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Special Article

Development in GI-Tract Surgery in Thailand from 1934 to 1976. A Personal Perspective

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My first exposure to GI tract surgery was unfortunately at its sharp end. In 1934 as a premedical student I had severe lower abdominal pain which subsequently proved to be ruptured appendicitis with pelvic abscess, a typical case in those days. I remembered being thoroughly examined by Professor T.P. Noble at Siriraj hospital where he was the head of surgical department. After per rectal examination I was briefly explained that there was a pus collection and I needed an operation. Events then unfolded rapidly. After a spinal block by Dr. Sanguan Rojanawongse, Professor Noble performed a lower right paramedian incision to remove the appendix and the pus. A rubber tube drain was placed in the pelvis. Subsequent fecal fistula took 2 months to heal. Luckily there was no incisional hernia. There were no antibiotics then and the successful outcome hinged upon dedicated nursing care, careful wound dressing and wound care which was performed daily with great kindness by the senior house officer (Dr, later professor, Fuang Satsanguan). During the 2 months that I languished in the surgical ward I observed that most of my ward fellows came in because of acute or chronic traumatic wounds including fractures, superficial abscess or gangrene of all kinds, bladder stones and inguinal hernia. Few had acute appendicitis. Almost all cases with urinary tract stones were operated upon by Dr. Prajuk Tongprasert who later succeeded Professor Noble as head of department in 1937.

It is difficult to ascertain exactly when the practice of surgery became widely accepted in Thailand but it appeared to have already been firmly established as a form of treatment by the end of the First World War. In the first volume of the Medical Journal of the Siamese Red Cross in 1918, probably the first medical journal ever published in Thailand, there appeared articles by Thai doctors working in Chulalongkorn hospital in Bangkok on drainage of liver abscess through the bed of tenth rib,[1] drainage of appendix abscess,[1] surgical techniques for caesarian section[2] and for tracheostomy.[3] Subsequent volumes mentioned the techniques for hernia repair[4] and for craniotomy[5] and the need to explore penetrating wound of the abdominal wall in operating theatre.[5] Surgery must have progressed slowly up to the time of my sojourn as a patient in the surgical ward at Siriraj hospital. Even in 1939 when I finished my housemanship, most surgeries were simple by today standard and it was always the last therapeutic option sought. To be fair the environs that surgery was practised were vastly

different from what they are today. Antibiotics were unheard of. Blood transfusion was very expensive and only obtainable commercially through professional donors, each supplying 200-300 ml by direct transfusion at 50 Satangs (25 cent at that time) per ml. Those with intraperitoneal bleeding had auto-transfusion which in 1939 was a therapeutic innovation. Blood was simply scooped up and strained over 6 layers of gauze and then re-transfused. Anesthesia was most basic and was part of surgical work. Spinal block using novocaine was the norm for anything below the umbilicus such as appendectomy or herniorrhaphy. General anesthesia when necessary was given by one member of the surgical team. It started with chloroform and then the depth of anesthesia was maintained with open-drop ether. The struggling and heaving patients under anesthesia without proper relaxation was tolerated and accepted with good humour by the operating surgeons.

In Chulalongkorn hospital which I joined in 1939 and throughout the war years to 1945 the surgical activities were much the same as in Siriraj hospital. Most common abdominal operations were appendectomy and herniorrhaphy. Pyloric obstruction was treated by gastroenterostomy, bleeding peptic ulcer by suture transfixion of bleeding vessels and peptic perforation by simple closure. Adhesions producing small bowel obstruction were lysed and gangrenous segment was resected. Colonic obstruction usually from advanced colonic cancer was treated by colostomy or a by-pass procedure or rarely a Mikulicz's type of resection. Tube gastrostomy was the standard treatment for advanced esophageal cancer. Amoebic liver abscesses that resisted aspiration or had ruptured were drained. Biliary tract calculi were rare and empyema of gall bladder was treated by cholecystostomy. Obstructive jaundice from periampullary cancer was treated by cholecysto-jejunostomy. I was fortunate to have amicable senior colleagues, Luang Suvejsupakij and Dr. Chub Chotiksatien, who were willing to teach. It was here that I was briefed on the technique of hemorrhoid injection by the head of department, Luang Suvejsupakij, who had been doing it for many years. It was done in the surgical OPD using 10% phenol in glycerine and water. The solution was somewhat watery and could be given via ordinary glass syringe and hypodermic needle or more properly via a Gabriel syrynge. As the mixture occasionally gave severe tissue reaction, I switched to 5% phenol in almond oil as recommended in the literature by Dr. Albright. During the war almond oil became scarce and very expensive so it was substituted with vegetable oil which proved equally satisfactory.

