Otological anaesthesia in Jumla, Nepal **November 2014**

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I have just returned from a very stimulating charitable expedition, assisting in the provision of specialist middle-ear surgery in a remote location in North-West Nepal. This was my second trip; the first took place eighteen months ago when I went to Chainpur, in the Bajhang district. On both occasions I had the pleasure and honour of accompanying Mr Mike Smith, ENT surgeon, Hereford. It came to light on this trip that this was Mike's 50th camp (he travels twice a year) and on hearing this news I was moved to write a report on my return.

Mike has had a long association with Nepal having initially worked and lived there in the 1980s whilst working in a leprosy hospital. He and colleagues have established the charity EarAidNepal (www.earaidnepal.org) to recruit volunteers and he has been organising 'ear camps' twice a year in remote locations throughout Nepal for the last 25 years. The charity is supporting the building of a permanent hospital in Pokhara, to provide a lasting legacy of treatment and healthcare worker training.

The camps vary in location throughout rural Nepal. This time we were in Jumla, a remote town at an altitude of approximately 2500m in North-Western Nepal. We were permitted to use several rooms in the local hospital for our work. We had the pleasure of flying to Jumla from Kathmandu, via Nepalgunj, in the South of Nepal. This provided beautiful views of the Himalayas on the way in and out and avoided the fourteen hour Landrover expedition that I endured on the previous trip – an adventure, certainly, but not one I was in a hurry to repeat! The trip itself took two weeks, with the camp running this time for 8 days. The team from the UK consisted of four ENT consultants, two consultant anaesthetists (my esteemed colleague was Caron Moores from Alder Hey, Liverpool), one trainee anaesthetist (Nicky Crowther, who is post-FY2 training was a brilliant addition to the team), one GP trainee, two scrub nurses and two audiologists. We were joined by an Australian audiologist and, half-way through the camp, by an American group which included nurses and paramedics. Everyone was lovely and really good fun to work with. Both working and living conditions were taxing (I have rarely been colder), but it was a pleasure to work with such positive people.

The basic idea of the camps is to process as many patients as possible through out-patients and audiology (this time 1400 were seen), fit hearing aids where appropriate and then operate like crazy to do as much good as possible within the short time available! The surgery is almost all middle-ear (one parotidectomy) and is mostly myringoplasy, tympanoplasty and mastoidectomy, with a few grommets thrown in. The aim is to prevent hearing loss and recurrent infection, restore hearing and in many cases to treat serious disease in the form of cholesteatomas. Morning operating started at 09.00-09.30 and continued until 20.00-21.00 (sometimes later!). There were three operating tables, all running side-by-side, and work never stopped. The efficiency that was achieved despite minimal resources was quite amazing. We preformed 130 cases on this camp, mostly major middle-ear surgeries.

The anaesthesia has been developed over the years taking into consideration unreliable oxygen delivery (concentrators require electricity and power cuts are

common), safety and efficiency. The basic recipe involves initial heavy sedation and then a complicated field block of the ear which has to take into account its extensive sensory supply. The block itself was taught to me by Mike and an experienced anaesthetist on my first camp. As far as I know it is unique and not in any textbooks – I am happy to provide details to anyone interested. For many adult patients this block, combined with intermittent sedation and opioid analgesia, is enough to allow their mastoid to be drilled out for several hours – the Nepalese are a very tough bunch.

For children and teenagers we often used continuous propofol sedation/anaesthesia delivered via an old Graseby syringe driver that had been kindly donated to me. Propofol became available on my first camp eighteen months previously and has major advantages over repeated doses of ketamine/diazepam/thiopentone/pentazocine or butorphanol which are the alternatives. However, when the medication runs out towards the end of a camp improvisation is necessary- both Caron and I had to read the product information on the butorphanol carefully! Airway management comprises a Hudson mask and a supportive hand on the jaw. So in many ways anaesthetising a child in Jumla is much more challenging than the UK scenario of putting in a tube, turning on the gas and reading the Times.

We performed 3 'formal' general anaesthetics, two semi-electively for failed sedation in young adults (no happy medium between agitated and apnoeic) and one emergency for a child who developed laryngospasm and hypoxaemia mid-procedure. In retrospect this patient had an active lower respiratory infection (all children in November in rural Nepal appear to have URTIs), however he passed the pre-operative test of walking to hospital to have his surgery. The kit for a GA was a Diamedica DPA 02 system used with halothane. Each GA probably added an hour extra to the case, mostly recovery time and this reemphasised the advantages of the sedation/block technique.

I am a busy intensive care and anaesthesia consultant and one of the great attractions of the camps is the fact that they are completed within a two week trip (excluding any time one might choose to add on for trekking/sight-seeing). So for those with families, mortgages and other commitments, the ability to accommodate the experience within one's annual leave entitlement is a great advantage. Each camp itself runs for 7-8 days, with a variable amount of travel time to and from the camp, depending upon its location. One must be self-funding and the total costs for travel and accommodation are between £1000 and £1500. Some members of the trip (for instance Fay, our scrub nurse from Hereford) raised the money in theatres and with the help of her local community. There are also travel bursaries available through various professional organisations. The camps are actually administered by International Nepal Fellowship (www.inf.org) who also run general surgical and gynaecological camps.

If you want to experience rewarding hard work done for the right reasons, fantastic team work and a moment of reflection away from the UK and the NHS I would highly recommend this experience to you.