

Operation hernia: humanitarian hernia repairs in Ghana

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Abstract Ghana has a high incidence of inguinal hernias and the healthcare system is unable to deliver an adequate repair rate. This results in morbidity and mortality and has a knock-on effect on the local economy. A project has been set up to try and reduce the burden of these hernias by establishing Africa's first Hernia Centre. This is supported by structured visits by European surgeons to the centre. In October 2006, a team of four surgeons, two specialist registrars, one hernia nurse specialist, and three nurses was assembled in order to open the Hernia Centre, which will provide a base for the delivery of hernia services in the West of Ghana. A 2-year teaching programme has been formulated, tailored to the needs of local surgeons and nurses, with the aim of developing an integrated team that will initially deliver up to 50 hernia repairs each month. It is planned that the centre will be supported by structured periodic visits from surgeons and nurses based in Plymouth, the European Hernia Society, and any other volunteers wishing to support the link.

Keywords Hernia · Africa · Ghana · Humanitarian · Repair

Introduction

Hernia repairs represent one of the most commonly performed operations worldwide. However, in certain parts of

Africa the incidence is significantly higher than the rate of repair (60 inguinal hernias per 100,000 population in Africa per year; repair rate 25 per 100,000 [1]). This discrepancy results in many longstanding hernias with a high incidence of emergency presentation and morbidity (Fig. 1 e, f). This often prevents patients from working, with a knock-on effect on the local economy. Ohene-Yeboah [2] reports that 65% of hernia repairs in Kuimansi in Ghana are repaired as emergencies, with a bowel resection rate of 24% and mortality from strangulated hernias of 6%. For those who do not reach hospital, the mortality rate has been reported as 87%. These statistics differ fundamentally from European countries where emergency repairs only represent 1–3% of total repairs.

The Bassini repair is used by the majority of doctors in Ghana; this is due largely to the expense of prosthetic mesh and lack of training in the Shouldice repair technique. Comparatively, Bassini repairs have an inherently high recurrence rate [3].

The surgery is often performed poorly in rural areas, because adequate training is lacking. A recent report from Dakar, Senegal, on 100 uncomplicated adult groin hernias indicated a 21% complication rate, including bladder injury, accidental skin wound incurred by the electric surgical blade, meningeal irritation, urinary retention, scrotal sac haematoma, parietal suppuration, intestinal occlusion and immediate recurrence [4].

With a population of 20 million, Ghana has only 9 doctors per 100,000 population and less than 2,000 doctors working in government hospitals. Ghana's medical education budget is only US \$9 million per year and is unable to provide education beyond undergraduate level; therefore two-thirds of young Ghanaian doctors leave the country within 3 years of graduation [5]. Partnerships are therefore required between the developed world and Ghana in order to support managed health care.

