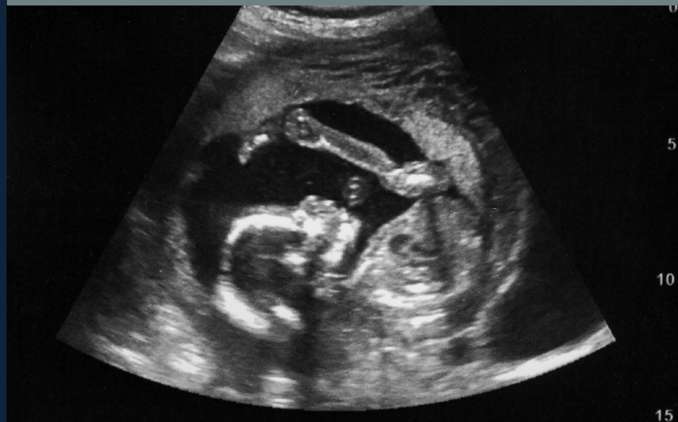
Vol.1 |Aug, 2023

SIGMUM NEWSLETTER

OBSTETRIC & GYNAECOLOGY

- Advancements in Minimally Invasive Gynecologic Surgery
- Managing High-Risk Pregnancies: A Multidisciplinary Approach

- Research Corner
- SIGMUM Events
- Quiz & Case Discussion



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SIGMUM NEWSLETTER 2023 VOL.1

EDITOR NOTE

EVA TEO ZHI YEE

Vice President of
SIGMUM 2023/24

Dear Members of the Surgical Society,

I am thrilled to present the first edition of our newsletter, showcasing the highlights of our recent event focused on Obstetrics and Gynaecology. As the Vice President of SIGMUM, it fills me with immense pride to witness the growth and enthusiasm of our community towards advancing the field of surgery.

Our past webinar centered on Obstetrics and Gynaecology brought together students, faculty, and distinguished professionals to explore the latest developments and breakthroughs in this critical area of healthcare. It is our honour to have international speakers from UK to join us. Obstetrics and Gynaecology, being a multifaceted discipline, encompassing aspects of medicine and surgery, offers a vast array of opportunities for research, learning, and innovation. In this newsletter, you will find a comprehensive discussion on topics related to obstetric and gynaecology.

I would also like to take a moment to express our sincere appreciation to our club advisor, Dr. Anil Gandhi. His guidance, support, and dedication have been invaluable in shaping the direction of our society and ensuring the success of our events. Dr. Gandhi's expertise and mentorship have undoubtedly played a significant role in inspiring us to strive for excellence in the field of surgery.

As we move forward, our Surgical Society remains committed to providing a platform for aspiring surgeons and medical students to connect, learn, and contribute to the advancement of surgical knowledge. With upcoming events, workshops, and mentorship programs on the horizon, there are countless opportunities for our members to excel in their surgical journeys. I encourage all members to actively participate in our future events, share your knowledge, and take advantage of the resources available within our society. Let us continue to support one another, fostering an environment of growth, respect, and camaraderie.

Lastly, I would like to thank our members for their unwavering support and dedication to the Surgical Society at Monash University. It is your enthusiasm and commitment that propels us forward and strengthens our resolve to make a lasting impact in the world of surgery.

Thank you, and let us continue to strive for excellence together.

