Surgery at Sea

Keith Thomson

Introduction

Major life changing events are rare but when I read about the Mercy Ship *Anastasis* (Fig1) in the *Daily Telegraph* in September 1990, during a flight from Manchester to London, I had no idea what the future had in store: now fourteen years later, I still eagerly anticipate my annual adventures in West Africa.

Fig 1 M/V Anastasis docking in Freetown

The Anastasis

Mercy Ships [1] is an International Christian relief organization which uses specially equipped vessels to perform life changing surgery, free of charge, on children and adults in the Developing World. The original idea was first thought of in 1964 as the result of a vision described by a young woman during the aftermath of a hurricane in Jamaica to a nineteen-year-old American, Don Stephens. The first ship, an 11,700 tonne former cruise liner called the *Victoria* (subsequently renamed the **Anastasis** – Greek for 'resurrection') was purchased in 1978 from the Lloyd Triestino Line in Italy for half a million pounds, less than the scrap value. She then languished in Piraeus harbour in Greece for more than four years while dedicated volunteers strove to convert her into what she is today to so many – *The Great White Ship of Hope*.

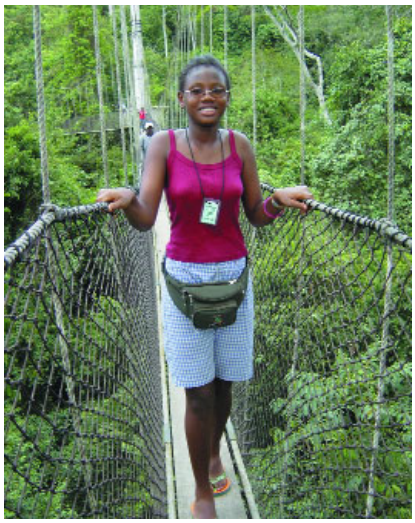
Since 1990 the Anastasis has spent up to eight months annually in West Africa. The all volunteer crew numbering about 400, from more than 30 different nations, pay their own travel and accommodation costs. About 1000 free operations are performed each year in the three operating rooms situated a deck above the always bustling 40 bedded ward which is the real 'heart' of the ship. Surgery includes maxillofacial (cleft lip and palate repair, huge benign jaw tumour excision, reconstruction of faces devastated by cancrum oris), ophthalmic (cataracts, squints, trabeculectomies and enucleation), orthopaedic (correction of club feet repair) and the latest project to repair vesico-vaginal fistula (VVF) in women damaged during prolonged and non medically supervised childbirth. I became passionate about this problem after reading a very powerful article entitled 'Deaf to the scream' in the *New Internationalist* [2] about the horrifying statistics hidden behind the terms 'Maternal Mortality and Morbidity.'

Maternal Mortality

Every year about 600,000 women, the majority in the Developing World, die of the complications of pregnancy, this equates to about 1500 per day or one every minute. Parts of West Africa have the worst statistics in the World quoted by UNICEF (Progress of Nations, 1996) as 1800 per 100,000 pregnancies compared with 10 in the UK. In 2001 at the Princess Christian Maternity Hospital (PCMH) in Freetown, Sierra Leone, there were 142 (8.4%) maternal deaths out of only 1700 deliveries [3].

The main life threatening complications are haemorrhage, sepsis, abortion (with knitting needle or straightened coat-hanger), eclampsia and lack of affordable healthcare. On March 17th 1993, while visiting the labour ward of the PCMH in Freetown, the agonised cries of a young woman attracted my attention. Nineteen-year-old Catherine Conteh had been in obstructed labour for four days and needed an emergency Caesarean section. Not only had the local surgeon refused to operate without full payment in advance but had also told her that she and her unborn baby would probably die before the end of the day!

Meanwhile her husband Augustine, beside himself with anxiety, was trying to find enough money for the surgery. I paid £70 and Regina was born. I never imagined that five years later, on a subsequent trip to the ship in Guinea, I would be met by five-year-old Regina and her parents at Conakry airport holding a notice '*Uncle Keith thank you for saving my life and my mom's you are most welcome*'. This family now live in Accra, the capital of Ghana where Regina (Fig 2) is a happy eleven-year-old schoolgirl, Catherine (Fig 3) is doing a hotel management course and Augustine teaches computing.



