

ANZGITA Training Program 2019

Endoscopy Unit, Hospital Nacional Guido Valadares, Dili, Timor-Leste

Country Program Leader: Dr Chris Kiely

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.



Main entrance to HNGV

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, occasionally, 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 1.3 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. Data from blood donors indicates a baseline HepBsAg positive rate of 8%. Hepatitis B treatment and vaccination programs are being developed: currently around 60% of children receive the three Hepatitis B vaccine injections by 1 year. Antiviral treatment with Tenofovir became available in January 2018.

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 attending for gastroscopy was 40% (May 2016-November 2017). Antibiotic resistance patterns are unknown. Malnutrition is widespread, mainly a consequence of inadequate diets. However, chronic GI infection and malabsorption also contribute, in particular helminth

infestation (*ancylostoma duodenale* and *ascaris lumbricoides* are regularly seen at endoscopy). 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.

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 and Dr Celia Santos. 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 Santos) and one trainee (Dr Dora) performing endoscopy at HNGV. There are five endoscopy nurses employed in the unit: four Timorese nurses and one Cuban nurse.



The Endoscopy Unit at HNGV consists of one procedure room, a three-bed recovery area and a recently refurbished endoscope reprocessing room. The gastroenterology service is available to adults over 15 years of age, and paediatric patients can also be referred. 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.

Equipment

1. Endoscopy equipment

- Olympus 180 series processor
- Three gastroscopes
- Six colonoscopies (2 paediatric, 4 adult)
- Two bronchoscopes
- Two 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 and moviprep). The formulary that the hospital works to is basic. Helicobacter eradication is available (amoxicillin and clarithromycin).
4. Reprocessing is now undertaken in the recently installed semi-automated system (funded and installed by ANZGITA in 2018). Manual techniques are utilised. Enzymatic detergent and glutaraldehyde are available.
5. Computer with ScribeWiz for endoscopy reports, one printer.



Selvia and Agusta, endoscopy nurses, in the refurbished endoscope reprocessing room.

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.
- d. Increasing knowledge and awareness of gastrointestinal diseases within the medical and nursing community of HNGV through lectures and tutorials.

The ANZGITA Program

2018 will be the second year that ANZGITA has sent medical and nursing trainers 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 still in its infancy. Major efforts need to be directed at improving basic endoscopy services. Endoscopy sessions will 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.

Due to capacity constraints and lower demand, the trainer should expect to undertake far 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 occasional placement of PEG tubes and performing polypectomies.

Ward Rounds: The Trainer is encouraged to attend ward rounds with the clinical teams 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 2-4pm. The topics cover a range of general gastroenterology and hepatology.

Hepatitis B clinic: The recent donation of a Fibroscan machine and improvements in diagnostic in the pathology laboratory enabled commencement of tenofovir treatment in January 2018. There are a small number of patients who have commenced treatment. They are followed up in the Tuesday Internal Medicine Clinic (Dr Santos' clinic). The trainers are encouraged to attend the clinic and offer advice on logistics, assessment and management.

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 (2pm in the Endoscopy Unit).



Di Jones demonstrating the use of endoscopic accessories in 2016

References

¹ http://www.unicef.org/infobycountry/Timorleste_statistics.html accessed 25 April 2016

² http://www.who.int/gho/child_health/mortality/mortality_under_five_text/en/ accessed 25 April 2016

³ Manel AMG et al, Evidence-based malaria control in Timor Leste from 2006 to 2012, Malar J. 2015; 14: 109.