Sri Lanka Association of Minimal Access & Digital Surgeons

e-Newsletter

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Editors

Kuda B Galketiya

Umesh Jayarajah

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Chamila Lakmal

Message From The President - SLAMADS

My dear Friends,

This newsletter comes to you exactly 3 years after the inception of SLAMADS !

Our council members and myself are humbly delighted the way SLAMADS has progressed over the past three years, despite the Pandemic and the economic challenges.

One of the objectives of SLAMADS is to train and accredit Sri Lankan surgeons and other specialists who perform minimal access therapeutic interventions in Sri Lanka. We initiated this process by getting Gynaecologists and surgeons participated in the skill course and the FMAS examination conducted by AMASI in collaboration with SLAMADS in June 2023.

I take this opportunity to thank the founder president of AMASI Dr.C.Palanivelu, the current president Dr.C.J.Varghese and his executive committee for getting Sri Lankan surgeons and gynaecologists in to the faculty in conducting this excellent program.

Accepting our invitation by the founder president Dr.C.Palanivelu, to be one of the guests of honor in the induction of the inaugural president of the SLAMADS was an encouragement for us to keep up the quality and the standards of the SLAMADS.

I am happy that SLAMADS has become a platform for Sri Lankan surgeons to participate in the international CMEs as faculty members and this will enable them to get due recognition for their hard work done with available facilities.

Our next tasks will be to establish a proper database of minimal access surgeries done in Sri Lanka and to develop a mentoring programme for peripheral surgeons. I request all our members to maintain a database of the minimal access procedures you perform at your stations. This will not only enable you to publish your work but will help us to identify trainers and resource persons for our future mentoring and CME programmes.

Our editorial board has done an excellent work in uplifting the quality of our newsletter as you can witness when you go through the August 2023 issue. Please make this a platform to publish your work by sending us writeups. The video library on our website is open to keep the edited recordings of your minimal access surgeries and I invite all of you to visit and make use of the video library as an educational tool.

Thank you

Prof.Bawantha Gamage

Founder President- SLAMADS

From the Editors:

Common bile duct stones-ERCP or duct exploration

- In the pre-endoscopic era, gall bladder calculi complicated by common bile duct (CBD) stones were managed with open cholecystectomy and CBD exploration.
- With ERCP coming into practice, a shift occurred to endoscopic stone removal followed by laparoscopic cholecystectomy. Many studies have shown that it is advisable to perform gall bladder removal within three days of ERCP.
- In centers with surgical expertise for laparoscopic duct exploration, a move towards cholecystectomy and duct exploration is happening. Avoidance of ERCP-related complications as well as concerns about the long-term effects of sphincterotomy especially in young favors their decision, in addition for it being a single-stage intervention.
- However, the value of ERCP in patients with cholangitis and who are at high risk for surgery has to be acknowledged.
- What is best will depend on the facilities and expertise available as well as the preference of the surgeon. The decision has to be tailored to obtain the best outcome for the patient.
- In this issue, the point of view is from a HPB surgeon who practices laparoscopic CBD explorations.

Point of view

An Approach to the management of bile duct stones

Mehan Siriwardana MB BS Bch Med Sc (Hons.)FRACS

Consultant HPB surgeon

Mater Hospital South Brisbane

Honorary Visiting Senior Lecturer

Faculty of Medicine, Peradeniya

My approach to bile duct stones is based on the fact that I am a hepatobiliary surgeon with expertise in minimally invasive surgery, but not performing ERCP or endoscopic ultrasonography (EUS). I work in an environment that has free access to minimally invasive equipment and patient expectation demands significant efforts to achieve surgery in a minimally invasive fashion.

My routine method for cholecystectomy includes a four-port method using a twelve millimeter infra umbilical Hasson port entry and three five millimeter upper abdominal ports. Importantly, for bile duct exploration, I place the surgeons left-hand port as close to the costal margin and as lateral as possible as this facilitates achieving the optimal angle for choledochoscopy. This angle can be compromised by patients with narrow-angled costal margin and also patients with a ptosed liver.

It also means that the surgeon's left arm is more abducted and flexed at the wrist during cholecystectomy, which may feel less ergonomic at first. I routinely perform cholecystectomy standing on the patient's left side with the right arm tucked in to help perform choledochoscopy. Although many times bile duct stones are found incidentally on intraoperative cholangiogram, if there is suspicion of choledocholithiasis then I prefer to perform MRCP pre-operatively. Considerations for not performing operative bile duct exploration include frailty precluding surgery, billirubin elevated greater than 100, previous cholecystectomy, cholangitis with features of sepsis or shock and a very narrow calibre bile duct (< 5mm).

