

Some issues regarding the development of general surgery during the last half century

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As one of the first surgeons to perform pancreaticoduodenectomy in China in the middle of the last century, and with continuous clinical experience since then, I have witnessed various problematic events and continual changes in surgical procedures during their development, yet more profoundly, I see the flourishing stage that general surgery has gradually entered.

With the mushrooming advances in contemporary scientific technologies, surgery has undoubtedly made great progress over this period - modernized management practices, constantly optimized instruments and equipment, renewed medical concepts, and accordingly, improved general surgical skills. I have actually witnessed the benefits brought about by technological progress for the patient. For example, the rapid and vigorous rise in minimally invasive and robotic surgery has provided patients with the benefits of swift recovery and fast pain alleviation. In China, the exceptionally high number of Hepatitis B Virus carriers (7.18% of the whole population), and the related large number of liver cirrhosis and liver cancer patients have become a significant burden on medical and social costs. The latest techniques for liver function assessment, advanced operative skills, and improved post-op care techniques have offered safer recovery and higher cure rates. The development of liver transplantation, including cadaveric and living donor liver transplantation, has introduced a novel way to treat end-stage liver diseases and has saved many lives.

However, there have also been failings and regrets during the advancement of general surgery, which may exist globally, and I will present my concerns in the following sections.

Significant reduction in the time and opportunities for patient contact

With the advent of the digital age, we are equipped with the ability to acquire a tremendous range of information with high speed and efficacy, enabling us to obtain and update our medical knowledge very conveniently. The widespread application of computers and networks in clinical surgery has provided convenient access to information, but may also considerably reduce the opportunities and time that surgeons meet and talk with their patients, including inquiring directly about their disease history. Our younger surgeons tend to have less time for patient contact in the wards and fewer opportunities to find out directly for themselves information on the diseases or symptoms by carefully performing physical examinations, checking temperature, performing various tests, and more importantly, thinking about the diseases or symptoms. They usually complete the above-mentioned information acquisition by computer from outpatient notes, and give medical orders wherever convenient. I would naturally be worried about the inevitable changes in the nature and characteristics of medical care as a result of this approach.

In fact, medical care is not just the treatment of patients with medicine and operative techniques, but is also a kind of humanism, a psychological, or even emotional, communication. When accepting mechanical surgical treatment, patients usually need sufficient time for face-to-face communication with surgeons, especially with those younger surgeons who wander round the wards, so that they might understand their present situation, the possible treatment outcomes, the recovery process, and to express their worries as a form of psychological relief. I believe in

the utmost importance of emotional communication as an indispensable element in surgical treatment. As the ancient Chinese said, doctors need to have “parental love for the patients”. That is to say, for a doctor, whatever stage the medical care has progressed to, it is crucial to communicate effectively with patients in a charitable, sympathetic, responsible, and tolerant manner. In the current environment in China, owing to continuous improvements in living standards and educational background, patients may take different routes to acquire a basic understanding of their own disease, which may be biased or incomplete. In such a situation, they would hope to, and should, have a frank conversation with their doctors to clarify their situation and voice their opinions. This is much more than a kind of simple and quick communication. I hope a surgeon, in the wake of the rapid development of modern technology, would not ignore the importance of this aspect.

Diagnosis based on the symptoms and signs of the patients has declined since the rapid development of adjuvant examinations

The progress in laboratory tests and endoscopic techniques, especially medical imaging, make surgical diseases easier to detect and diagnose. At the present time, surgeons usually diagnose diseases largely based on imaging technologies (ultrasound, CT, MRI, PET, angiography or percutaneous radiography). However, over-reliance on these techniques is likely to weaken the efforts of doctors for gathering information at the initial patient contact. I have noticed that an increasing number of young surgeons tend to ignore the acquisition of a detailed medical history, attaching little importance to bedside physical examinations, and applying very little deep contemplation and mental analysis on their part, which has resulted in misdiagnosis and treatment errors. They have become over-reliant on the results of those adjuvant examinations for medical decision-making, which gives me an uncomfortable feeling that medicine is becoming too simplified and no longer a state-of-the-art activity. This tendency might not accord with the epitome of medical care and the correct direction of development.

The general practice that diagnosis and treatment are based on adjuvant examinations is the immediate cause of the over-reliance on adjuvant examinations. Some patients have been asked to undergo a complete suite of tests with, for example, CT, MRI and PET before a clear understanding of their general condition and a diagnosis is obtained. This probably gives rise to a significant waste of

medical care resources that may be partly responsible for the high medical costs. The overuse of adjuvant examinations also results in an excessive dependence on those methods and a lack of reflection and mental analysis and, consequently, an over-simplistic explanation and treatment for complex diseases occurring in the human body.

Medical behavior affected by commercial and economic factors

Under a background of increasing medical costs, the effects of health insurance companies and pharmaceutical enterprises on medical practice in hospitals have been inevitable. In hospitals in Western countries and in the major cities in China, the duration of hospital stay of surgical patients is gradually decreasing. Hospital stay with a high degree of efficacy should certainly be advocated, but if the patient agrees to surgery on the day of admission, his/her residents and attending doctors have very limited time for preoperative reassessment of the disease and determining whether there has been any progression of the disease during the period after the previous outpatient visit. In this way, a coarse, arbitrary, and blind behavioral style might evolve out of the diagnostic and treatment process, and to some extent, the quality of medical care is adversely affected by this. By the same token, in consideration of postoperative observation and rehabilitation, it is not always an advantage that patients be discharged from hospital shortly after surgery, especially after a major intervention. I believe this is a failing caused by modern medicine.

As regards the medication used in clinical practice, this can be biased towards, or controlled by, some pharmaceutical enterprises, and can be detrimental to the health and well-being of the patient. Unfortunately, these cases are not isolated or rare.

Inappropriate surgical research

Conventionally, the research conducted by surgeons should basically be related to resolving medical questions or pathophysiological phenomena found in clinical practice, and the results may possibly be of benefit to the clinic by solving problems and removing doubts. But by speeding up everything from diagnosis to treatment and recovery, there is now a declining emphasis on attentive and good bedside medical care. In addition, for professional promotion and to attain entry into professional associations, many young surgeons spend their time doing research that has nothing

to do with clinical medicine, publishing papers to achieve their personal goals. This fast-paced medical research has actually led real clinical research in general surgery astray. In recent years, the appearance and development of translational medicine are intended to fill the gap. Now many people are beating the drum for translational medicine, however, frankly speaking, its eventual effect is still unclear. In the past half-century, I have witnessed the ebb and flow of many medical campaigns, some of which ended up achieving nothing. What we should actually do is very simple, direct, and fundamental: assess the clinical

status ourselves, comprehensively analyze the diseases in combination with adjuvant examinations, and concentrate on preoperative and postoperative treatment. Devoting ourselves to answering the questions and mysteries of surgery, designing appropriate research programs, and resolving difficult and complicated cases, should be the matters we surgeons pay close attention to.

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