ANZGITA Training Program 2017
Endoscopy Unit, Hospital Nacional Guido Valadares, Dili, Timor-Leste

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Introduction

ANZGITA partnered with Hospital Nacional Guido Valadares (HNGV) in 2016 to provide assistance for the further development of their endoscopy unit and the delivery of training for the medical and nursing staff working at the unit. This partnership came via a request from Dr Chris Kiely, an Australian trained gastroenterologist based in Dili from 2016-2018.

As the national hospital, HNGV is the largest health facility in the country. It consists of 250 beds and is located in the nation’s capital, Dili. Inpatient services cover general medicine (80 beds), general surgery (80 beds), paediatrics, obstetrics and emergency. The busy emergency department sees approximately 150 patients daily.

Patients are admitted to HNGV for elective surgical procedures through outpatient clinics, and are referred to HNGV (as the only tertiary level provider in the country) from health-care facilities in the districts of Timor-Leste. Complex cases are referred out-of-country, to either receive treatment in Singapore, Indonesia or Australia.

The resources available at the hospital are limited and unreliable. Difficulties with supply chain management and limited resources mean that simple medications such as antibiotics become unavailable from time-to-time.

Background

Timor-Leste, a developing nation with a population of 1.2 million, is located 450km north-west of Darwin. Despite being so close to Australia its health outcomes are poor. Infant mortality is improving, but remains at high levels: 57 children per 1000 live-births die by the age of 5 years which is 5 times the WHO European Region rate of 11 per 1000 live-births, and well above the global average of 43 per 1000 live births.1,2

Malaria rates have declined by over 90% in the past decade, due to a concerted effort by the Ministry of Health in conjunction with the World Health Organisation (WHO).3

Hepatitis B is common in Timor-Leste. A recent study revealed a HepBSAg positive rate of 2.8% in the 755 women who attended the Bairo Pite Clinic in Dili for antenatal and post-natal care.4 Hepatitis B treatment and vaccination programs are being developed: currently around 60% of children receive the three Hepatitis B vaccine injections by 1 year. There is currently no access to antiviral treatment.
Other gastrointestinal diseases

The WHO reports colorectal cancer as the second most common cause of cancer-related mortality in men and fifth most common for women in Timor-Leste. Of the 350 gastroscopies performed at HNGV from May-November 2016, there were 22 malignancies diagnosed (14 oesophageal and 7 gastric) – an alarmingly high rate. Patients tend to present at an advanced stage of disease and thus treatment options are limited. The rate of helicobacter infection in patients requiring gastroscopy was 33% on an audit from the Endoscopy Unit (May-November 2016). Antibiotic resistance patterns are unknown. Malnutrition is widespread, mainly a consequence of inadequate diets. However, chronic GI infection and malabsorption also contribute. The prevalence of chronic liver disease is estimated at 10.8 per 100,000 population (17.8 for males, 9.6 in females), three times that of Australia (3.7 overall; 6.8 for males, 2.8 in females).

Increased knowledge about the identification and treatment of patients with these conditions is critical, and is a key outcome of the program.

Gastrointestinal services at HNGV

A full-time Cuban-trained gastroenterologist is employed by the hospital, and provides inpatient and outpatient services. Prior to 2016, basic diagnostic gastroscopy was performed using an older fibre-optic Olympus system (model GIF-XQ30). This service stopped in late 2015 when the country’s only gastroenterologist at the time - a Cuban doctor - left.

A functional Olympus 180 series processor, along with one gastroscope, was donated to HNGV in early 2016 by Professor Sydney Chung. Following this, reprocessing protocols and a standard operating procedure were developed, and three additional nurses were hired. Upper GI endoscopy was recommenced in May 2016 by Dr Chris Kiely. Two colonoscopes were donated in December 2016, which allowed the commencement of lower GI endoscopy. There are currently two trained endoscopists (Dr Acosta and Dr Kiely) and one trainee (Dr Santos) performing endoscopy at HNGV. There are four endoscopy nurses employed in the unit: three Timorese nurses and one Cuban nurse.

The Endoscopy Unit at HNGV consists of one procedure room, a three-bed recovery area and a small endoscope reprocessing room. The gastroenterology service is available to adults over 15 years of age. This includes inpatients, outpatients, emergencies and tertiary referral patients. The unit is open Monday – Friday, between 8am – 4pm, with flexibility for additional sessions as required depending upon demand. After-hours emergency endoscopy
procedures can be performed on patients with acute upper GI bleeding and food bolus impaction.