In these situations, ERCP will be performed. If ERCP is not feasible then PTC and either a rendezvous procedure or treatment of stones via PTC is possible.

Another unique case to consider is the patient who has had gastric bypass or duodenal exclusion for various reasons, where operative exploration is the only option.

Intraoperative Alterations

It is important to inform staff regarding extra time and equipment required to perform duct exploration in addition to cholecystectomy. Depending on the experience of my assistant and scrub nurse, I will sometimes arrange for a second assistant to help manoeuvre the basket.

A longer port (bariatric length) to stabilise the choledochoscope during exploration is helpful. Cystic duct, particularly when it is not dilated, will be dissected as close as possible to junction with the common bile duct. It must be emphasized that this has to be done with safety. The advantage to this dissection is that it reduces the tortuousity of the cystic duct allowing easier passage of the choledochoscope.

Cholangiogram + Choledochsocopy

Choledochoscopy is performed if intra operative cholangiogram identifies CBD stones. Attempt to flush the stones with saline is generally avoided as my impression is that most times this will distribute the stones to areas of the system that are difficult to access with choledochoscopy.

To facilitate exploration, sometimes a silk tie is used on the cystic duct, close to gall bladder to allow the assistant to apply traction on the duct from the epigastric port to further optimise angle for passage of the scope. There are occasions when the scope will pass without difficulty into the common bile duct via the opening in the cystic duct.

Keeping the lumen in view and using pressurised irrigation will facilitate the passage of the scope even in difficult cases. When this is unsuccessful, a second incision is made in the cystic duct closer to the junction. If this still does not allow passage of the scope into the common bile duct, a decision will be made to perform choledochotomy or plan for post operative ERCP.

If one is able to successfully pass the scope into the CBD there is often a sense of accomplishment already at this stage, but it is only half the battle and engagement of stone and removal from the CBD has a number of potential pitfalls.

If the stones are too large or the burden of stones is too high choledochotomy may be a better option.

During trans-cystic removal it is important to try and engage the highest stone first and if possible, remove stones individually. This will prevent stones being flicked up into the intrahepatic biliary tree and also will reduce the risks of them getting stuck in the cystic duct junction on attempted removal.

Pitfalls

There are number of potential hazards with any form of bile duct exploration but knowing high risk scenarios will help prevent most of them.

1) Basket caught in ampulla: This is a difficult situation usually caused by closing the basket with-out awareness of its location within the ampulla. The best method is probably to open the basket and pull it through the ampulla. Depending on the type of basket however it may continue to get stuck. If this occurs if one can push the basket further in and traverse the ampulla with the scope which may enable the basket to be pulled back into the channel in the scope while in the duodenum.

There have been occasions when a forceful pull back of a basket engaged in the ampulla is the last resort available. This risks bleeding and pancreatitis.

2) Stone lodged in cystic duct-bile duct junction: if the calibre of the cystic duct is significantly less than that of the bile duct then the stone may get stuck at this juncture. Sometimes it is so lodged as to not allow passage back into the bile duct. In general, I would recommend removing the scope from the port with the wire basket left in situ. Then with the wire pulled up against tension, a cut down on to the junction with scissors is made allowing stone and basket to flick out. Take care not to cut the wire of the basket as it may spring open with potential loss of fragments of metal. If the incision extends into the CBD, it is closed using continuous 4'0/5'0 PDS.

3) Stones in common hepatic duct or higher: As previously mentioned, trying to engage the highest stone first will usually prevent stones flicking up into the upper ducts. If this occurs or there are stones in the upper ducts, it is possible if the angle allows to manipulate the scope to enter the CHD and above. Again, a decision must be if they are not retrievable via the cystic duct whether a choledochotomy should be performed

- **4) Post cholangitis:** The inflammatory process may extend throughout the porta hepatis obliterating the hepatocystic triangle. One should apply extra caution in these cases and if the integrity of the bile duct looks suspect, usually in the early phase of cholangitis. It is better to avoid aggressive trans-cystic exploration or choledochotomy and endoscopic management maybe wiser.

