Dr. Patrick Chung: you can't simply treat a child as a smaller adult!

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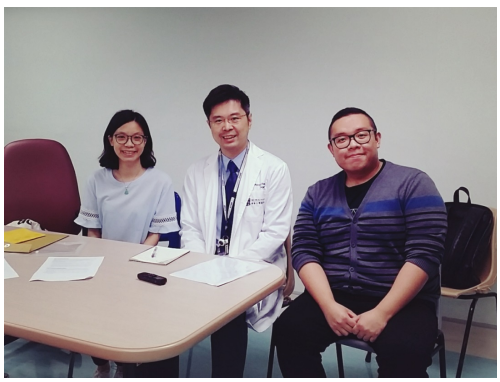

Figure 1 Dr. Patrick Chung (middle) and the Editors at the Department of Pediatric Surgery, Queen Mary Hospital.

TP: Out of the variety of medical disciplines, why did you decide to be a pediatric surgeon?

Dr. Chung: I would like to become a pediatric surgeon because I like both 'pediatrics' and 'surgery'. To be a surgeon, you can see what you are doing. For example, when the patient is bleeding, you control the bleeding. If the patient has a tumor, you remove the tumor. It is a satisfying experience. And it is particularly rewarding to be a pediatric surgeon. Treating an old man can probably prolong his life 10 to 20 more years. However, treating a child can make him live up to 50 or 60 more years. When I was having my internship in pediatric surgery, I saw dying babies resurrected after surgical treatment. When they came back for follow-up consultation, they were jumping and running around with happy faces. To the family, the baby may be their only hope. Therefore, it is not only the baby whom I am saving, but the whole family.

TP: What makes you interested in liver transplantation? Is there any memorable case you can share with us?

Dr. Chung: Liver is a gastrointestinal tract organ. Having my research interest in gastrointestinal surgery, I put a lot of effort particularly into liver surgery. Even after surgical treatment, about one third of biliary atresia patients develop end-stage liver failure and require liver transplantation, which I regard as the most challenging operation, but personally I like taking challenges. And that's why I linked up liver transplantation with my research interest.

A few years ago, we had a biliary atresia patient who was only 9-month-old. He failed the Kasai operation and had no choice but to urge for liver transplantation. Unfortunately, there was neither suitable living nor cadaveric liver graft at that moment. As time went on, he went into renal failure and entered the ICU. While everyone was in despair, it was on one night that we miraculously got a liver graft so we could instantly perform the transplantation in time. Despite some complications during the surgery, he survived the operation and got almost recovered in three weeks. Having been raised from death, he is now receiving education like any other kids and having good grades at school. Therefore, I consider liver transplantation as an amazing and curative operation.

TP: Can you introduce us to the liver transplantation in Hong Kong?

Dr. Chung: Pediatric liver transplantation is not common in Hong Kong. We come across only 5 to 10 cases every year. Nevertheless, with the experience in adult liver transplantation, the technique is rather mature in Hong Kong and the outcome can be comparable to the world. So

far, Queen Mary Hospital is the only center in Hong Kong that can perform liver transplantation.

Biliary atresia is the most common indication for liver transplantation. There are two types of liver donors—living donor and cadaveric donor. No matter it is a pediatric or adult patient, if he or she requires liver transplantation, he or she will automatically be placed on the same queue. Whenever there is a suitable liver graft, say, in blood group A, it will first go to the patient who is on the top priority of that group. Seldom is pediatric patient on the top of the list due to better health conditions in general. Under such circumstances, most parents do not bear waiting and will opt to donate their own livers to their children. In Hong Kong, 70% of liver donors are parents. The rest of them are mostly relatives or friends.

Technically, pediatric liver transplantation usually requires one third or mostly half of the donor liver, lowering both the morbidity and the risks of the donor. On the other hand, as long as the donor liver is healthy and under the same blood group as that of the patient, there is no limit to the age of the donor. In our experience, we had attempted to transplant a 70-year-old grandparent's liver to a pediatric patient.

TP: What is the development of laparoscopic surgery in Hong Kong?