During the Second World War, Chulalongkorn hospital was one of the designated hospitals for servicemen and prisoners of war. This was the time that I did a lot of hemorrhoidectomy. To my surprise there was a great demand for this operation among the servicemen. It was somewhat of a let down to learn later that it was not my expertise but rather their own need to have legitimate medical excuses from active field duties that drove them into my hands. I was luckly enough to have access to up-to-date medical journals donated to the Thai Red Cross Society by the European or American expatriate doctors who had fled the country or had been interned. It was from these journals that I learned how to do transabdominal lumbar sympathectomy for Buerger's disease of the lower limbs in 1942. It gave a far superior response than the peri-arterial sympathectomy which had been the usual practice. In 1943, I performed distal gastrectomy, perhaps the first ever in Chulalongkorn hospital, in a patient who had twisted and obstructed efferent limb following a high gastroenterostomy. I transected the stomach distal to the gastroenterostomy. The stoma was dilated and the efferent limb was untwisted with fingers in the stoma guiding the direction. The efferent limb was then transfixed in the new untwisted position. The distal stomach was then removed and lines of section were closed. Luckily it worked.

The decade (1945-1955) following the end of the Second World War saw rapid expansion of abdominal surgery in Thailand. Well trained Thai surgeons returning from abroad to various institutions in the country brought with them state-of-the-art American or European surgery to the country. It started with the return of Dr. Udom Poshakrisna to Siriraj hospital in 1945 after spending many years as a Humboldt scholar in various centres in Austria, Germany and Switzerland. Shortly afterwards came Dr. Samarn Muntarbhorn, a King's scholarship holder, after an illustrious undergraduate career and many years of postgraduate training in England. Dr. Samarn spent a period at Siriraj hospital before moving on to Chulalongkorn hospital in 1949. Dr. Udom had special interest in neurosurgery while Dr. Samarn later pioneered cardiothoracic surgery in Thailand. Many well trained surgeons soon followed in their wake. The impact on local surgery was great as both hospitals were at that time the only teaching hospitals in the country. It was also a period with exciting advances in related fields such as the introduction of endotracheal anesthesia, the creation of anesthetic departments and full-time anesthetists, the availability of antibiotics, the founding

of the Red Cross national blood transfusion center and voluntary blood donation.

For the first time, abdominal surgery could be looked upon as a viable therapeutic option rather then unavoidable salvage procedures. Many new procedures were introduced and indication for surgery extended to include earlier phases of many diseases. Subtotal gastrectomy became the standard treatment for severe peptic ulcer diseases and remained so for a long time.[6,7] Vagotomy was not popular at first because of frequent postoperative gastric retention. Drainage procedures were only routinely added to vagotomy around 1951-1952. Oral cholecystography and intravenous cholangiography became available in the early 1950's and thus cases with biliary tract disorders began appearing regularly on the operating lists. Cholecystectomy replaced cholecystostomy for acute cholecystitis and for the treatment of gall stones. Transthoracic esophagectomy and esophago-gastrectomy for esophageal cancer were not uncommon by 1950.[8] It was also a period of enthusiasm and many new and complex operations were performed while essential supportive care were still inadequate, for example portosystemic shunt in advanced cirrhosis.[9] Splenoportography was introduced in 1954 and helped to define the anatomy for shunt operations.[10]

The 1960's marked the beginning of the influence of American surgery in Thailand with the return of scores of well trained Thai surgeons from the US. This period also saw the setting up of many medical schools and upgrading of hospital facilities across the country. Extensive or complex procedures became common such as hepatectomy for liver cancer, shunt operations for portal hypertension, pancreatectomy or pancreatoduodenectomy for pancreatic cancer. For better or for worse general surgery began to be carved up into subspecialties such as vascular surgery, head and neck surgery, hepatobiliary surgery and colorectal surgery. Liver transplantation was being seriously considered after the success of renal transplantation in the country in 1972 and many young men were being sent abroad to acquire the necessary expertise. Towards my retirement in 1976 endoscopic techniques were being introduced and were gaining ground rapidly. I was quite sure then that endoscopic surgery would be established as a specialty in its own right.