'Regina, aged 11, on the walkway in Kakum rainforest – April 2004'

Fig 3 Catherine Conteh, graduation 2004

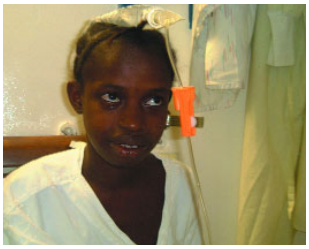


Fig 4 12-year-old Bintu pre-op VVF repair

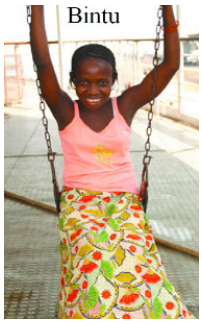


Fig 5 Bintu one year post-op

Maternal Morbidity

For each woman who dies about 25 suffer severe internal injury due to pressure necrosis from prolonged obstructive labour through a small pelvis. The result is usually the delivery of a dead foetus and formation of a vesico-vaginal fistula. In those women, often only teenagers, who survive the ordeal, its consequence is an unrelenting trickle of urine per vaginum, perpetually soiled garments and an offensive discharge. Rejection by spouse and family usually follows. Travel by public transport is difficult. Suicide is a not uncommon option.

The World experts on the care and treatment of these women are at the 'Fistula Hospital' in Addis Ababa, Ethiopia – the remarkable story of this institution is described in Catherine Hamlin's book '*The Hospital by the River*' [4].

VVF patient selection

In November 2001 the first screening of patients for potential fistula repair surgery on board the *Anastasis* was held at the PCMH in Freetown. Assessment of approximately 80 desperate women was carried out by Dr Biruk and Sister Tenadem from Ethiopia. I assessed 50 of these patients for anaesthesia. Their ages ranged from 12 to 40 with over a third of them less than 21-years-old. They had been in labour from between 1 and 7 days before delivering a dead baby, most had no living children. The mean duration of fistulae was 4.6 years with a range between one month and 20 years. Only two had had subsequent live births. Five of the younger girls had been sex slaves to rebel fighters, these included 12-year-old Bintu (Fig 4, Fig 5) who had a VVF and a recto-vaginal fistula which is usually associated with insertion of sharp objects.
Two months earlier she had undergone the psychological trauma of having her surgery cancelled on the operating table when a visiting American surgeon realised she was not capable of doing the repair.

Because of lack of surgical time we scheduled only 38 for surgery and put 12 on a reserve list. Of the 50 routine blood samples taken three were HIV positive so those women were cancelled and replaced by three from the reserve list.

As the women were screened they were separated into 'yes', 'no' and 'maybe': one of the most tragic cases in the 'no' group was Yaelia. She was 15 and an orphan – both her parents were killed as the rebels kidnapped and then raped her – nine months later when her baby was being born, a rebel forcibly pulled it out of the birth canal, killing the child and causing such a severe fistula that correction would require multiple surgeries and several months of recovery. As the implications sank in, the girl fell on the floor and wailed, causing head jerking stares and silent 'Please God – not me' from the other 80 women in the room. It was an emotional day for those women and the medical team with tears of joy for those selected for surgery and of sadness for those not.

VVF Surgery on Board

Fig 6 Dr Arthur from Lithuania performing a CSE

The chosen anaesthetic technique was spinal anaesthesia using hyperbaric bupivacaine with fentanyl (Fig 6). This was converted to general anaesthesia in three out of the first eight patients because surgery lasted longer than 2 hours. Combined Spinal Epidural was then adopted as the anaesthesia of choice using a double space technique. Most of the spinals and epidurals were made more challenging by hypertrophied paravertebral

