94 procedures on 87 patients, (some had bilateral hernias or required hydrocoele repair). The age range was 18months (13kg) to 89 years. Of these, 14 were performed under general anaesthesia, (paediatric and incisional hernia repairs) and 40 were performed under spinal anaesthesia.

Lessons learnt

My experience with Operation Hernia in Ghana was invaluable, both personally and professionally. This would not have been possible without the support of the AAGBI, for which I am extremely grateful. Professionally I feel that my confidence, resourcefulness and flexibility have improved tremendously and also my ability to cope under pressure in an unfamiliar environment. The Ghanaian theatre teams worked tirelessly and always with a

smile, a fantastic demonstration of effective teamwork.

In terms of education, I found that it was easier to effect a change in local practice by demonstration of the benefits of certain techniques, rather than by just explanation. Changes in practice included:

1. Thorough aseptic technique for spinal anaesthesia
2. Use of trendelenberg tilt to encourage cephalad spread of spinal anaesthesia, (previously, if the block was inadequate 5 minutes after administration, the anaesthetic nurses would perform a second injection, believing that the initial dose has not worked).
3. Post-operative care, including pulse oximetry
4. Routine use of the WHO Surgical Safety Checklist



Figure 1: Anaesthetic machine at GPHA



Figure 2: Anaesthetic machine at Dixicove



Figure 3: Post-operative care



Figure 4: The largest inguinal hernia we repaired