Sincerely,

Eva Teo Zhi Yee
Vice President (Edu & IT)
SIGMUM Monash

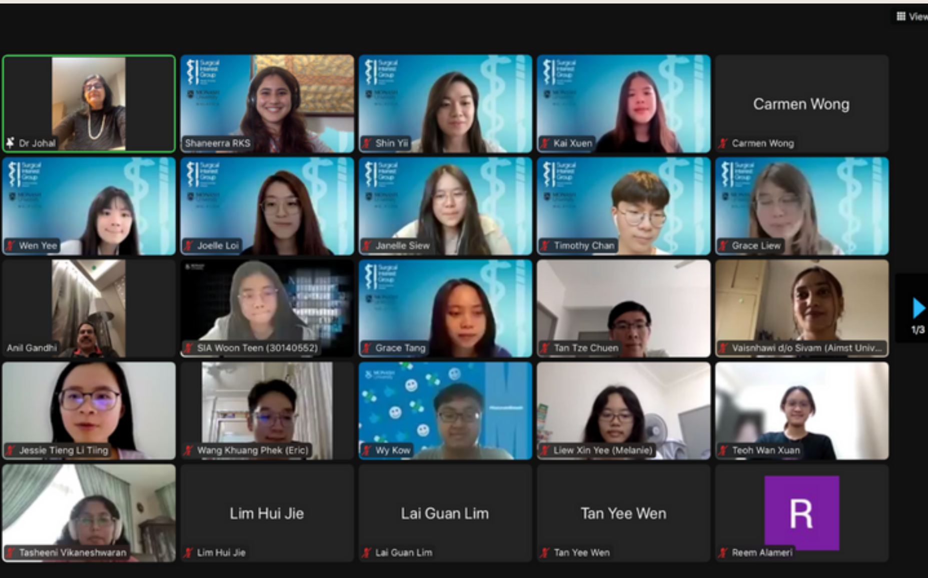
INSIGHT INTO: OBSTETRICS AND GYNAECOLOGICAL SURGERIES

LIFE OF A CONSULTANT O&G & PATHWAYS TO O&G

On 18 March 2023, we organised our very first webinar of the year: "Insights into: Obstetrics & Gynaecological surgery". It was a highly informative and successful event that brought together a total of 65 attendees, including medical professionals and enthusiasts interested in the field of Obstetrics and Gynaecology. The webinar took place on [insert date].

Dr. Johal, a renowned consultant Obstetrics & Gynaecology specialist, brought a wealth of expertise and experience to the webinar. With affiliations at Ipswich Hospital NHS Trust and The Suffolk Nuffield Hospital, Ipswich, Dr. Johal's contributions to the medical community have been exemplary. As the Clinical Director of Obstetrics & Gynaecology and a key figure behind the launch of the emergency Gynaecological Assessment unit, her insights provided attendees with a comprehensive understanding of the challenges and advancements in this dynamic medical specialty.

INSIGHT INTO: OBSTETRICS AND GYNAECOLOGICAL SURGERIES



Throughout the webinar, Dr. Johal provided valuable insights into the challenges and advancements in Obstetrics & Gynaecological surgery, sharing her first-hand experiences and expertise to the eager audience. The attendees had the opportunity to engage in interactive discussions and ask questions, enhancing the learning experience and fostering a sense of collaboration within the medical community.

Management Algorithm of endometriosis

In conclusion, the "Insights into Obstetrics & Gynaecological Surgery" webinar was a resounding success, thanks to the valuable contributions of Dr. Johal and the active participation of all 65 attendees. It served as a platform for knowledge exchange and the dissemination of crucial information, ultimately contributing to the advancement of Obstetrics & Gynaecological surgery and the improvement of women's healthcare overall.

FEATURED ARTICLE

Recent Advances in Minimally Invasive Surgery for Gynecologic indications

WRITTEN BY TIMOTHY CHAN

Case Discussion

WRITTEN BY RUXAN MALIK

Recent Advances in Minimally Invasive Surgery for Gynecologic indications

Written by Timothy Chan

The increase in interest in less invasive surgery for benign gynaecological conditions has lead to the advancement of these 2 surgical approaches:

- **Laparoendoscopic single-site surgery (LESS) → Single port surgery/Single incision laparoscopy**
- **Natural orifice transluminal endoscopic surgery (NOTES)**

Aim for less invasive surgical approaches:

- ***Less postoperative pain***
- ***Reduce hospital stay***
- ***Faster postoperative recovery***
- ***Maximises cosmetic outcomes***
- ***Reduced wound related complications***
- ***Reduced cost***

However, the clinical advantages of LESS over multiport laparoscopic surgery (MLS) are still under research.

