MISSION HAITI

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Choscal Hospital

31 January to 21 February 2010

SICOT & MSF-Belgium collaboration

Background

Memories and ghastly images of Gujrath earthquake on Indian Republic Day nine years ago (26 January 2001 at 08:46) flashed through my mind on seeing the devastating earthquake that hit Haiti on 12 January 2010 (at 16:53) on the television. It took us more than four years to treat a small proportion of affected earthquake victims at various tertiary centres in Mumbai, where I trained as an orthopaedic resident (2001-2005). The 45- to 50-second natural disaster, the epicentre of which was 20 miles from the capital city, Port-au-Prince, killed more than 230,000 and is considered to be the 6th most deadly earthquake of all time. The enormous challenge to rebuild Haiti was beyond my imagination.

Being a qualified orthopaedic surgeon and a member of professional organisations (SICOT, AAOS and BOTA), I received updates of relief operations and call for volunteers to provide humanitarian relief and aid work. An inspiring presidential message (dated 18 January 2010) from POSNA (Paediatric Orthopaedic Society of North America) and another message from SICOT was enough to contact them the very next day offering my availability for a short-term mission for a noble cause foregoing my annual leave. SICOT and *Médecins Sans Frontières* in Belgium (MSF-B) have always had a long-standing collaboration and all SICOT members were contacted way back in 2007 to ask if they wanted to enrol with MSF and its activities should a need arise in the near future. The time had now come for SICOT to act and float this joint venture. Being a winner of the Lester Lowe SICOT Award for 2009 also probably helped. A series of administrative and human resource developments over the next week resulted in me being selected as a first SICOT surgeon to work as part of MSF Belgium's first orthopaedic project in Port-au-Prince under the most challenging circumstances on a three-week mission from 31 January to 21 February 2010. My educational supervisors and employing NHS hospital were very helpful in sanctioning annual leave at short notice for a noble cause and even offered medical aids (dressings and suture materials) for me to take with me.

The Travel

The HR officers at the MSF-B headquarters in Brussels were very friendly and professional, and quickly arranged travel tickets to suit my clinical commitments and comfort. They also provided valuable practical tips, via a telephone briefing on MSF activities in Haiti prior to the earthquake and ongoing activities that gave me an insight into what to expect as well as the ground realities and harsh facts. The Port-au-Prince international airport had been shut for civilian air traffic as the country's government and infrastructure had collapsed and been taken over by the US military. I reached Port-au-Prince on the evening of 1 February 2010 via Santo Domingo and Newark (USA). The briefing and update at Santo Domingo, which served as the nerve centre of collaborative MSF operations (Amsterdam, Barcelona, Brussels, Geneva, Paris, Rome), gave us an opportunity to interact with other MSF volunteers from different parts of the world, break the ice, recover from the travel, and prepare ourselves for tougher days ahead.

A short ride in a convoy of vehicles, witnessing the scale of destruction en route from the airport to the MSF-B headquarters in Port-au-Prince was humbling. Buildings were deserted and reduced to tatters with frequent after-shocks only adding to the misery (fig. 1). Temporary make-shift tents in open fields with no electricity and strong odours were a common sight everywhere. The security and safety of expatriates seemed to be the topmost priority of the logistics team.

Fig. 1: Affected buildings in Port-au-prince

A series of briefings by project co-coordinators followed the same evening and we were updated on the medical and surgical activities that were mainly provided at three centres:

- Choscal Hospital, Cité Soleil;
- Isaie Jeanty Hospital, Chancerelle;
- Community hospital, Martissant.

We were also informed of existing medical care for expatriates, accidental needle stick injuries for exposure prone procedures (EPP) workers, and emergency contingency plans which impressed me very much. All that was expected of us was to be flexible to changing circumstances and adapt to daily challenges and needs, which was the least anyone could do. The same night we were housed in different sub-centres of MSF-B undertakings and met our respective field co-coordinators (who were in charge of each of the above three centres).

Clinical Work

My actual clinical work started on 2 February 2010 and lasted until 18 February 2010. The first day was spent having breakfast at the MSF-France (MSF-F) headquarters and a ward round with MSF-Spain (MSF-SP) community hospital which needed orthopaedic input, as numerous cases were awaiting decision-making. It was here that I got a first-hand grasp of the true situation as well as the infrastructure and facilities available at our disposal. Type C pelvic fractures, lower extremity fractures (open & closed), lack of Bohler-Braun frames and skeletal traction appliances, neglected paediatric upper-extremity fractures with Volkmann's ischemic contractures (VIC), amputated stumps that were infected and warranting flap preparations and debridement were all too rampant and evident. Volunteers worked round the clock attending to new patients who flocked the ER (emergency room) for clinical care and, at times, it was challenging to perform amidst limited resources and manpower. The local population had suffered so much and was grateful for the external aid from hundreds of NGOs. Their patience, enthusiasm and never-say-die spirit inspired and motivated the medical workforce and kept us going. That same afternoon and early evening, I was taken to Choscal hospital which was my base for the rest of the mission.