Dr. Chung: Minimally invasive surgery, put into practice in Hong Kong in late 1990s, was first performed on pediatric patients. Nevertheless, due to the lack of case volume and experience because of the small community of pediatric patients, it was evolved and developed further in adult surgery, and eventually returned to pediatric surgery. In early 2000s, we started developing laparoscopic minimally invasive surgery, which gradually advanced to the single-port laparoscopic surgery. Instead of three small wounds, the single-port technique only causes one wound which can be hidden below the navel. Other than the cosmesis factor, it is also believed to cause less pain than the conventional three-port surgery and, thus, is more popular among parents.

TP: What challenges do you meet as a pediatric surgeon?

Dr. Chung: One biggest challenge we encounter is from tumor surgery. Despite the advancement in surgical technique, there are tumors that remain inoperable. When we come across situation like this—we see our patients dying but we are not able to help, it is undoubtedly a sad story for us.

Apart from the emotional burden we bear, we constantly meet technical challenges from a variety of long-term residual problems. For example, patients suffering from Hirschsprung's disease, a congenital disease, have rectal problems resulting in severe constipation and intestinal obstruction. Even after surgery, 20–30% of them are not better off and are prone to all kinds of residual problems such as gastrointestinal infections, bowel incontinence and constipation. Worse still, these problems may follow the child for the rest of his life. It is in fact a real headache for us. In light of this, having patient's quality of life as our major concern, our center has been conducting numerous researches with an aim to seek for approaches other than surgery to manage these residual problems.

TP: What do you think are the major differences in pediatric surgery among Hong Kong, Mainland China and the West?

Dr. Chung: Basically, we receive medical education and postgraduate specialist trainings following the British system. The examination for pediatric surgery is a conjoint examination with Edinburgh. Therefore, the Hong Kong system is actually close to the western one. As for Mainland China, their system has become more westernized in recent years. Nowadays, we all emphasize evidence-based medicine. Even the boss has to provide evidence to support his statement. This is the biggest improvement in medicine.

It has been a long time since the West has had the concept of 'research'. When I attended international meetings ten years ago, I saw mostly Caucasians or Asians from mainly Hong Kong or Japan. Nowadays, possibly due to the economic growth in China, I see more and more Chinese experts participating in these conferences. Not only do they join as participants, they also present their high-quality research findings in English, and even receive awards sometimes. In my opinion, the medicine in Mainland China is catching up with the international standard. Nonetheless, their quality of medicine has not yet been generalized across the country. Unlike western countries where small centers can be of very high quality, most quality researches in Mainland China are from big centers. However, I believe this will be improved step by step in the near future.

Recently, I paid a visit to Mainland China with a foreign professor, who was very amazed by the number of patients they have. He believed the best research to conduct is in China. Due to a big sample size, there are some operations that Chinese doctors are particularly experienced in. To take biliary atresia as an example, we only have 5–6 cases

per year in Hong Kong, but in Mainland China, each center can have 200 cases every year. This explains why I am seeing more and more international publications quoting research findings from Chinese centers in recent decade.

TP: Why is there a growing demand for pediatric surgeons?

Dr. Chung: I think it is because of parent's increasing expectation of child care. Ten years ago, if your son or daughter was sick, you would randomly seek help from a general surgeon. Nowadays, parents are more aware of a specialty called 'pediatric surgery'. They have much higher regard for child care and tend to find pediatric surgeons to do operation for their children.

For example, Hernia is a common pediatric disease in children. In the past, all general surgeons would perform the Hernia operation for pediatric patients. However, the outcomes were not always satisfactory as pediatric hernia is slightly different from adult's. I also came across parents who were not satisfied with the surgical outcome of their child's circumcision performed by adult surgeons. Therefore, it gives rise to pediatric surgeons who are more and more popular among parents.

TP: What are the major differences between pediatric surgeons and adult surgeons in performing pediatric surgery?

