

Professor Ho-Seong Han: the ultimate goal of trying an innovative treatment is the patients' well-being

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Expert's introduction

Dr. Ho-Seong Han now is the Professor of Department of Surgery, Seoul National University Bundang Hospital, Seoul National University, College of Medicine, 166 Gumi-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13620, Korea (Figure 1).

Prof. Han graduated from Seoul National University College of Medicine in 1984, and finished internship and residency of department of Surgery at Seoul National University Hospital in 1989. He is the full-time Professor of Seoul National University, College of Medicine. The present position is the Professor of Department of Surgery. The field of interest is hepatobiliary surgery and laparoscopic surgery. Prof. Han is the world first who performed laparoscopic right posterior sectionectomy, central bisectionectomy for hepatocellular carcinoma by laparoscopy. He has also performed laparoscopic liver resection in pediatric patient and succeeded in total laparoscopic right-side donor hepatectomy as world-first. Prof. Han has performed more than one thousand cases of laparoscopic liver resection until 2017.

Prof. Han has performed laparoscopic distal pancreatectomy and laparoscopic pancreaticoduodenectomy first in Korea. Prof. Han has also reported world first series of laparoscopic surgery for gallbladder (GB) cancer.

Prof. Han plays an important role as editors of renowned journals, such as *Ann Surgery*, *Surgery*, *Surgical Oncology*, *JHBPS*, etc., Associate Editor of *Digestive Surgery*. Prof. Han has contributors for atlas and textbooks and invited speakers in many international conferences.

Editor's note

As we may see from the introduction, Professor Ho-Seong Han is the world-first who performed the laparoscopic right posterior sectionectomy and central bisectionectomy for hepatocellular carcinoma by laparoscopy. He has also performed laparoscopic liver resection in pediatric patient and

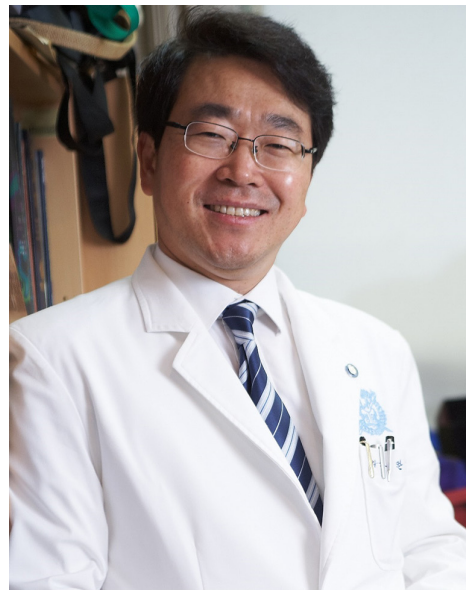


Figure 1 Prof. Ho-Seong Han, the Professor of Department of Surgery, Seoul National University Bundang Hospital, Seoul National University, College of Medicine, 166 Gumi-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13620, Korea.

succeeded in total laparoscopic right-side donor hepatectomy as world-first (Figures 2,3). Through this special interview, we aim to bring readers closer to Prof. Han's valuable experience and thinking behind these word-first surgical cases, and hopefully to ignite inspiration among readers.

Interview

DMR: As you are the first who performed the laparoscopic right posterior sectionectomy and central bisectionectomy for hepatocellular carcinoma by laparoscopy, do you still remember the scenarios of the cases? What resulted in the start of the first case?

Professor Han: The patients with hepatocellular carcinoma



Figure 2 Precious pictures taken at the world-first laparoscopic right side donor hepatectomy on March 16th, 2010. Provided by Prof. Ho-Seong Han.



Figure 3 Precious pictures taken at the world-first laparoscopic right side donor hepatectomy on March 16th, 2010. Provided by Prof. Ho-Seong Han.

usually have poor liver function due to chronic liver disease or cirrhosis. Therefore, it is better for the patients to save liver parenchyma as much as possible during liver resection.