Choledochotomy

A choledochotomy may be done in the setting of a dilated CBD/CHD and a large burden of stones. A choledochotomy is generally avoided if CBD/CHD is less than 1cm in diameter.

My preferred method is to make an oblique incision in the CHD/CBD anteriorly with with scissors and cutting diathermy. I don't routinely use stay sutures as I find laparoscopically, they can get in the way. I prefer to use a choledochoscope and a basket to retrieve stones but using a balloon catheter (e.g. Fogarty) or simply flushing can be useful adjuncts. The view with choledochoscope may be limited as choledocotomy will limit pressurised fluid to adequately distend the duct. Closure is performed from either side with two continuous 4'0 or 5'0 PDS sutures dependent on the integrity of the bile duct wall.

It is often helpful to place a more ergonomic lower port in the left rectus muscle for suturing rather than using the epigastric port, but this will vary from patient to patient. I don't routinely use antegrade stents. A closed suction drain will be placed and generally left for a minimum of 48hrs as a small leak can be delayed.

Although minimally invasive approach is beneficial, if not applied appropriately can lead to serious injury and catastrophic outcomes.

For further discussion regarding bile duct exploration, you are welcome to contact me at mehan@me.com or attend our course on minimally invasive bile duct and HPB surgery in September in Peradeniya.

Inaugural Presidential Induction of SLAMADS

The Inaugural Presidential Induction which is an important landmark in the history of SLAMADS was conducted on 24 June 2023 at the Monarch Imperial, Jayewardenepura Kotte.

The event was held with the participation of distinguished invitees from prestigious associations including the Association of Laparoscopic Surgeons of Great Britain and Ireland (ALSGBI) and the Association of Minimal Access Surgeons of India (AMASI).

Professor Bawantha Gamage was inducted as the Inaugural President of SLAMADS by the Chief Guest, Dr K L Fernando, Consultant Surgeon.

Professor Tan Arulampalam, President-Elect, ALSGBI, Professor C Palanivelu, Founder President of AMASI and Professor Mohan de Silva, Emeritus Professor of Surgery, University of Sri Jayewardenepura were the Guests of Honours.

Professor Kuda B Galketiya provided an overview about the development of minimal access surgery in Sri Lanka.


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AMASI Skills course and FMAS examinations

- The 93rd AMASI Skills course organized by the Association of Minimal Access Surgeons of India in collaboration with the Sri Lanka Association of Minimal Access and Digital Surgeons (SLAMADS) was conducted on 24-25th June 2023, at the University of Sri Jayewardenepura.
- A total of 61 surgeons and 15 gynaecologists participated in the program. AMASI fellowship in minimal access surgery was given to all successful candidates following the FMAS examinations.
- The resource persons included distinguished invitees from AMASI and SLAMADS.

Recently held CME activities

Webinar on

Thoracoscopic Access

by **Dr Dhammika Rasnayake**
Consultant Thoracic Surgeon

Organized by the Sri Lanka Association of Minimal Access and Digital Surgeons (SLAMADS)
in collaboration with the College of Surgeons of Sri Lanka.

on 16th July 2023
from 8.00pm - 10.00pm

https://us02web.zoom.us/j/83410205365?pwd=YmVJYm5sS0krazJQanJjY0QyWFU3UT09

Meeting ID: 834 1020 5365
Passcode: 723296

Case report

Excision of a large mid rectal tubulo-villous adenoma using Trans Anal Minimally Invasive Surgery (TAMIS)

Kesara Ratnatunga, Kaushika Gunasekara, Priyantha Maduranga, Dilan Jayarathna, Nirodha Abeywardhana
University Surgical Unit, Teaching Hospital Peradeniya

Introduction

Trans Anal Minimally Invasive Surgery (TAMIS) has been utilized for rectal lesions. We aim to introduce the reader to the technique and its usefulness via a recent case, giving operative details as well as discussion on operative and histological outcomes.

Case:

A 72-year-old gentleman presented with a lump at anus and fresh bleeding per rectum with mucoid discharge for 5 years. On digital rectal examination he had a growth, the lower margin being at 4 cm from the anal verge which was mobile and at the 3 O clock position. The anal sphincter tone was normal.

Colonoscopy confirmed a large polypoidal growth at 4 cm from the anal verge at the 3 O'clock position, which was not amenable for snare polypectomy. There were no synchronous lesions. Biopsy revealed features of a tubulo-villous adenoma with high grade dysplasia.

