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EDITORIAL

Current status and future of hepato–pancreatico–biliary surgery fellowship training in China

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Abstract

The medical education system, particularly the fellowship training system, of China has been continuously developing and improving. China established the fellowship training system in 2016, with the period for general surgeons being 3 years. Among the various general surgery subspecialties, hepatopancreatobiliary (HPB) surgery has a specialized training period of approximately 6 months. However, owing to the intricate anatomical knowledge and sophisticated surgical skills involved in HPB surgery, training excellent HPB surgeons in such a short period has always been a major challenge in the field of surgical education. This editorial summarizes the current situation, existing problems that need to be implemented for improving HPB fellowship in China. Finally, we hope to build a qualified HPB fellowship system that continually adapts to social development.

Key Words: Hepatopancreatobiliary Surgery; Fellowship; Surgical education; Surgical skills training; China

Core Tip: The fellowship training system was established in 2016, and it has been continuously developing in China. The period for general surgeons being 3 years. Among the various general surgery subspecialties, hepatopancreatobiliary (HPB) surgery has a specialized training period of approximately 6 months. However, owing to the complex anatomical knowledge and sophisticated surgical skills involved in HPB surgery, training excellent HPB surgeons in such a short period has always been a major challenge in the field of surgical education. This editorial summarizes the current situation, existing problems that need to be implemented for improving HPB fellowship in China. Finally, we hope to build a qualified HPB fellowship system that adapts to social development.

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INTRODUCTION

In the current Chinese medical education system, young clinicians who complete their basic medical studies first undergo standardized residency training and then proceed to fellowship training. This training is aimed to develop specialists with high professional skills and capabilities. Since 2016, China has been progressively implementing a standardized fellowship training system, with the training period for general surgeons set at approximately 3 years[1]. Among the various general surgery subspecialties, hepatopancreatobiliary (HPB) surgery typically requires about 6 months of specialized training. However, owing to the complex anatomical knowledge and precise surgical skills associated with HPB surgery, the required training for specialists is longer and more challenging[2,3]. According to the association of upper gastrointestinal surgeons of Great Britain and Ireland, one HBP surgeon is needed to serve a population of approximately 0.5 million[4]. Thus, developing qualified HPB surgeons within such a short timeframe remains a significant challenge in surgical training.

A significant disparity in medical standards exists across China, with the subspecialty of HPB surgery being highly centralized. As the world's largest developing country, there is a substantial gap in the economic development between the eastern coastal cities and mid-western cities of China. Indeed, many rural and underdeveloped areas lag behind more developed regions in terms of the quality of medical education, often failing to meet national standards. In the economically stable eastern regions, universities and hospitals have strengthened their disciplines with adequate financial support and policy assistance, thereby attracting many medical professionals and achieving substantial development momentum. By contrast, the western underdeveloped areas have faced constraints in advancing their specialties because of funding gaps, harsh environmental conditions, talent drain, and delayed policy implementation. Certain advanced HPB surgical techniques, such as laparoscopy, fluorescence laparoscopy, and robotics, are routinely performed in developed areas but have not been widely implemented in the underdeveloped regions owing to outdated diagnostic and therapeutic equipment.

Within a same province, disparities persist in the distribution of health care resources and implementation of a tiered diagnostic and therapeutic system. The "siphon effect" of medical resources by university hospitals in provincial capitals invariably challenges the stability of patient flow in lower-tier hospitals. As HPB surgery demands high technical skills from surgeons, extensive clinical practice is required[5]. Owing to the brand effect of large tertiary hospitals, patients tend to concentrate there, severely limiting the surgical experience of HPB clinicians in other hospitals.

FUTURE IMPROVEMENTS

In China, HPB surgery training is still at a nascent stage and has not been widely implemented across all hospitals. Some hospitals permit clinicians to begin HPB surgery practice immediately after completing their standardized residency training, diluting the focus on basic and clinical HPB education. Thus, it would be beneficial to extend the specialized training period by 1–2 years to ensure the surgical competencies and research literacy of HPB surgeons. Of note, developed countries have mature specialist certification systems backed by dedicated training and certification institutions. On the same lines, it is recommended that China gradually improve the management, assessment, training evaluation, and professional certification of HPB surgeons *via* specialized institutions, ultimately aiming to standardize, unify, and regulate the training quality nationwide.

After acquiring reliable theoretical knowledge, trainees must master advanced clinical skills to become competent surgeons. It has been recommended that national medical schools establish large surgical and clinical skill centers equipped with laparoscopic simulators and related devices for routine training, which will deepen the specialists' understanding of laparoscopic surgery and anatomy. In addition, custom-designed simulation training courses should be offered by experienced HPB surgeons who could perform live demonstrations and detailed discussions on surgical techniques and challenges, significantly enhancing the trainees' surgical skills and confidence.

As a young surgeon it's also important to know about clinical trials, in order to initiate surgical innovation. Different from drug clinical trials, surgical clinical trials are invasive, complex, individualized and highly dependent on surgeon's skills. The IDEAL (Idea, Development, Exploration, Assessment, Long-term study) framework is a scientific and rigorous evaluation pathway for surgical innovations, invasive medical devices, and other complex therapeutic interventions[6]. And this framework has been applied in HPB surgery[7].

Funding for specialist physician training has varied across regions. For example, in economically developed areas such as Shenzhen, the government fully subsidizes training fees and salaries during training. In Shanghai, costs are shared among the appointing entities, training hospitals, and the government. By contrast, less affluent areas receive minimal educational funding. Therefore, establishing HPB scholarships and improving medical student benefits can help retain specialist medical talent and advance medical disciplines.

CONCLUSION

Over the past few decades, the training curricula of HPB surgeons has changed significantly with the increase in the requirement of minimally invasive HPB surgery expertise and advances in surgical techniques. As one of the countries with the highest demand for HPB specialists, China urgently needs to establish a qualified HPB scholarship system that constantly adapts to social development and addresses the serious scarcity of high-quality HPB specialists.

FOOTNOTES

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