

The Current State of Hepatopancreatobiliary Fellowship Experience in North America

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AIM: The face of hepatopancreatobiliary (HPB) training has changed over the past decade. The growth of focused HPB fellowships, which are vetted with a rigorous accreditation process through the Fellowship Council (FC), has established them as an attractive mode of training in HPB surgery. This study looks at the volumes of HPB cases performed during these fellowships in North America.

METHODS: After approval by the FC research committee, data from all HPB fellowships that had 3 years worth of complete fellow case log data were tabulated and reported ($n = 12$). For 2-year fellowships, the fellow logs were tabulated at the completion of both years. Those programs that had transplant experience ($n = 9$) were reported.

RESULTS: Data for the current fellows' case numbers show that graduating fellows have a median of 26 biliary cases, 19 major liver cases (hemilivers), 28 other liver cases, 40 pancreaticoduodenectomies, 18 distal pancreatectomies, and 9 other pancreas cases. The programs that provided transplantation experience had 10 cases for each fellow.

CONCLUSION: This study validates that FC-accredited HPB fellowships have a robust exposure to complex HPB surgery. Fellows completing these fellowships should be well versed in the management and surgical treatment of HPB patients. (J Surg 72:144-147. ©2014 Published by Elsevier Inc. on behalf of the Association of Program Directors in Surgery)

KEY WORDS: hepatopancreatobiliary, HPB fellowship, pancreas, surgical training, education

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INTRODUCTION

With the advent of resident work-hours restriction in 2002,¹ general surgery residency has changed. Currently, more than 80% of graduating general surgery residents pursue fellowship training.² There has been a gradual move toward organ-based and disease-based training with the increase in technical and medical knowledge and skill that is needed to treat various conditions. With these changes, there has been an increased emphasis on focused training in diseases of the liver, biliary tree, and pancreas. Some hepatopancreatobiliary (HPB) fellowships were started in the 1990s; however, there was no mechanism for accreditation and the standards were not clearly set. With the advent of minimally invasive (MIS) techniques, the Fellowship Council (FC) was codified in the 1990s. This society initially provided a mechanism for creating standards for MIS fellowships. Laparoscopy was a novel and innovative technique that was the initial focus of savant surgeons within the FC who wanted to train the next generation in these MIS skills. The reach of the FC has grown: this organization now includes most of the non-Accreditation Council for Graduate Medical Education surgical fellowships in North America, including MIS, bariatric, MIS-colorectal, HPB, MIS-thoracic, and laproendoscopic fellowships. Most fellowship types have a sponsoring society and Americas Hepato-Pancreato-Biliary Association (AHPBA) is the sponsoring society for HPB fellowships.

The sponsoring society develops the specific accreditation guidelines that are to be used by the accreditation committee of the FC in their review of each fellowship program. As such, the AHPBA guidelines were developed to accredit HPB fellowships. These guidelines use case volume as a metric to measure fellow experience during the HPB fellowship. The case requirements include a total of at least 100 advanced HPB cases, which must include at least 25 pancreas cases, 15 biliary cases, and 25 liver cases, of which at least 15 must be hemilivers.³

The fellow who has completed an HPB fellowship is then allowed to apply for a certificate of completion of training that is provided by the AHPBA through its Education and Training committee. The aim of this study was to evaluate the status of HPB fellowships in North America, specifically

with regard to case volume requirements. The hypothesis was that HPB fellowships were providing excellent case volumes to their trainees.

METHODS

Institutional review board approval was obtained through the Methodist Health System Institutional Review Board committee. Permission to query the fellow case logs was obtained from the FC research committee. All HPB fellowships registered with the FC were queried. Only those fellowships with 3 years' worth of data after accreditation were used in the data analysis. Case logs in 2-year fellowships were queried at the completion of both years of fellowship training. There were three 2-year fellowships where the data were incomplete, and so data were available for 2 graduating fellows in each of these programs. Results were tabulated and reported.