ROLE OF LESS IN BENIGN ADNEXAL DISEASE

Schmitt et al (2017) reported that there were **no significant added benefits of LESS when compared to multiport laparoscopic surgery (MLS)**. This meta-analysis evaluated the clinical advantages of LESS for adnexal surgery via a pooled analysis of 6 RCTs, showing that there was **no significant difference in terms of length of hospital stay, blood loss, postoperative pain, and cosmetic outcome** 9p=0.71). But on the other hand, **LESS had a longer operative time** (p=0.03).

Furthermore, the main limitations of LESS are the **requirement of a larger umbilical incision**, which is up to 2.5-3 cm and the technical challenges associated with the procedure. With this large incision, complications such as incisional hernias may arise although the risk has not been fully investigated. With regards to the technical challenges, it is recommended that less experienced surgeons avoid this procedure especially in cases such as large ovarian cystectomy, surgery for severe endometriosis, and tubo-ovarian abscess combined with severe pelvic adhesion.

Lastly, the **cost of LESS is not fully evaluated** due to possible factors such as differences in insurance policies between countries.

ROLE OF LESS IN BENIGN UTERINE DISEASE

According to Sandberg et al (2017), there was **no significant difference in the complication rates, postoperative pain, intraoperative blood loss & length of hospital stay** between the LESS vs MLS. The length of time for LESS procedure for hysterectomy was, on average, **11.3 minutes longer compared to MLS.**

Technical challenges due to the **inadequate triangulation and instrumental collision**, **closure of the vaginal cuff** is particularly difficult. Fortunately, the use of barbed suture (knotless suture) had been proven to shorten the operative time and decrease the risk of postoperative vaginal bleeding and vaginal cuff cellulitis. However, the potential safety of barbed sutures was raised by the Government of Canada which warned about the risk of small bowel obstruction.

Another comparative study consisting of 100 cases of LESS vs MLS as surgical approaches to myomectomy evaluated the feasibility and safety of LEE-myomectomy with respect to operative time, postoperative pain, blood loss and length of hospital stay.

LESS IN GYNAECOLOGICAL MALIGNANCIES

The first case of LESS radical hysterectomy for cervical cancer was done in 2012, and is on a patient with stage I cervical cancer who were treated using LESS radical hysterectomy and pelvic lymphadenectomy. On the other hand, a wide peritoneal spread and frequent recurrence of ovarian cancer have limited the use of LESS.

ROBOTIC ASSISTED LESS (R-LESS) IN GYNECOLOGIC SURGERY

A 208 systematic review suggested that definite conclusions regarding the postoperative pain and cosmetic results remain unknown owing to the lack of sufficient information despite the tolerable operative time and blood loss associated with the procedure. In this study, the complications rate were 4.9%.

R-LESS has a longer operative time, on average, 24.9 minutes longer relative to the LESS group as reported by Lopez et al.

NOTES IN GYNECOLOGIC SURGERY

NOTES is a scarless single-entry surgery. Reported advantages of NOTES include the absence of visible abdominal scar, less operative pain, shorter hospital stay, improved operative visibility, and possibly, no requirement of adhesiolysis to expose pelvic organs.

Yang et al (2013), reported that in 7 cases of transvaginal NOTES for salpingo-oophorectomy, there was minimal blood loss, and the mean operative time was 45 minutes for this procedure, suggesting that transvaginal NOTES is feasible and safe for the treatment for adnexal masses.

A more recent meta-analysis, comparing NOTES hysterectomy with conventional LAVH, observed that NOTES was associated with shorter operative time and hospital stay but with a higher cost. There was no significant difference in terms of complications and postoperative pain, and no conversion to conventional laparoscopy/open surgery. This study suggested that NOTES should be considered as an option for gynaecological approach.

Recent Advances in Minimally Invasive Surgery for Gynecologic indications

Written by Timothy Chan

With that said both LESS and NOTES are emerging techniques as minimally invasive gynecologic surgeries.

