

RCoA Research, Education & Travel Grants 2017

Award: Sargant Fund & Belfast Fund

Applicant: Dr Stephanie Connelly

Project Title: *Anaesthesia in the Amazon - Improving Difficult Airway Management in the Low Resource Environment.*

Project Description:

Background

The Amazonian rainforest region of Loreto in Northern Peru, population 1,018,000, is the largest and one of the poorest territories in the country with people in 38 of the 56 districts living in extreme poverty. In 2017 I travelled to the area to join the anaesthetic team working at the regional hospital in Iquitos.

One aim of this visit was to learn about facilities and provision of anaesthesia in the region and to identify any areas requiring resource provision or educational needs with a view to possibly addressing these at a later date.

I joined the local anaesthetic team for one month, learning from them, sharing knowledge and working with them to provide anaesthesia for routine and emergency surgery.

Of note, equipment and protocols for difficult airway management were lacking with no bougies, Macintosh laryngoscope blades only, no supraglottic airway devices, no self inflating bags, and no knowledge of 'front of neck' procedures for the 'can't intubate can't ventilate' scenario. On more than one occasion I witnessed the genuine threat to patient safety posed by these deficits.

It was concluded that there are several areas where simple interventions could improve the provision of safe anaesthesia in this environment.

Aims

Having been well received and encouraged to return to this hospital, in 2018 I will again work alongside the local anaesthetists and also provide equipment and tutorials to improve knowledge and skills of all anaesthesia providers in the region with a focus on difficult airway management.

Methods

The provision of bougies and introduction of the iGel as a rescue airway device alongside tutorials on their use as part of an educational programme themed around difficult airway management would be simple to implement and likely to be well received. The development of a difficult airway management protocol based on international guidelines but tailored to the environment could be considered in close collaboration with local anaesthetists.

Specifically, tutorials will be interactive skills based workshops covering use of the bougie, I-Gel insertion, failed intubation drill and emergency front of neck access. The impact of these on the local anaesthetists skills, knowledge and confidence will be assessed through use of surveys.

Equipment required includes a supply of bougies , I-Gels and self-inflating bags for the hospital, plus use of a mannikin head that can be intubated and is suitable for practicing use of the bougie and insertion of the I-Gel, and a model for practising front of neck access.

Sustainability

During the 2018 visit I will investigate the local funding and supply chain with a view to implementing a sustainable supply of adjunctive equipment in collaboration with local anaesthesia providers and health authorities.

The methods and model used for this project could be applied to other similar environments within Peru, other low income countries and low resource environments. I intend to travel to other regions with similar demographics in the future to investigate the need for similar interventions.