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Urology News

The Dawn of Minimal Access Surgery in Northern Sri Lanka

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Our present is based on our past, and we should become fully aware of where we have been, and where we are before we venture into the future – J L Thornton

Introduction

For centuries, surgeons used large incisions to access the inside of body cavities. This all changed with the advent of minimal access surgery, otherwise popularly known as 'keyhole surgery'. Surgery was revolutionised by this modern technique which made it possible to access many parts of the body to carry out complex procedures through very small incisions. This reduced morbidity significantly, speeded up healing and enabled patients to leave hospitals much sooner even after major procedures. Though laparoscopic surgery is what comes to mind first for most people when thinking of such surgery, Trans urethral resection of the prostate (TURP) is considered as the first minimally invasive surgical procedure of the modern era (1,2).

History of TURP

Hugh Hampton Young, often referred to as the 'Father of American Urology' is credited with having first developed an endoscopic technique. In 1909, Young developed a tubular sheath through which bits of prostate tissue could be removed using a punch. With the addition of electrical energy, it became possible to achieve a degree of haemostasis considering that bleeding from the prostate was a serious concern. In 1926 Maximilian Stern invented the modern resectoscope and could be credited with having carried out the first TURP. He added an electrified tungsten loop to scoop out prostatic fragments under direct vision. This was followed in 1931 by Joseph McCarthy improving the lens to provide a wider field of vision and adding a gear system to drive the loop across the prostate. Till very recently, monopolar TURP remained the gold standard for treatment of bladder outflow obstruction (1-4).

Despite the development of pharmacotherapy for the prostate and the availability of other procedures for the prostate that include the use of bipolar diathermy, transurethral vaporisation and Holmium laser resection among others, TURP remains the standard treatment in most parts of the world when medical therapy has failed for patients with bladder outflow obstruction.

The Sri Lankan experience

Dr. Lakshman Sujeewa Attygalle, the first Genito Urinary surgeon in Sri Lanka, is widely credited with pioneering TURP in Sri Lanka. On his return from England, where he had undergone training in urology, he was first appointed to Kandy General Hospital where he established the first Genito Urinary unit outside of Colombo. He was appointed to the General Hospital, Colombo in 1972 and it was in the early seventies that he carried out the first TURP. He is also credited with having trained the next generation of Genito Urinary surgeons in Sri Lanka in this technique (5).

The Start of Endourology in Jaffna

The traditional treatment for enlarged prostate causing bladder outflow obstruction and urinary tract stones was by open surgery and this was the situation in Jaffna as well. This dramatically changed in December 1998 when the first TURP was carried out in the Teaching Hospital Jaffna by the

author, a general surgeon with a special interest in urology, who was attached to the Surgery Department of the Jaffna Faculty of Medicine. This marked the beginning of endourological surgery and minimal access surgery in the north of the country.

Historical background and Challenges faced

Jaffna town, situated in the Jaffna peninsula, is at the northern most part of the island at a distance of 400km from Colombo. The peninsula's isolation was relieved, for many years, only by a narrow strip of land at Elephant Pass that connected it to the northern mainland by road and rail. Jaffna town is the capital of the Northern Province and largest in the region but used to be second only to Colombo before the outbreak of the civil war in the nineteen eighties. It is of historic and cultural importance to Sri Lankan Tamils.

Jaffna in 1998 was a very different place to what it is today. Following Operation Riviresa in 1995, even though the Jaffna peninsula was under the control of the government and the army, the civilian population and the healthcare services faced numerous challenges. The A-9 road through Elephant Pass was closed and therefore all supplies to the peninsula, including medical, had to come by sea. Travel in or out of the peninsula for the public was possible only by air or sea.

Specialist medical and surgical treatments were available almost entirely in the Teaching Hospital Jaffna where consultant doctor numbers were also very limited. All medical supplies including equipment, drugs and consumables were brought by sea on a ship run by the International Committee of the Red Cross (ICRC) which operated once a week between Trincomalee and Pt.Pedro. Patients who needed specialised treatment that was not available in Jaffna were sent by the same ship to Colombo. In addition to these challenges, the healthcare institutions in the peninsula had to have Ministry of Defence (MOD) clearance for all medical items needed even by government healthcare institutions in a government-controlled region. Due to the arbitrary nature by which such clearances were sometimes given, the Teaching Hospital in Jaffna faced shortages of essential items at several times during these years when other institutions in the country faced no such problems. The hospital in fact had a designated staff member from the hospital stationed in Colombo solely for the purpose of obtaining MOD approval for these supplies.

It was in the context of such a prevailing environment that endourological surgery was established in the north.

The first TURPs

A Storz resectoscope and ancillary equipment was purchased through funds provided by the Canadian International Development Association (CIDA) in response to an appeal to that organisation. Two of the Operation Theatre staff, Ms. Sarves and Ms. Pathmarani were sent for a week to Dr. Neville Perera's Urology Unit at the NHSL, Colombo to observe and train in the nursing aspects of the procedure. As monopolar diathermy was used in those days, it was necessary to use saved rainwater that was filtered through gauze and then sterilised. This was the practical alternative to obtaining purified water in those challenging times.

Due to concerns regarding the complication of TUR syndrome, cases were selected so that operating times would not exceed half an hour. Not a single case of TUR syndrome was seen during those early years (the only time the author had a case of TUR syndrome was in England when using glycine for irrigation!). Without the swivel camera head and high-definition screens used routinely while carrying out endourological procedures in the modern era, a significant amount of neck discomfort was involved for the surgeon in those pre camera days!

Conclusion

Thanks to the support of CIDA, a supportive hospital administration, ward doctors and nurses, anaesthetists and exceptional OT staff, TURP was carried out effectively and safely in those early challenging years. Within the next couple of years after the first TURP, ureteroscopic lithotripsy for urinary tract stones was also established by the author, again with equipment purchased through donated funds. This established endourological treatment options for the commonest urological problems faced in the region. The appointment of consultant Genito Urinary surgeons to the hospital

in the years after the ending of the war saw the establishment and diversification of endo-urological treatments such as Percutaneous Nephrolithotomy (PCNL) and laparoscopic nephrectomy among others. Modern imaging systems and the use of bipolar diathermy for TURP and laser for stonework improved safety and efficacy. This has resulted in increasing numbers of patients benefiting from such minimal access surgery without experiencing the difficulties that patients in the past had done.

"Take the first step in faith. You don't have to see the whole staircase, just take the first step."

– Martin Luther King Jr.



Getting the irrigation fluid ready



Setting up the irrigation fluid stand



The author performing a TURP

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