Outpatient clinics include general gastroenterology, hepatology and general medicine.

Histopathology is not routinely available, and the hospital’s CT scanner regularly breaks down, which limits the diagnostic capabilities. *Helicobacter pylori* antibiotic sensitivity testing is underway through a partnership with the Australian National University.

**Equipment**

1. Endoscopy equipment
   - Olympus 180 series processor
   - Two gastrosopes
   - Two colonoscopes
   - One footpump
   - One ERBE diathermy machine

2. Endoscopic Accessories: banding devices, sclerotherapy needles, forceps (disposable and re-useable), polyp snares, endo-loops, clips, and PEG tubes. Maintaining these stocks is one of the objectives of the program.

3. Medication: proton pump inhibitors, topical lignocaine and bowel preparation (glycoprep). The formulary that the hospital works to is basic.

4. Reprocessing is currently undertaken using manual techniques, developed from the World Gastroenterology Association guidelines. In 2016, Whitleys donated a large amount of enzymatic detergent and glutaraldehyde. There are plans afoot to upgrade the reprocessing room in 2017.

5. Reports are currently hand-written in triplicate.

**Main Objectives and Goals**

To develop a safe, sustainable and effective endoscopy unit at HNGV, by promoting the highest standards of evidence-based practice.

This will be achieved through:

a. Provision of a well-designed facility that streamlines patient movement and care and allows safe and efficient endoscopic investigation and therapy.

b. Establishment of a high quality Endoscopy Unit with effective administration, including regular audit.
c. Promoting the application of best practice guidelines for the prevention, detection and management of digestive disorders.

The ANZGITA Program

2017 will be the first year that ANZGITA has sent a medical trainer to Timor-Leste. As such, it is expected that there will be some flexibility in the delivery of the program.

Clinical Program

**Endoscopy:** The HNGV Endoscopy Unit is in its infancy. Major efforts need to be directed at improving basic endoscopy services. Endoscopy sessions are held each morning. The teacher will be involved in undertaking and teaching both gastroscopy and colonoscopy. Patient selection, preparation, sedation, instrument insertion techniques and image interpretation will all need to be addressed. There is currently one trainee (Dr Celia Santos) and one Cuban-trained Gastroenterologist (Dr Yunier Acosta), who will partake in training.

Due to capacity constraints, the trainer should expect to undertake fewer procedures compared to Australian hospitals.

Sedation is provided with fentanyl and midazolam under the control of the endoscopist. In Timor-Leste, smaller doses are given than those required in Australia (average of 2mg of midazolam and 37.5 mcg of fentanyl at the recent audit).

The trainer will address a number of clinical problems and difficult endoscopy issues, including diagnosing malignancies, amoebic colitis and managing bleeding ulcers and varices, long caustic strictures, the placement of PEG tubes and performing polypectomies.

**Ward Rounds:** The Trainer is encouraged to attend ward rounds with the clinical team in the wards of HNGV most mornings. The Trainer will be encouraged to contribute to the management of the patients, however they may find that they will learn more than they teach! The advanced state of pathology is very different to Australia or New Zealand. Equally, access to advanced investigative modalities and therapeutic options is much more difficult. To see how the local specialists and trainees practice in these conditions is a most impressive experience. A lot of very fine medicine is practiced with great ingenuity and dedication.

Academic Training Program

**Grand round lecture:** A Grand Round is held weekly in the RACS building (Friday 12pm). The audience of around 30-40 consists of senior medical staff, registrars, interns and medical students. During the ANZGITA program the trainers will give the lecture at this meeting. Relevant topics include: updates on chronic hepatitis B, gastrointestinal bleeding, acute hepatitis and management of chronic liver disease.

**Physician training:** A series of tutorials are delivered in the RACS Building from 3-4pm. The topics cover a range of general gastroenterology and hepatology.
**Nursing education:** Following the success of the first ANZGITA visit in 2016, education of endoscopy nursing staff was flagged as a priority. Nursing training embraces all aspects of endoscopy, most important being infection control, instrument reprocessing and patient safety. In addition to these, tutorials about patient preparation, communication, accurate documentation, the use of endoscopic accessories and management of the sedated patient are critically important. An interactive tutorial is scheduled for each afternoon (3pm in the Endoscopy Unit).

**References**