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The project

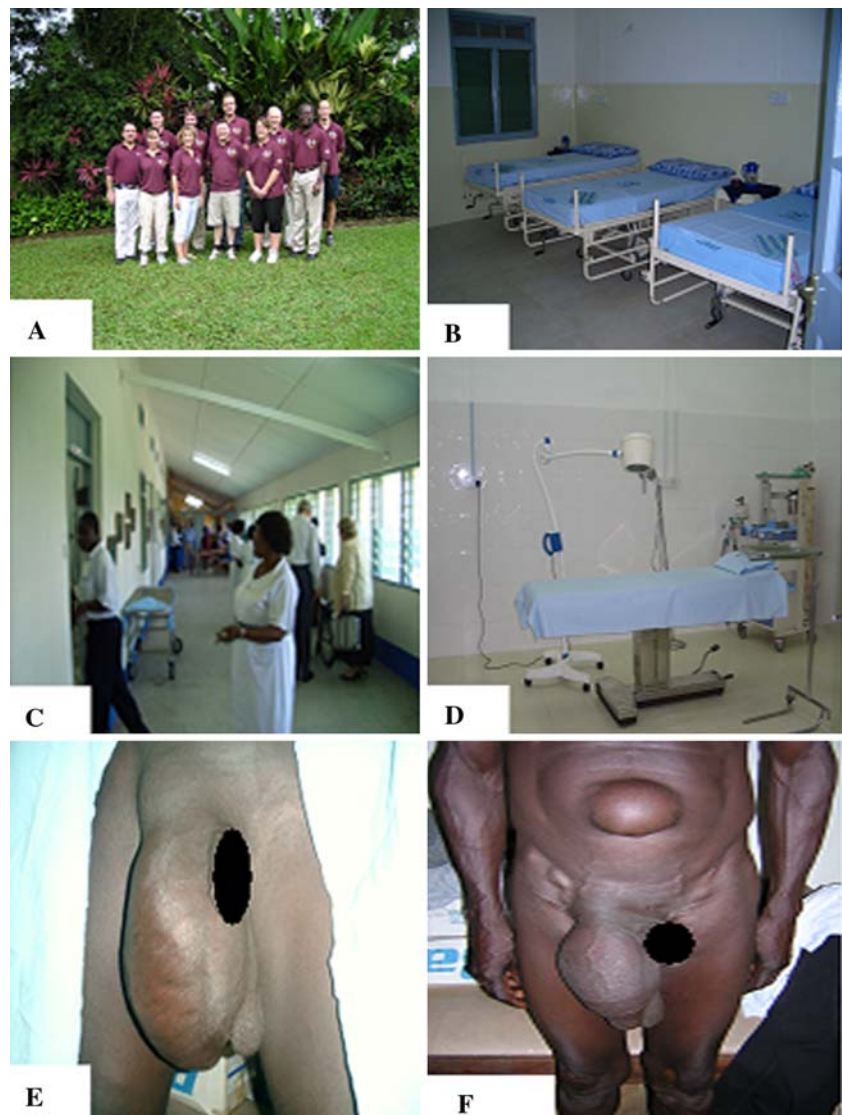
In order to facilitate managed healthcare in a sustainable fashion, Africa's first 'Hernia Centre' has been opened in a disused wing of Takoradi Hospital, Ghana (Fig. 1b, c, d). This has been fully refurbished, over the last year, to "European standards" using funding donated by the British High Commission, and it is hoped that with financial aid from corporate sponsorship the Centre will provide a base for the delivery of hernia services in the West of Ghana.

A 2-year teaching programme has been formulated, tailored to the needs of the local surgeons and nurses, aimed at developing an integrated team that will initially deliver up to 50 hernia repairs each month. It is planned that the Centre will be supported by structured periodic visits from surgeons and nurses based in Plymouth, the European Hernia Society, and any other volunteers wishing to support the Link.

In October 2006, a team of four surgeons, two specialist registrars, one hernia nurse specialist, and three nurses were assembled from volunteers of the European Hernia Society, the Plymouth-Takoradi Link, Plymouth Hospitals NHS Trust and the Ministry of Defence Hospital Unit (MDHU) at Derriford Hospital, Plymouth (Fig. 1a). During this visit, the Hernia Wing was officially opened. Four hospitals in the Takoradi Region were utilised to carry out hernia surgery and to train local surgeons in open mesh inguinal hernia repair under local anaesthetic.

Prospective patients had been examined and selected by local surgeons in preparation for their operation. The patients were mostly young men, some with additional pathologies. The nurses from the MDHU and the hernia nurse specialist provided support for the hospital nurses together with written and verbal information on the specific pre-, peri- and post-operative care of groin hernia patients. Operating was carried out on 6 days of the 8-day visit and a

Fig. 1 a Operation Hernia: The Team October 2006; b, c, d Hernia Wing; e, f typical African hernia



typical list consisted of five or six inguinal hernia repairs. In total, 141 inguinal hernia repairs were achieved and 13 other operations made up of a mix of incisional and femoral hernia repairs, the occasional laparotomy and one emergency caesarean section. One patient suffered a postoperative haematoma, which resolved with conservative management but no other complications were reported.

The operating theatres were very basic, nurse anaesthetists provided anaesthetic support, all instruments were steam sterilised and were of a very old vintage. Mesh was introduced with great ease and acceptance, but cost remains a significant problem. All materials used by the visiting surgeons had been donated by Plymouth Hospitals or industry prior to arrival in Ghana. It is hoped that, with corporate funding, there will be a continuous supply of mesh and equipment to the centre.

Summary

African healthcare systems are weak, fragile and hanging on a precipice because of lack of staffing and resources.

Support needs to be provided by means that are sustainable and ongoing. The Hernia Treatment Centre is designed to meet these needs. To eliminate the pool of accumulated hernias in Africa a much higher rate of operation will be required over many years.

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