Dr. Chung: You cannot simply treat a child as a smaller adult. They are entirely different. Despite some similarities between the adult's and the child's physiology, healing and anatomy, they vary at different levels. I would use a classic example that indicates the physiological differences between an adult and a child. Let's say if we are taking 200 cc blood out of an adult, it is no big deal at all. However, doing the same to a baby would be significant to him. This explains we cannot do the same operation on a child as we do on an adult.

TP: What are the features of pediatric hospitalization in Hong Kong compared to that in Mainland China or western countries?

Dr. Chung: Pediatric hospitals or pediatric units are commonly seen in Mainland China and western countries. Contrarily, there is not yet any children hospital in Hong Kong so far. This unique feature of pediatric hospitalization in Hong Kong has both pros and cons.

To pediatric patients, there is a lack of a friendly hospitalization environment. I once visited an American children hospital, which was designed just like a Disneyland. There were drawings everywhere, playgrounds and even McDonald's. Children receiving hospitalization there would feel much better in such pleasant environment. Besides, we have relatively fewer resources compared to those in Mainland China and western countries. They usually have the most advanced pediatric facilities and are able to conduct more centralized research that we may not be able to do so.

On the other hand, the advantage of not being a children hospital is that it triggers collaboration with adult surgeons and multidisciplinary care. Whenever we encounter uncommon or complicated situations, we can contact our system specialists who can provide backup support to us. For example, we had a case of esophageal perforation which we had never dealt with before. Luckily, we had a good esophageal surgeon whom we could seek for advice. Other than the combined care of patients, transition care is also an advantage of a comprehensive hospitalization environment. Patients with long-term residual diseases can be handed over to adult surgeons as they grow up. Within the same unit, communication among different disciplines is made easier.

TP: How do you think pediatric surgery will develop in the future?

Dr. Chung: In the foreseeable future, I expect to see growing specialty under pediatric surgery. As I mentioned before, more parents are now aware of this specialty and expect higher quality of standard care. On the other hand, there is much room for development of non-surgical treatments such as atropine care and more refinements on existing surgical approaches including the minimally invasive surgery.

We have been conducting multi-center studies. We hold multi-center meetings twice a year and discuss our findings. Indeed, pediatric surgeons in Mainland China are more experienced in clinical practices as they have a much bigger sample size. In the future, more communication and co-operation between Hong Kong and Mainland China are expected. Apart from the traditional surgical approaches, we hope to enhance our techniques on finding alternative cures in the long run.

TP: What are the difficulties in recruiting pediatric surgeons in Hong Kong?

Dr. Chung: Due to a limited number of pediatric patients,

the lifestyle of being a pediatric surgeon in Hong Kong is normally better than that of being a general surgeon. However, it is not a profit-making specialty when comparing with other medical disciplines. For this major reason, I think it is difficult to attract young doctors to engage in this field.

In addition, not only do pediatric surgeons perform surgery on children, they also have to cope with parents. For example, pediatric surgeons always have to explain to parents on the surgical approach or postoperative care for their children, which may contradict the personality of surgeons, who tend to be straightforward and practical in treating patients rather than pacifying parents in a patient manner. I think it is also the reason why not many young people would engage in this field.

TP: Do you have any advice to young doctors who would like to engage in the field of pediatric surgery?

Dr. Chung: I think the most important message to them is to be eager to learn. As the number of pediatric cases is very limited, pediatric surgeons are required to perform other clinical practices, which are often out of their specialty as their daily work routine. Therefore, it is necessary for them to be equipped with basic and general surgical knowledge in order to take care of adult patients as well. I think as long as you have passion for pediatric surgery, you will find the way to conquer the challenges.

Apart from being eager to learn, it is also important to always take your patients seriously. As pediatric surgeons focus on long-term care of the children, we always have to consider how to maintain the children's long-term quality of life as our ultimate goal. Dealing with pediatric patients, we need to follow-up by checking their health conditions from time to time until they are fully recovered or even after the recovery. It can be very challenging but it's worthwhile making the efforts. If you decide to become a pediatric surgeon, one day you will better understand how this professional role gives you the sense of accomplishment that is irreplaceable.

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Footnote

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