

Initial Experiences with the Glostavent in Nigeria

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In 2004, a Glostavent was purchased for the Vom Christian Hospital (VCH) which is situated near to Jos in the Plateau State in Northern Nigeria. The machine was bought by a medical aid organisation called Medic Assist International (MAI). In February 2004, we spent one week at Vom providing the anaesthetic staff with support and training in the use of the machine.

The Glostavent was designed by Dr Roger Eltringham, a consultant anaesthetist at Gloucestershire Royal Hospital in the UK for use in the developing world. It consists of a draw-over anaesthetic system using the Oxford Miniature Vaporiser (OMV), a Manley Multivent ventilator and an oxygen concentrator. The oxygen concentrator is essentially a compressor that drives air over a zeolyte catalyst that removes nitrogen and so produces oxygen. The oxygen is then used to enrich the air used in the draw-over system. The compressor also provides driving gas for the Manley Multivent if ventilation of the lungs is required. If the electricity supply fails, oxygen cylinders can be used to power the Multivent or the patient can be ventilated manually. The major advantage of the Glostavent is economy particularly in rural areas where the purchase and supply of cylinder gases is often difficult. It was, therefore, ideally suited to the situation we found in Vom.

In this part of Nigeria, we found a startling contrast in the provision of hospital medical services. A mere 30 minutes drive from Vom, in

Jos there are government-funded hospitals with well equipped theatres and modern anaesthetic machines and monitors and they appear to have no shortage of cylinder gases. Indeed, on the flight to Nigeria we discovered an American medical team heading for Jos with the equipment and expertise to undertake cardiac by-pass surgery. Vom, without government money seemed a world away and the Glostavent was a godsend. When we arrived at VCH, the anaesthetic equipment included an ageing Oxford Inflating Bellows (OIB) and, as the sole monitor, a mercury sphygmomanometer. There was no ECG or capnography and so, we were very pleased that we had brought a pulse oximeter with us.

Anaesthesia at VCH was administered by a nurse-anaesthetist who had never had to connect his anaesthetic equipment to a power supply. Unfortunately, during our first case using the Glostavent, blood dripping on to a plug caused it to short out. This did give us the opportunity to demonstrate what to do in the event of a power cut but the immediate response of our new-found colleague was to wheel out his trusty OIB! VCH has, in fact, a fairly reliable power supply from a generator and so the value of the oxygen concentrator was immediately recognised. It had not been uncommon for the oxygen cylinder supply to be running low on a Friday with no prospect of a further delivery until Monday.



Dr Ovunta and Glostavent

Patients rely on relatives to bring them to hospital and contribute to their care including giving blood if a transfusion is needed. Even though a government hospital was 40 miles away, this was too far for many people to travel. This was powerfully brought home to us when we were walking to the operating theatre to anaesthetise a woman who had been in labour for two days and whose baby was dead. As we approached the theatre, the surgeon came out to tell us that the mother had also died.

Our time in Vom was short and passed very quietly with not much surgery being performed. However, in the week after we left, there was a severe outbreak of communal violence and many victims of trauma were admitted to the hospital. It seemed that the Glostavent had just arrived in time.

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The Glostavent arrives in Vom