The majority of the surgical outcomes are relatively similar between LESS and MLS approaches. However, the evidence of feasibility and safety of LESS for benign gynaecological surgeries were **not strong enough to support LESS over MLS**. On top of that, conclusions regarding the safety and efficacy have not been drawn due to the **lack of information.**

Therefore, more extensive, well designed studies regarding the minimally surgical approaches in order to determine the efficacy, benefits and potential risks and complications as compared to MLS.

References:

Koo YJ. Recent advances in minimally invasive surgery for gynecologic indications. Yeungnam University Journal of Medicine [Internet]. 2018 Dec 31 [cited 2023 Aug 25];35(2):150–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6784696/

Recent Advances in Minimally Invasive Surgery for Gynecologic Surgery : case-based discussion

Written by Malik Ruxan

Case: Laparoendoscopic Single-Site Surgery (LESS) for Hysterectomy in a Patient with Benign Uterine Disease

PATIENT INFORMATION:

A 45-year-old female presented to the gynecology clinic with complaints of **heavy menstrual bleeding** and **pelvic pain**. She had a **history of multiple uterine fibroids**, which had been causing her symptoms for several years. The patient desired a minimally invasive approach for her surgery and expressed interest in laparoendoscopic single-site surgery (LESS). After discussing the benefits, risks, and alternative treatment options, including conventional multiport laparoscopic surgery (MLS), the **patient decided to proceed with LESS hysterectomy**.

CLINICAL HISTORY:

The patient had no significant medical or surgical history apart from her symptomatic uterine fibroids. She had no known allergies and was not taking any regular medications. Her physical examination revealed an **enlarged uterus** consistent with the presence of fibroids. Preoperative imaging, including a pelvic ultrasound and magnetic resonance imaging (MRI), confirmed the presence of **multiple uterine fibroids**, the largest measuring 8 cm in diameter.

Recent Advances in Minimally Invasive Surgery for Gynecologic Surgery : case-based discussion

PROCEDURE:

The patient was placed under general anesthesia, and a single umbilical incision of approximately 2.5 cm was made for the insertion of the LESS port. The port was equipped with multiple channels to accommodate the laparoscope and surgical instruments. Carbon dioxide gas was insufflated to create a pneumoperitoneum, allowing for better visualization of the pelvic structures. The laparoscope was inserted through the port to provide a clear view of the surgical field.

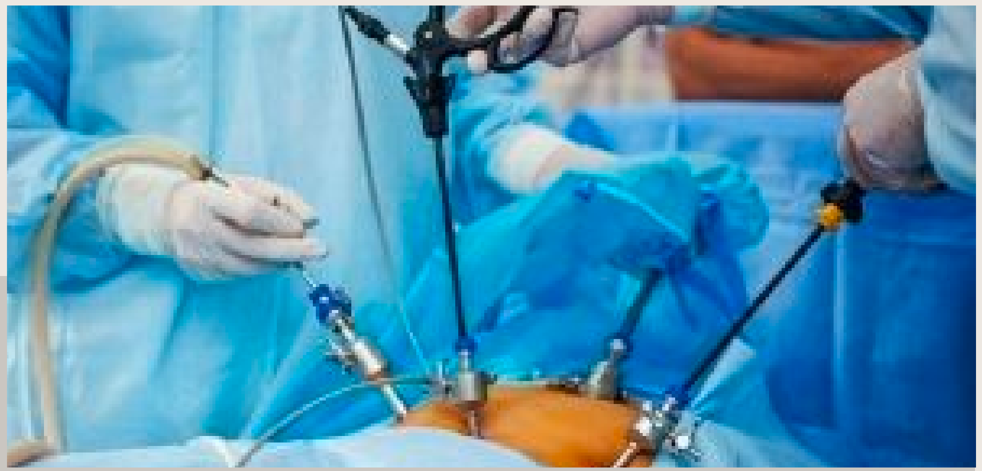
Using laparoscopic graspers, the surgeon carefully dissected and ligated the blood vessels supplying the fibroids. The fibroids were then morcellated and removed through the same umbilical incision. Attention was paid to achieving hemostasis and preserving the integrity of the surrounding tissues. Once all fibroids were removed, the surgeon assessed the uterine cavity and confirmed hemostasis.