Choscal Hospital

Choscal hospital is located in Cité Soleil, which is considered to be home to an estimated 250,000 to 300,000 residents who live in extreme poverty. The area is generally regarded as one of the poorest and most dangerous areas of the Western Hemisphere. It is also one of the biggest slums in the Northern Hemisphere. There is little police presence, no sewers, no stores, and little to no electricity. Armed gangs were roaming scot-free and were back to their criminal ways as the prison was badly damaged by the earthquake. The hospital and shanty neighbourhood was surprisingly not severely affected by the earthquake and, though primarily a maternity hospital, served as a surgical centre providing orthopaedic, obstetric, paediatric and general surgical services to some of the most impoverished people amidst great security concerns. It was a 100-bedded surgical centre with patients housed in 8 tents (wards) – 2 paediatric, 1 medical, 1 labour room and 4 adult orthopaedic/surgical (fig. 2).

Fig. 2: An orthopaedic ward & OR reception area

There were two operating rooms (OR), one minor procedures room, and a 6- to 8-bedded intensive care unit. The emergency room (ER) had 3 beds with oxygen, which struggled to cope with the constant flow of new patients and emergencies every day. A ward round that took a couple of hours, followed by a briefing and horrific stories from immediately after the earthquake by senior surgeons who were nearing the end of their mission brought tears to my eyes which I fought hard to hold back. A few practical tips and tricks of the trade from them were some of the finest and can seldom be found in medical books and literature. I also got an opportunity to interact with the local MSPP (Ministry of State Port-au-Prince) staff (theatre personnel, anaesthetists and surgeons), which was very humbling.

Surgical work

A typical day began at 06:30 (which later became 07:00-07:30, owing to security issues) and lasted until 17:00-18:00. The UNPKF (United Nations Peace Keeping Force) guarding civilians and the streets, in armoured vehicles, were a common sight. All expatriates (surgeons, anaesthetists, physicians, nurses, logistics team, physiotherapists and occupational therapists) departed in a convoy of 3-4 vehicles and returned together. Clinical work started with a formal handover from the night team (as in any NHS hospital in the UK or elsewhere) and the operating list was prioritised reviewing the overnight emergency admissions. An excellent team of theatre staff and anaesthetists provided an uninterrupted and smooth running of all three theatres until

the evening. It was a constant struggle against time to complete the list and perform all planned surgeries, as unexpected emergencies arrived frequently.

The commonly performed orthopaedic surgeries included:

- Fracture reduction/manipulation and casting.
- Application of external fixators (fig. 3).
- Amputations to save a life or rest of a limb.
- Conversion of gullitone amputated limbs with fashioning of flaps and closure (fig. 4).
- Debridement of infected amputated stumps into functional stumps controlling infection and facilitating closure.
- Soft tissue debridement, bone covering and optimising physiology (fig. 5).
- Treatment of new casualties with gunshot/firearm injuries.
- Management of fasciotomies for compartment syndromes with regular dressings.
- Debridement and all attempts at limb salvage for de-gloving/crush injuries.
- Management of hand infections (flexor tendon sheath/palmar space abscess – I & D).
- Split skin grafting in granulated wounds devoid of infection.
- Skeletal traction application/damage control orthopaedics and streamlining referrals to higher centres (MSF-F army hospital) for definitive care.

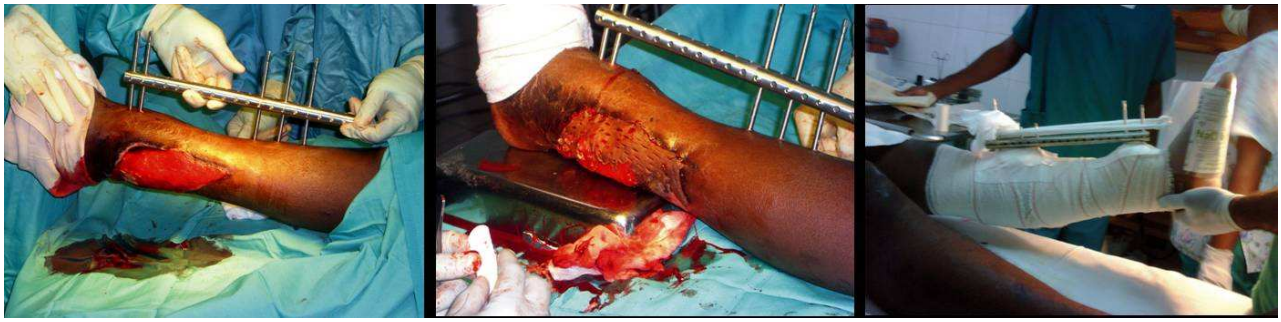

Fig. 3: Application of external fixator/skin grafting in progress & prevention of equinus contracture

