
Joshua Choi1, BSE, MS; Nihal Malik2, BS; Abdul Nadir1,2, MD

ABSTRACT

Endoscopic retrograde cholangiopancreatography (ERCP) is a technically difficult procedure that requires extensive training to achieve competency. This study was undertaken to assess retrospectively whether advanced ERCP training made a difference in the competency of a physician who was performing ERCPs for eleven years before taking an extra year of advanced training in ERCP. The physician did not get any ERCP experience during the two-year fellowship program, he was trained in ERCP during the last year, and learned ERCP from colleagues post formal GI fellowship for four years after which he was given privileges to independently perform ERCPs. Data were collected on 172 and 213 patients who underwent ERCP before and after the training year respectively. Chi-square test was utilized to analyze the data. Baseline characteristics including height, weight, age, race, and gender were similar in the two groups. The results of the study showed that rates of major complications increased from 9.9% to 16.1% (Chi-Square = 9.06, p = 0.0026) and reduced in post-procedure pancreatitis from 8.1% to 2.7% (Chi-Square = 4.56, p = 0.0327). This data indicates that extra training in ERCP improves outcomes of ERCP in a single operator’s experience.

INTRODUCTION

ERCP is a prevalent procedure in the United States, with approximately 500,000-600,000 procedures performed annually.1 Verma et al. showed that endoscopists’ ERCP performance improved after fellowship in Advanced ERCP-training programs recognized by the American Gastroenterology Society.2,3 ASGE guidelines suggest that 180 ERCPs are required before a trainee achieves desired competence during GI fellowship.4 Many gastroenterologists who are either self-trained or fail short of the experience required to do ERCP as suggested by ASGE perform ERCPs in US hospitals across the country have different criteria to privilege physicians to perform ERCPs.5 This study is specifically intended to explore whether formal fellowship training in ERCP produces better procedural outcomes even for a gastroenterologist who has years of experience with performing ERCPs in the community. The central hypothesis is that experience, if unguided, will not lead to better results.

METHODS

Approval for this study was obtained from the IRB of Maricopa Integrated Health Systems (MIHS). Data were collected on ERCPs performed by a single physician between 2004-2011. The physician performing ERCPs received additional training for one year in 2009 by an extremely experienced therapeutic endoscopist at a university hospital. The two cohorts analyzed had undergone ERCP from 2004-2008 and 2010-2011 (Figure 1). Baseline characteristics and variables relating to the ERCP procedure were collected on consecutive patients via electronic medical records and entered into a database (Figure 2). These data were de-identified to comply with the hospital policy. A power analysis was performed to determine the sample size required to find a potential statistically significant difference. Chi-Square tests were applied to assess pertinent information (Figure 4, 5).

RESULTS

ERCP is a widely used procedure which can be associated with pancreatitis and perforation. The complications of ERCP result in prolonged hospitalization and depending on the series reviewed can result in mortality from 1 of 500 to 1 of 1000 cases.1 In addition, failure biliary or pancreatic cannulation lead to more invasive procedures to accomplish therapy and be a source of significant stress for the physician failing the ERCP. With the availability of non-invasive procedures such as endoscopic ultrasound and Magnetic resonance cholangiopancreatography (MRCP), ERCP has become primarily a therapeutic procedure. In addition, many therapeutic endoscopists can undertake many challenging cases that were not possible few years ago.

The results of this study demonstrates that improvement in biliary cannulation as well as reduction in post-ERCP pancreatitis is possible even for an endoscopist with many years of experience in ERCP. Specifically, biliary cannulation improved by 10% and post ERCP pancreatitis decreased by 5%. Most importantly, the physician before the training year could cannulate the bile duct successfully in about 8/10 cases, but plateaued at that level for four years while performing ERCPs independently in a community hospital. It was not clear that training under the guidance of a therapeutic endoscopist changed his techniques, particularly, understanding of pancreatic anatomy increased and by learning placement of pancreatic stents, he could improve biliary cannulation and reduce the risk of post-ERCP pancreatitis. Before the training year, he placed no pancreatic stents. Being a retrospective study and limited to a single operator who had formal training in ERCP before the training year limits the use of the data to those endoscopists who are self-trained in ERCP and obtain privileges to perform ERCPs.

REFERENCES