There are 20 total accredited HPB fellowships in North America (USA and Canada) currently. Of these, 10 fellowships are 2 years in duration and 10 are 1 year in duration. In addition, there is a mechanism by which American Society of Transplant Surgeons (ASTS) transplant fellowships can receive joint accreditation through the FC. There are 2 joint ASTS-FC HPB fellowships. Similarly, there are 3 joint Society for Surgical Oncology (SSO)-FC HPB fellowships. These joint fellowships have to meet the accreditation requirements of their sponsoring society as well as the FC. The FC fellow is required to log their cases through the FC website, and these results are monitored and tracked by the FC accreditation committee.

RESULTS

A total of 12 programs were found to have complete data sets for 3 years of fellow case logs. The data is shown in the Figure. Each fellow log is represented by the bar line shown. Table 1 is a summary of case volumes broken up by category. Additionally, the FC case volume requirements are listed for reference.

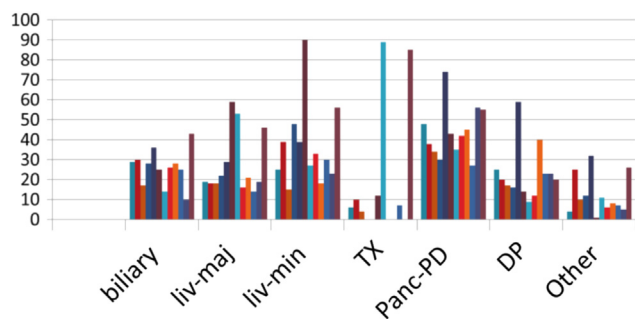


FIGURE. Case volumes by HPB fellowship programs. liv-maj, hemiliver; liv-min, less than 2 segments; Tx, transplant; panc-PD, pancreaticoduodenectomy; DP, distal pancreatectomy; other, other complex HPB cases.

TABLE 1. Case Volume by Procedure in HPB Fellowships (Median With Standard Deviation)

Case Type	Median	Standard Deviation	Fellowship Council Requirement
Biliary	26	10.78	15
Liver—major	19	17.66	15
Liver—minor	28	17.35	Total liver, 25
Panc-PD	40	14.35	Total panc, 25
Distal panc	18	10.13	Total panc, 25
Transplant	10	18.90	Not required
Other	9	11.68	Total cases > 100

Panc-PD, pancreaticoduodenectomy.

The results show that the median number of biliary cases is 26 (standard deviation [SD] = 10.78) and the median number of major liver resections (data for hemiliver only included here) is 19 (SD = 17.66). The FC minimal of hemilivers is set at 15 cases. This criterion was introduced separately to total liver numbers. The AHPBA education and training committee members felt that there was a need to ensure fellowship training in hemiliver resection from a technical standpoint. It is noteworthy that these numbers have been declining slightly with the rise of parenchymal-sparing techniques. Some would argue that a posterior-section resection is tougher than a formal hemi-right liver resection. This is an ongoing topic of debate. The median number of minor liver resections was 28 (SD = 17.35). These included resections of equal or less than 2 segments. Unroofing of liver cysts and lesser procedures were generally included in the “other” category. Pancreaticoduodenectomy volume was 40 (SD = 14.35), while distal pancreatectomy volume was 18 (SD = 10.13). The FC requirement for pancreas is 25 cases. It is interesting that there was a preponderance of Pancreaticoduodenectomy cases over distal pancreatectomy cases. This would certainly fit with the presentation of malignant pancreatic disease; however, intra-ductal papillary mucinous neoplasm and neuroendocrine presentation should be somewhat similar in disease location. The volume data might suggest that most pancreatic resections are being performed for malignant disease.

Data comparing the 2-year programs with the 1-year programs are presented in Table 2. These data show that the main difference in experience is in the liver and transplant domains. The volume experience in pancreatic resections is surprisingly similar between the 1- and 2-year fellowships. Of the six 2-year fellowships, 3 have dedicated research experience for 1 year, effectively making the clinical fellowship 1 year long. However, according to their websites, there is some clinical responsibility even during the research time. Of the six 2-year fellowships, 2 had a focus on liver transplantation, and this helped explain their high liver transplant and liver resection volumes. Of the 2-year programs, 1 had a focus on other oncologic diseases, making the effective HPB experience more comparable to a 1-year fellowship.

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