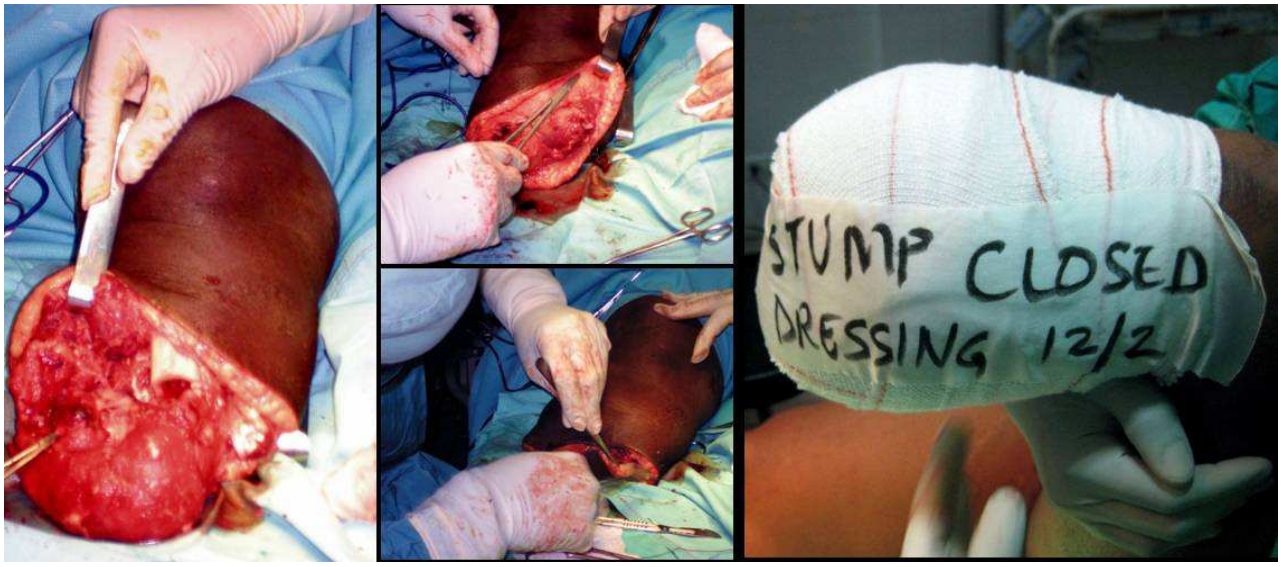

Fig. 4: Fashioning of gullitone amputation with flap preparation and delayed stump closure

Fig. 5: Soft tissue mobilisation to provide bony covering and prevent osteomyelitis

The challenges

I was baffled by the number of casualties who were victims of firearm/gunshot wounds. Never in my life had I treated or managed so many patients with firearm injuries. Lack of diathermy and high volume fluid lavage compounded by anaemic patients warranting radical debridement with minimal blood transfusion facilities was at times frustrating. The poor theatre infrastructure and overall lack of sterile facilities meant no definitive orthopaedic fracture management, like internal fixation, could be undertaken. Also conspicuous was the lack of basic orthopaedic equipment like hand drills and Steinmann pins for skeletal traction application. Fortunately, the French army and MSF-F loaned us their external fixator set which lasted no more than a week and we ran out of drill bits and Schanz screws. The local theatre staff guided by MSF volunteer theatre scrub nurses worked round the clock and overall conditions improved. The logistics team carried out maintenance tasks late at night, installing an air conditioner which made our lives pleasant. The radiology facilities and X-rays were at a premium and initially restricted to only life threatening chest, abdominal, skull and head injuries and gradually extended to orthopaedics by the end of my mission. CT scans and C-arm image intensifiers or intra-op OR X-ray facilities remained a distant dream. The ICU and intensive care physicians heavily relied on their clinical expertise in diagnosing conditions, as simple facilities like ECG were non-existent. Improvements were occurring everyday but no matter how hard one worked, it seemed too little given the catastrophic magnitude of the problem. The physicians, nursing staff and physiotherapists on wards had the herculean task of caring for post-op patients, ensuring adequate analgesia and post-op antibiotics were available for them, comforting their next of kin and addressing their psychosocial concerns by providing emotional support.