Fig 7 Heavy load leads to muscular back

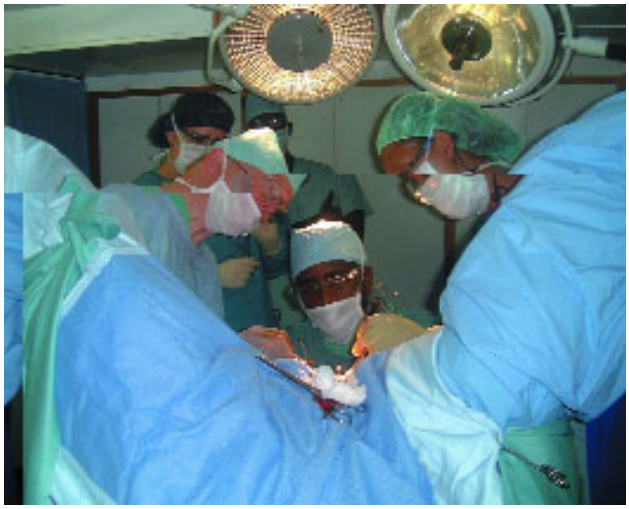


Fig 8 Lord McColl assisting Ethiopians Dr Biruk and Sister Tenedem

muscles due to the custom of women carrying heavy loads on their heads since childhood (Fig 7). Interestingly the Ethiopians (Fig 8) were impressed that none of the patients developed a post-dural puncture headache because in Addis Ababa the incidence is 100% using reusable 19G Quinke point spinal needles as compared with 25G pencil point ones used in the UK. They also give prophylactic ephedrine made by dissolving tablets in boiling water and giving the cooled mixture intramuscularly! None of our 38 patients required ephedrine. Several of the women needed 3 or 4 units of blood which was donated by members of the Anastasis crew (Fig 9). Some of the surgery was very challenging such as one woman who was found to have both ureters

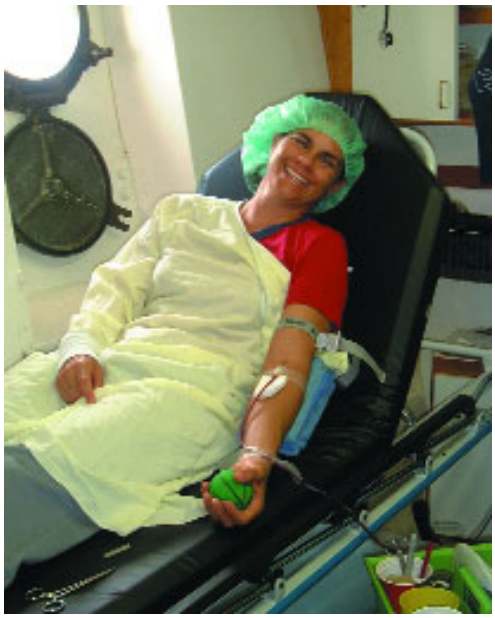


Fig 9 Cheerful blood donor

detached from the bladder and another had completely lost her urethra.

Fig 10 Fistula patients wearing new dresses

Before they left the ship each women was given new dress as a symbol of a new start in life (Fig 10).
Many more operations have now been carried out on board the ship in other countries including The Gambia, Togo and twice more in Sierra Leone. Further resources are needed, some of which will be provided by the new Mercy Ship.

Fig 11 The Africa Mercy on Tyneside

An additional ship

The 16,572 tonne *Africa Mercy* (Fig 11) was christened by Mrs Norma Major in April 2000. She is being converted on Tyneside into the third member of the Mercy Ships fleet and the World's largest non-Governmental hospital ship. The former *Dronning Ingrid* was bought from Scandlines AG of Copenhagen in 1999 after a generous donation of £4 million by Ann Gloag of Stagecoach. Recent major gifts from the Oak Foundation in the USA and Peter Vardy in the UK have put the project on course for a launch date in 2005. Many people have given support to this remarkable venture, but more money is still needed: she is being equipped with six operating rooms, 80 hospital beds and accommodation for 400 both long and short term crew.

Medical and non-medical volunteers alike are needed to help some of the most disadvantaged people in our World today – not only will you help heal the bodies and minds of others but in doing so may indeed become changed yourself, **so beware**: no one, neither patient nor crew member leaves a Mercy Ship untouched by what happens on board. So why not accept a challenge, leave your comfort zone for a fortnight or more and travel to some fascinating countries to help support a

NB : 2004 UK ports for the Anastasis
14th June-5th July, Liverpool
8th-20th September, Dundee

floating bridge between the 'haves' and the 'have nots' of our unequal World.

References

1. Mercy Ships UK, 'The Lighthouse,' 12 Meadway Court, Stevenage, Herts SG1 2EF. telephone: 01438 727800 Fax: 01438 721900. Email: info@mercyships.org.uk website: **www.mercyships.org.uk**
2. Adamson P. Deaf to the scream. *New Internationalist* 1997: 27-30.
3. Dr Eric Vrede, Consultant Anaesthetist, PCMH, Freetown, Sierra Leone, Personal Communication.
4. Hamlin C. The Hospital by the River. Pan Macmillan, Australia Pty Ltd.