Regarding colorectal surgery, a year at Cleveland Clinic (1951) taught me a great deal. Back in Chulalongkorn hospital, the hemorrhoid clinic which was set up during the war was transformed into a colorectal clinic. It was perhaps the forerunner of all special clinics in general surgery. It was through this clinic that earlier cases of colorectal cancer were picked up and curative treatment could be offered. For colon cancer I adopted Turnbull's no-touch-isolation technique which I was taught at the Cleveland Clinic. For a few years I also used the pull-through technique for low anterior resection described by Dr. Turnbull in which the proximal colon was brought out through and left projecting 5-10 cm beyond the anus. This projecting part was wrapped in vasaline gauze for 10-15 days before it was amputated. I subsequently adopted the technique of direct anastomosis which is the present day technique. For hemorrhoidectomy I tried many techniques such as Milligan-Morgan open hemorrhoidectomy, closed hemorrhoidectomy and also Park's submucosal resection which was perhaps the most difficult and bloody. Eventually in 1960 I devised a simple method which consisted of pulling the hemorrhoidal mass taut and then transfixing and ligating its pedicle with chromic or plain catgut. This technique was simple to perform without blood loss and with very little postoperative pain. For out-patient treatment, in addition to phenol injection, I started using rubber band ligation in 1964 and cryosurgery in 1974 with satisfactory results.

A few words must be said about postgraduate training. Before the introduction of formal training program in 1974 only a selected few could stay on as residents in large training institutions where they worked as interns. The process of training was haphazard and lasted from 2 to 5 years at the end of which they either joined the institution as a staff member or joined government hospitals elsewhere. Outside teaching institutions many surgeons acquired surgical skills by on the job training with the help of their seniors in whatever hospitals they worked. The introduction of formal training in 1974 worked out jointly by the Royal College of Surgeons of Thailand and the Thai Medical Council was a great boon to surgery. Many training posts were created, recognized and supported by the government. Training became standardized in breadth and in depth. Within a few years there was hardly any shortage of general or abdominal surgeons across the country. It is worth mentioning here that training in general surgery in Chulalongkorn and Siriraj hospitals is recognized as part of the requirements for higher examination by the Royal College of Surgeons of England. This was largely the effort initiated by my good friend Dr. Bryan N. Brooke who at that time was a senior surgeon (Reader in surgery) at the Queen Elizabeth Hospital, Birmingham, England. Dr. Brooke visited the surgical department at Chulalongkorn hospital in 1960 and

was impressed with the volume and range of surgical activities. He therefore set into motion the process of having postgraduate training in Thailand recognized by the English college. Dr. Brooke later became professor of surgery at St. George's hospital and medical school in London.

There is certainly a lot of time in retirement for one to look back and to ponder about the future with certain degree of detachment. Without doubt, surgery made a great stride forward in Thailand in the 30 years after the Second World War. Together with the improvement in other medical fields it brought immeasurable benefits to our patients. Sustained progress in the years following my retirement bears testimony to the motivation and commitment of the surgical rank and file who remain convinced of the need for improvement. In those years our surgeons also opened up to suggestions and ideas among ourselves through working together in various surgical societies and in the Royal College of Surgeons. As a result our parochial or sectarian attitudes which at times had been so trying and suffocating were fast disappearing. It is a pleasure to observe the spirit of mutual respect, cooperation and friendly competition enjoyed by our surgeons today.

It would be incomplete to end without sharing some of my own uneasy thoughts. Many a time I wonder whether we moved too fast or too soon along the path of development that we perceived to be beneficial. In our ernest desire to modernize we emulated the western practice in creating many subspecialties in general surgery as well as in other branches of medicine. The public were somehow led to believe that specialist services as well as advanced technology were required for all medical ailments no matter how trivial they might be. Together with many other socio-economic factors outside our control it has led to high public expectation, high medical expenses and lately high risk of litigation which characterize the medical practice at present. Would it have made a difference if we as a profession, in those critical years, concentrated on developing and deploying a strong contingent of super generalists who could deal with all common conditions without too much reliance upon technology, leaving or limiting the super-specialists to their rightful places in advanced teaching or referral centres? Did we in our teaching put too much emphasis on technology and neglect our own common senses and human qualities?

I must admit that at the age of 84 (year 2001) my vision is no longer sharp and my thinking is not so clear. My faculties will not allow me to speculate further on what might have been and I would prefer to leave the judgement to you.

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About the author: This article is drawn largely from memory based on long personal involvement in abdominal surgery in Thailand. The writer graduated in medicine from Faculty of Medicine, Siriraj Hospital, Chulalongkorn University, in 1938 and spent 1938-1939 as house officer at Siriraj hospital. After a brief period at Rajburi provincial hospital he joined Chulalongkorn hospital in 1939 as a general surgeon where he subsequently rose to become professor of surgery and head of department. The writer spent a year (1951) at Cleveland Clinic, USA with Dr. Rupert Turnbull Jr., Dr. George Crile Jr. and Dr. Donald Effler. His main professional interest was in coloproctology and he was the founder of the Society of Colon and Rectal Surgeons of Thailand. He took part in the setting up of the Royal College of Surgeons of Thailand and for many years served on the council as representative of colon and rectal surgeons. He attended the National Defence College in 1969 and graduated in 1970. He retired in 1976.