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Surgical approach to gallbladder disease in rural Guatemala



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ABSTRACT

Background: In this article, we report the current surgical approach to gallbladder disease at a major referral hospital in rural Guatemala. Complications in a cohort of patients undergoing open versus laparoscopic cholecystectomy were catalogued.

Methods: We reviewed cholecystectomies performed by surgeons at the Hospital Nacional de San Benito in El Peten, Guatemala, after the adoption of the laparoscopic approach. Laparoscopic cholecystectomies (LCs) between 2014 and 2015 ($n = 42$) were reviewed and matched by 58 randomly selected open cholecystectomies (OCs) during the same period.

Results: Patient demographics were similar in the LC and OC groups. Of the 63 patients who had elective surgery, 43 (68%) underwent OC. Conversion rate, hospital length of stay, and readmission rate were 4%, 4.8 days, and 5%, respectively. Complications were similar between groups.

Conclusions: Despite the low number of LCs, their complications were not different from that of OCs. During the study period, a large number of cholecystectomies continued to be open, even in the elective setting.

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Introduction

Laparoscopic cholecystectomy (LC) has almost entirely replaced open cholecystectomy (OC) as the standard of care for symptomatic cholelithiasis in the United States.^{1,2} However, in many developing countries, LC is performed sparingly as limited funding, and resources make laparoscopic procedures difficult to perform on a routine basis.³ Given the success

the Western world has had in overcoming barriers to performing LC, it is important to understand what barriers still exist in non-US centers that have not completely adopted this approach. Currently, there is a paucity of data regarding the number of laparoscopic compared to open cholecystectomies in third-world countries. Moreover, the limitations that prevent implementation of laparoscopic techniques in these geographic areas are also unclear.

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Fig. 1 – Map of Guatemala. Flores is located 165 miles north of Guatemala City in the district of El Peten. The Hospital Nacional de San Benito is located a few miles from Flores. (Color version of figure is available online.)

El Peten is the largest geographical department in Guatemala (Fig. 1), with an estimated population of 450,000 in 2005. El Peten consists of 12 municipalities including San Benito, which had an estimated population of 22,594 in 2000. San Benito is 165 miles north of the capital, Guatemala City, and it is considered part of a rural community.

The Hospital Nacional de San Benito (HNSB) is one of four public hospitals in El Peten, Guatemala and serves as the main referral center for the entire area. The hospital has two operating rooms that are staffed by four general surgeons, where both elective and emergency surgeries are performed. Approximately, 40 elective operations and 120 emergent operations are done per month at HNSB. Although it is the major hospital for El Peten, it does not have computed tomography imaging or gastroenterological and endoscopic capabilities.

The most common elective operations are open inguinal hernia repair and cholecystectomy. The majority of emergent operations are open appendectomies and limb amputations. The hospital performs around 120 cholecystectomies a year (112 in 2016).

Refuge International is a US-based nonprofit volunteer organization that has been providing health care support to rural Guatemala for the past 17 years.⁴ HNSB is one of four sites where medical mission trips are conducted several times a year. In 2013, to encourage the use of laparoscopy at HNSB, the organization donated laparoscopic equipment and recruited volunteer US surgeons familiar with LC to aid in teaching and performing this operation at HNSB. This effort resulted in the first laparoscopic surgery to be performed in El Peten. Despite this, a large proportion of the hospital's

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