The patient was set up for a Trans Anal Minimally Invasive Surgery (TAMIS) under general anaesthesia.

Operative approach:

The procedure was done under general anaesthesia with the patient in the Lithotomy position, with IV antibiotic prophylaxis. A 14Fr Foley catheter was inserted. An examination under anaesthesia was done to ensure suitability to proceed with the procedure and the exact position and orientation of the lesion was identified. The theatre set up is as shown in the diagram and image in Fig. 1.

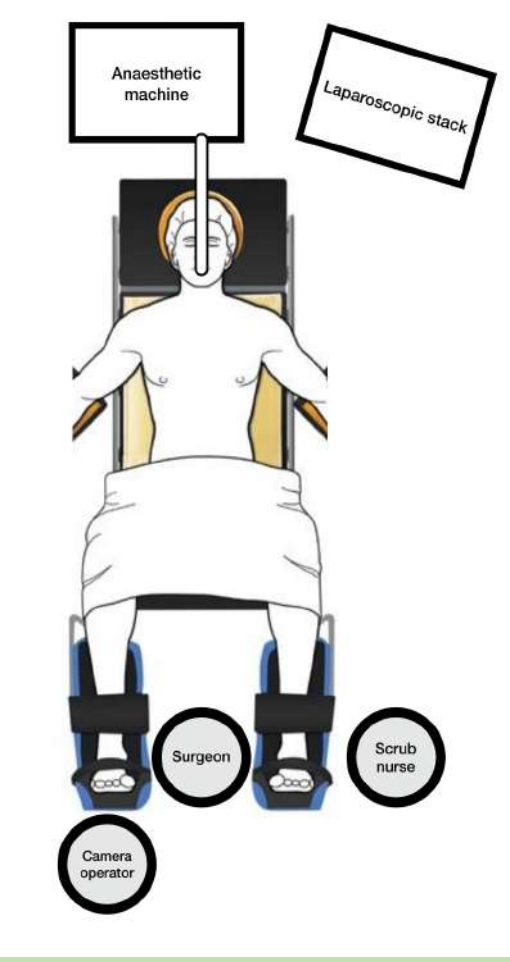


Fig 1.

The GelPoint Path(TM) TAMIS platform was deployed and anchored with nylon sutures to the perineal skin. Three ports were inserted through the gel interface in the 12, 5 and 7 o'clock positions. Fig 2. Pneumo-rectum was achieved using the standard laparoscopic CO2 gas insufflation system at a pressure of 18mmHg.

An initial survey was done to plan out the surgical approach. The lesion was polypoid with a broad base located in the 4 o'clock to 6 o'clock position, adjacent to a rectal valve of Houston, making it difficult to get beyond the lesion with the camera and instruments.

The monopolar diathermy hook was used to score the line of mucosal excision. Fig 3. A laparoscopic injector needle was used to infiltrate the submucosa under the lesion withe a solution fo 1:200,000 adrenaline saline, to elevate the lesion and also aid in haemostasis. Monopolar energy was used to excise the lesion in the sub mucous plane. Counter-traction was provided by a laparoscopic Babcock forcep introduced through the third port. Fig 4. The dissection was done under direct vision and haemsotasis was achieved as bleeders were encountered. Monopolar energy on a Maryland forcep was very useful for this.

The lesion was excised completely and its margins attached to a cardboard with non-absorbable sutures prior to immersion in 10% Formol-saline. Fig 5. The mucosal defect was closed with 0-Polyglycolic acid absorbable sutures applied as a continuous stitch.

Post-operative recovery was uneventful. The IV antibiotics were continued for 3 doses to account for bacteraemia. There was minimal pain postoperatively which was easily controlled with Paracetamol. The catheter was removed on postoperative day 1 and the patient discharged on day 2.

Fig 2.

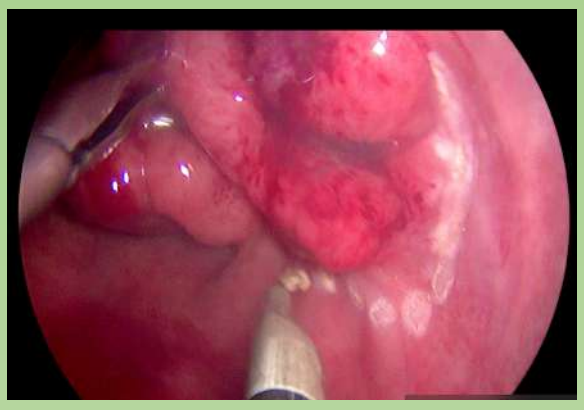


Fig 3.