The patients who were performed right posterior sectionectomy have poor liver functions as expected. I have planned right posterior sectionectomy by laparoscopy and successfully performed. In this operation, I have used Glissonian pedicle approach, which means that I isolated right posterior Glissonian cord first and controlled it to decide the territory of right posterior section. Then I reported this operation in the journal. I found that there was no report on this procedure until 2006. It was my honor that I had performed this procedure as world-first.

Central bisectionectomy story is similar. This operation was planned to save the liver parenchyma. There was no report on this procedure on HCC patients until 2009.

DMR: *As there were no similar surgical cases for reference at that time, what preparation had you make before doing the first laparoscopic right posterior sectionectomy, and central bisectionectomy for hepatocellular carcinoma by laparoscopy?*

Professor Han: I was very much interested in laparoscopic liver resection at the time, as this procedure has less pain, fast recovery, and rapid return to normal life.

I have good experience of open liver resection, so I have a belief that surgical method by laparoscopy should be same as open liver resection.

Right posterior sectionectomy and central bisectionectomy are two kinds of operation used in open liver resection,

although are not common procedures. Therefore, I have used same surgical method of liver resection, and the only difference is that I have used laparoscopy. Besides, I had enough experience of laparoscopic liver resection at the time, including right lobectomy.

DMR: *In the process of doing the first innovated surgery, have you met any unexpected obstacle? How did you overcome it?*

Professor Han: I would like to write that these operations are not innovative operations. I have used laparoscopic technique for liver resection, which is commonly used in open surgery.

Innovative idea sometimes faces many difficulties, as others may not agree with the idea and even criticize. However, if you think that it is the right way, you have to push forward persistently. Previously, GB cancer was contraindicated for laparoscopic surgery even in early or suspected cases. It was not easy for people to understand that laparoscopic surgery can be applied to GB cancer. Now, application of laparoscopy for GB cancer is gradually accepted after our series of reports on the outcomes.

DMR: *What do you think are the key factors to make a successful try in a new surgical technique*

Professor Han: As everybody thinks, heroic surgery is not a way to go. I think the same way. Important mission for surgeons is to think of patients' well-being and best treatment.

Some new technique is not well accepted generally. However, when you have strong belief that new technique is good for the patients, you can pursue the way even though there are criticisms from others.

DMR: *What is the state of the art on the laparoscopic right posterior sectionectomy, and central bisectionectomy for hepatocellular carcinoma by laparoscopy? Would you like to describe the developing paths of the surgeries after their first appearances?*

Professor Han: Now, laparoscopic right posterior sectionectomy and central bisectionectomy are occasionally performed procedures, although not so frequent.

And there are several series reports on these procedures from other centers as well.

I guess that these procedures will be more and more performed as typical anatomic liver resections in the future.

DMR: *You are also the first to perform laparoscopic liver resection in pediatric patient and succeeded in total laparoscopic right-side donor hepatectomy as world-first. You have also performed laparoscopic distal pancreatectomy and laparoscopic pancreaticoduodenectomy first in Korea. As the first person to do something, which means you have to face the largest risk of failure. What is the strength behind pushing you always being the first to try a new surgical technique?*

Professor Han: As I have written, if you have belief that innovative treatment is better for the patients, don't hesitate to do so. If you continue on this pathway, you will find that this will be the right decision in the future. Improvements of the medical and surgical care are our mission as a doctor and clinician.

DMR: *Nowadays, artificial intelligence (AI) is emerging in medical science. How do you look at the future application of AI in medicine? Will it replace the role of a doctor?*

Professor Han: I think that AI will play a good role in future medicine. Several decades ago, CT or imaging diagnosis hasn't existed. If our predecessor knew or anticipated the usefulness of CT, they may have said that these imaging devices can make diagnosis so well, that doctors' role for diagnosis are not needed any more. However, as you are aware, the development of imaging

equipment produced more doctors in this field.

I think that developing AI make more doctors involved in this field. AI will be a useful way of our healthcare, as imaging equipment is necessary right now.

DMR: *Thank you very much for sharing your valuable experience and opinions to our readers!*

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