Towards the end

By the end of my mission, MSF-B had contingency plans to move orthopaedic care to a new state-of-the-art 100-bedded hospital dedicated to orthopaedics, with the support of plastic surgeon(s) and pneumatic power instruments/reamers to undertake internal fixations/long bone nailings and limb reconstructive procedures. Quality care became the motto, enforcing strict rules regarding antibiotic use, resuscitation, mandatory consents, and ICU protocols, which all healthcare professionals adhered to. Another SICOT surgeon arrived at Choscal on 18 February 2010 and I formally handed over care of all orthopaedic patients at the hospital to him on my last working day. Comparing the statistics for amputations undertaken in Haiti, which was updated

by our field co-coordinator, MSF-B had one of the lowest amputation rates, which is very commendable and deserves accolades and appreciation. MSF-B may have treated only the tip of the iceberg, but it was satisfying and gratifying to see amputated patients getting discharged with healed stumps and learning to walk with crutches in the end. However, they had no home to go to, which is another topic for discussion.

On the lighter side

We went on an outing to a nearby restaurant and pub on two occasions in the evening, which gave us a chance to interact with other volunteers based at two other centres and to exchange ideas and tips in a friendly social setting. It also provided an opportunity to interact with the locals and to hear their stories and experiences at the time of the earthquake, as well as to introspect and value the comforts we have and understand the essence and purpose of life.

Fig. 6: MSF-Belgium multi-disciplinary team of Choscal hospital

Return journey & end of mission

My short-term mission ended formally on 19 February 2010 at the MSF-B headquarters with a debriefing, short assessment and feedback for improvement. I was asked if I would be interested in coming back on a long-term mission for 3-6 months to work in the state-of-the-art hospital at Sarthe with effect from March 2010. This was very tempting given the nature of the complex pathologies and orthopaedic challenges they offered. Unfortunately, owing to my job contract

and professional commitments, I was unable to return to Haiti and had to refuse the offer. Nevertheless, the mission has left an indelible impression on my soul which will last a lifetime and I am thankful to SICOT and MSF-B for this exciting opportunity to be of some help to mankind.

Vision for the future

Being my first emergency mission and MSF-Belgium's first orthopaedic undertaking, there were a lot of valuable lessons learnt. Orthopaedics, unlike other specialties, needs stringent theatre sterility and infrastructure, theatre equipment, and long-term vision and planning to optimise outcomes with realistic goals. It is desirable to send a team of two orthopaedic surgeons (one experienced and one younger) to facilitate planning, co-ordination and execution. I was amazed at MSF-B's professionalism in organising the logistics and its culture of working at your own pace and comfort zone, which I am used to in the NHS and therefore made me feel at home away from home.

The COUR (Children's Orthopaedics for Underserved Regions) wing of POSNA has distinguished experts who have enormous wealth of first-hand experience working in such conditions. Given MSF's reach to people who have very limited access to healthcare, a collaboration between POSNA/COUR and SICOT/MSF-B to educate other healthcare professionals (in addition to orthopaedists) would make a huge difference to childcare and prevent long-term disability and morbidity in this vulnerable group.

Summary

What did I learn?

1) Technology can complement but cannot substitute technique.
2) Lateral thinking and innovation when it came to using suction drains.
3) Treat and cure when you can, but comfort always.

What went well?

1) People of different nationalities and cultures working towards a common cause in challenging circumstances, amidst language barriers, in a friendly professional manner with mutual trust and respect.
2) Dedicated support staff (logistics and healthcare support workers), who provided everything that the surgical team needed, which made a difference to our patients.
3) Excellent administration and planning by project co-coordinators, my field and medical co-coordinators working in true team spirit.

What could have been improved?

1) I was very much pampered – as an orthopaedic surgeon, I was unable to perform laparotomies/caesarean sections. Hence, I did not do any night on-call work, which put a burden on the rest of my surgical colleagues. I don't know how I can acquire basic competence in these areas before my next mission.
2) We lived too luxuriously amidst utter poverty and chaos, which was hard to digest.
3) The accommodation in Santo Domingo was, again, too luxurious. Attempts towards some cost-cutting and diverting funds to patient care, which would make a true difference to patients in the long run, are desired.

Would I go on a similar mission again?

1) Definitely YES – anytime, against all odds, and at any cost.

Acknowledgements

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