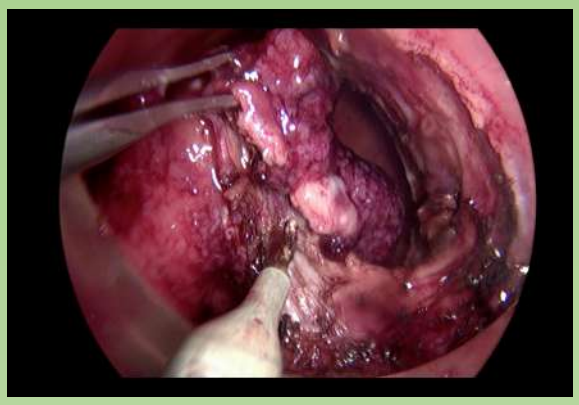


Fig 4.

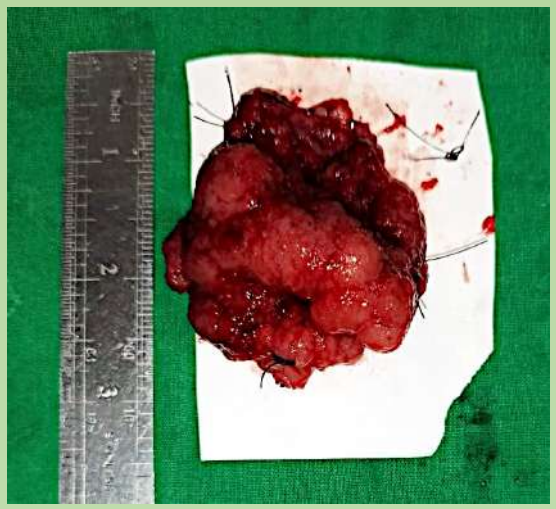


Fig 5.

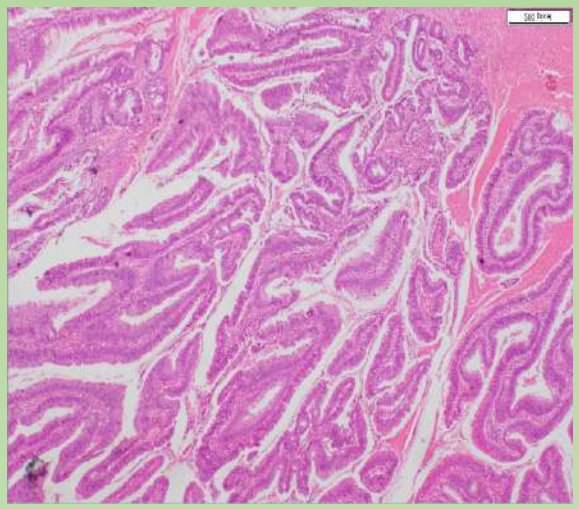


Fig 6.

Histology showed a tubular villous adenoma with high grade dysplasia.

Discussion

Trans anal minimally invasive surgery has opened a new paradigm in the management of rectal lesions over the last decade or so. TAMIS offers a more economical yet effective alternative to the more established Transanal Endoscopic Micro Surgery (TEMS) platform. The ability to use standard laparoscopic instruments through a relatively low cost transanal port means that it can be done in any theatre with laparoscopic facilities.

This patient's lesion, though low lying at its distal end, was in the mid rectum at its more proximal end. This meant that visualization and access in a traditional open trans anal approach would have been difficult. The lesion its self was too large and too broad-based to enable endoscopic excision. The endoscopic biopsy of the lesion was that of a TVA with no evidence of an invasive lesion. The CECT corroborated that there was no invasion or sinister features, however we accept that a pelvic MRI would have been better suited for the cross-sectional imaging. The cost of MRI was prohibitive.

The operative setup was standard except for the use of the usual laparoscopic gas insufflator system rather that the AirSeal(tm) system.

Scoring of the resection line was done with a monopolar diathermy hook. Though this could be achieved in the 3 o'clock to 9 o'clock positions, the more proximal half could not be scored due to difficult visibility. This was due to the size of the lesion as well as it lying in close relation to a valve of Houston. After scoring the lesion's base was lifted with injection of a 1:200,000 adrenaline saline solution. This was to identify the submucosal plane as well as to help with haemostasis. Dissection was with the monopolar hook, attempting to stay within the submucosal plane.

The restricted space within the rectum led to several technical difficulties. Manipulating the lesion even with the laparoscopic instruments was challenging due to its size in relation to the space available. This made the application of counter-traction difficult.

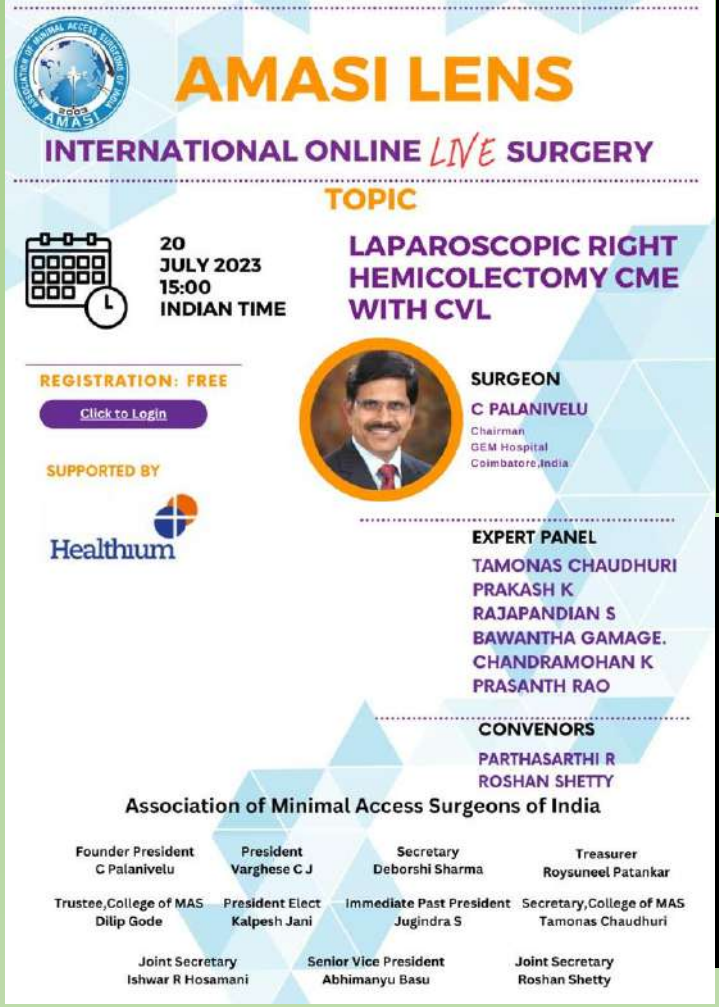
The smoke generated from the cautery tended to continually fill up the space obscuring the view. The heat generated also tended to fog the camera lens. Using the second gas port on the platform to vent the collected smoke was very useful. The collection of blood within the space was troublesome and required frequent use of the suction device.

Dissection was facilitated by the adrenaline-saline infiltration. However at one point the dissection strayed from the submucous plane, deeper and through the muscle wall of the rectum, leading to spurting bleeders. These were controlled with monopoly diathermy on the Maryland dissector. The curved tip of the Maryland facilitated visualisation of the bleeding vessel and precise application of the cauterising energy.

Closure of the defect was with a 0 polyglactin running stitch. The lesion was inspected for completeness of excision with a cuff of normal rectal mucosa. The specimen was oriented and sutured onto a cardboard to facilitate histologic interpretation of the margins which is critical.

The post operative recovery was very smooth in this patient. Since all dissection is above the dentate line, there is no major pain to contend with. Only the post operative discomfort caused by stretching of the anus during the procedure had to be addressed and was easily done. There was no issue of anal incontinence post operatively. The urinary catheter was inserted intra-operatively in anticipation of post operative urine retention, and was removed on day 1 post op.

The histology showed a completely excised lesion, with no evidence of a malignancy or infiltration. This has been achieved in a mid-rectal lesion not amenable to traditional open transanal resection nor endoscopic resection, with a very quick recovery and no overt morbidity.



That's impressive! The 20th of July this year marked a significant milestone for AMASI (Association of Minimal Access Surgeons of India) as they took a major step in telecasting an international online live laparoscopic surgery. Professor C. Palanivelu, the founder president of AMASI, performed a Right Hemicolectomy- Complete Mesocolic Excision with central vascular ligation at GEM hospitals in India.

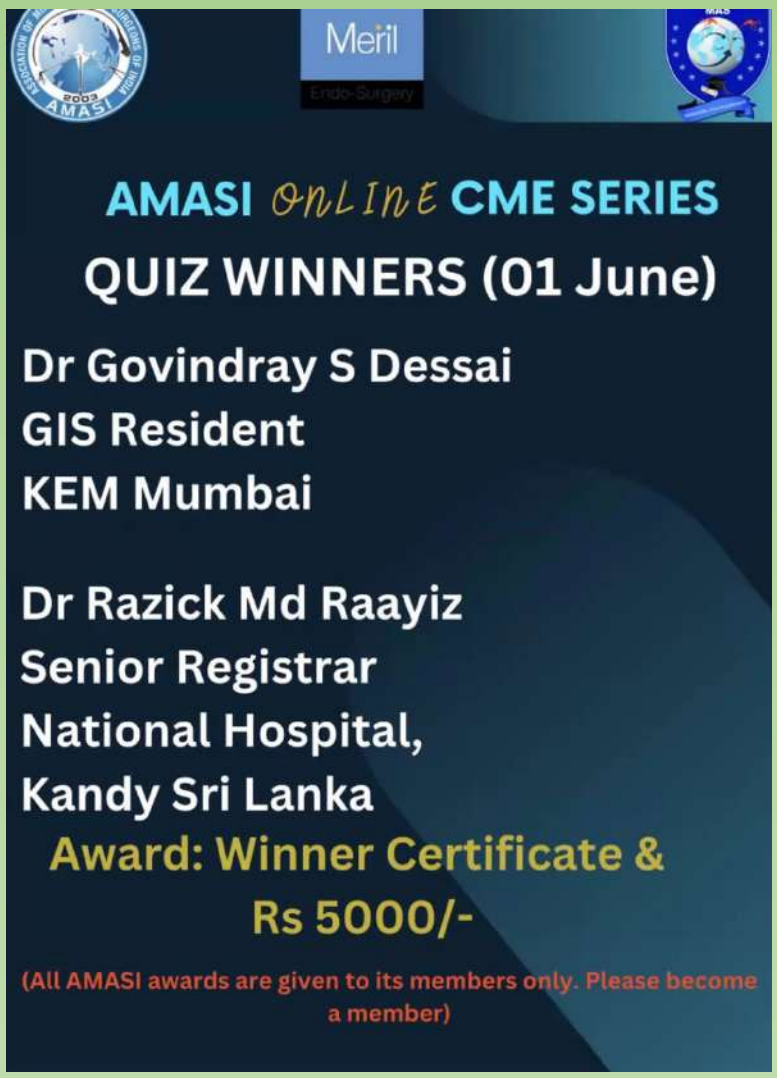
The event attracted participants not only from India but also from regional countries and beyond. It provided a unique opportunity for attendees to learn from the experts and observe laparoscopic techniques and meticulous dissections. Professor C. Palanivelu skillfully guided the audience through each surgical step while explaining the challenges and the methods to troubleshoot them.

AMASI claims that this event was conducted at this level for the first time, but the technical execution was top-notch, ensuring clear and uninterrupted telecasts that kept the participants engaged for the entire four hours.

SLAMADS (Sri Lanka Association of Minimal Access & Digital Surgeons) expressed pride in supporting Professor C.J. Varghese, the current president of AMASI, and his team in organizing this landmark event. Professor Bawantha Gamage, the president of SLAMADS, was part of the panel that also included experts like Tamonas Chaudhuri, Prakash K, Rajapandian S, Chandramohan K, and Prashanth Rao.

Convenors Dr. Parthasarathi R and Roshan Shetty ensured a fruitful discussion during the event, where all questions and comments were addressed.

For minimal access surgeons, the glad news is that they can look forward to having live laparoscopic and robotic surgery telecasts every third Thursday of the month at 15:00 Indian time. This initiative promises to offer valuable learning opportunities and insights from experienced surgeons on a regular basis.



- SLAMADS is proud to have one of its members , Dr Razick Mohamed Raayiz, as the winner of the AMASI Online CME series quiz held on 1st of June 2023. He is currently working as Senior Registrar in Gastrointestinal Surgery at National Hospital Kandy

Minimal Access Surgery at Base Hospital, Balangoda

Rifat Jamaldeen
Acting General Surgeon

Base Hospital Balangoda, located in the scenic town of Balangoda, Ratnapura District, Sabaragamuwa Province, Sri Lanka, plays a crucial role in providing medical services to a population of approximately 193,242 people across four MOH (Medical Officer of Health) areas. Over the years, the hospital has made significant advancements in its surgical capabilities, especially in the field of Minimal Access Surgery (MAS). This article explores the hospital's journey in embracing and adopting minimal access techniques, revolutionizing patient care and surgical outcomes.

The Evolution of Minimal Access Surgery: In 2005, Base Hospital Balangoda received a Korean Laparoscopy setup, which included a camera with standard definition quality and a light source equipped with a halogen reflect lamp lasting for about 50 hours. Additionally, an LCD monitor was provided for better visualization during procedures. This setup marked the beginning of the hospital's venture into minimally invasive procedures.

In 2017, the hospital took a significant leap forward by acquiring cutting-edge endoscopy equipment from a German manufacturer. The new equipment featured a high-definition 1080p camera with a 16:9 aspect ratio, providing superior video output with 2 x HD-SDI 1080 resolution. The light source was upgraded to an LED with an extended lifetime of approximately 50,000 hours, significantly reducing the need for frequent replacements. To complement the enhanced imaging capabilities, the hospital also obtained a 24-inch high-resolution LED monitor with backlight technology.

Rising Enthusiasm and Surgeon Adoption: With the improved imaging clarity and user-friendly equipment, surgeons at Base Hospital Balangoda expressed increased enthusiasm for adopting minimal access techniques. This enthusiasm, combined with the advantages of MAS, led to a dramatic rise in the number of minimal access surgeries performed at the hospital over the past two years.

Key Minimal Access Procedures: Some of the key minimal access surgeries performed at Base Hospital Balangoda include:

1. Laparoscopic Cholecystectomy - 23 cases
2. Laparoscopic Appendicectomy - 14 cases
3. Laparoscopic PUH (Paraumbilical Hernia) repair - 8 cases
4. Laparoscopic Inguinal Hernia repair - 4 cases
5. Diagnostic Laparoscopy - 6 cases
6. Laparoscopic Anterior Resection (AR) - 1 case
7. Laparoscopic Rectopexy - 2 cases

Challenges and Progress: Despite the growing acceptance of minimal access techniques, the hospital faced challenges in performing certain advanced laparoscopic procedures, such as laparoscopic ventral hernia repair, due to unavailability of composite intraperitoneal mesh. The success of advanced laparoscopy depended not only on convincing other team members, such as the anesthesia department and nursing team, but also on providing necessary resources to the surgeons.

AMASI Skills Course and Changing Attitudes: The recently held AMASI (Association of Minimal Access Surgeons of India) skills course has played a pivotal role in changing the attitudes of the surgical and gynecological teams at Base Hospital Balangoda. The course has not only improved their skills but has also fostered a culture of collaboration and learning, positively impacting the entire surgical team. As a result, the laparoscopy attitude among the surgical and gynecological teams has witnessed a significant boost.

SLAMADS and Advancing Minimal Access Techniques: The Sri Lanka Association of Minimal Access and Digestive Surgery (SLAMADS) has been proactive in promoting minimal access techniques across the country. Regular workshops conducted in peripheral regions have not only increased awareness but also facilitated the adoption of advanced laparoscopic procedures.

Conclusion: Base Hospital Balangoda's journey towards embracing minimal access surgery has been marked by significant advancements in equipment and surgical techniques. The hospital's commitment to providing state-of-the-art healthcare to its population is evident through the increasing number of minimal access surgeries performed. With the support of organizations like AMASI and SLAMADS, the hospital is poised to make further progress in the field of minimal access surgery, benefiting countless patients in the region.

Upcoming CME Activities

- Live laparoscopy HPB workshop

  Venue-TH Peradeniya

  Date-19/09/2023

  Resource-visiting team from Australia led by

  Dr. Mehan Siriwardane

Organized by the Department of Surgery Faculty of Medicine Peradeniya for SLAMADS and CSSL

- Basic laparoscopy skills workshop for trainees – Date to be announced

Write to us !!

We urge all surgeons and trainees to write brief reports to us on

- Surgeries performed by MAS with learning points
- Range of procedures done at your institute as well as facilities available

Email to: kbgalketiya@yahoo.com