The next step involved closure of the vaginal cuff. The surgeon used a barbed suture, which facilitated the closure by eliminating the need for knot tying. The vaginal cuff was secured with multiple sutures to ensure proper healing. After confirming hemostasis and completing the closure, the surgeon removed all instruments and the LESS port.

POSTOPERATIVE CARE AND FOLLOW-UP:

The patient was closely monitored in the recovery area before being transferred to the postoperative ward. She was provided with pain medication and received instructions on wound care and postoperative restrictions. The patient was encouraged to ambulate as soon as possible to aid in her recovery. She experienced minimal postoperative pain and discomfort and was able to tolerate a regular diet. The urinary catheter was removed on the first postoperative day, and she was discharged home on the second day.

The patient attended scheduled follow-up visits to assess her recovery and monitor for any complications. She reported a significant improvement in her symptoms and was satisfied with the cosmetic outcome of the surgery. The pathology report confirmed the presence of benign uterine fibroids without any concerning findings.



CASE DISCUSSION:

The successful execution of LESS hysterectomy in this case required a skilled and experienced surgical team. The use of a barbed suture for vaginal cuff closure helped streamline the procedure and contributed to the patient's smooth postoperative recovery. Additionally, the involvement of a multidisciplinary team in the preoperative planning and postoperative care ensured comprehensive and patient-centered management.

While LESS offers potential benefits, it is essential to carefully select patients and consider individual factors such as the size and location of uterine fibroids, previous abdominal surgeries, and the surgeon's expertise. Proper patient counseling regarding the benefits, risks, and potential need for conversion to MLS or open surgery is crucial in shared decision-making.

Further research and larger-scale studies are needed to gather more robust evidence regarding the effectiveness and safety of LESS, especially in gynecologic malignancies. Additionally, the development of new technologies and instruments may continue to refine and enhance the outcomes of LESS procedures.

References:

Koo YJ. Recent advances in minimally invasive surgery for gynecologic indications. Yeungnam University Journal of Medicine [Internet]. 2018 Dec 31 [cited 2023 Aug 25];35(2):150–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6784696/

CLINICAL SPOTLIGHT

Managing High-Risk Pregnancies: A Multidisciplinary Approach

WRITTEN BY JANELLE SIEW

Case Discussion

WRITTEN BY RUXAN MALIK

MANAGING HIGH-RISK PREGNANCIES: A MULTIDISCIPLINARY APPROACH

Written by Janelle Siew

KEYNOTES

- Highlight the **importance of a collaborative approach** involving obstetricians, maternal-foetal medicine specialists, and other healthcare professionals in managing high-risk pregnancies.
- Discuss **specific conditions or situations that require specialised care**, such as gestational diabetes, preeclampsia, or multiple pregnancies.
- Feature **insights from experts in the field, including their experiences and recommendations for optimising outcomes** for both the mother and the baby. (Based on research)

Firsty, every healthcare profession has their own expertise and specialisation in managing high-risk pregnancies. This involves obstetricians monitoring and managing obstetric complications and ensuring safe delivery, thus, providing their expertise of the mom's wellbeing during birth. Additionally, the Maternal-foetal medicine specialists focus on the foetal including diagnostic tests and management of the foetal. The cardiologist contributes in managing cardiac conditions, anesthesiologists ensure dosage of anaesthesia are appropriately administered during delivery.

Not to forget the nurses, who play a crucial role in a patient's care before, during and after delivery as they are the ones who would monitor the patient's vital signs and condition most. There are many more health professionals who contribute in patient's care which makes collaborative approaches vital. This is because, in order to provide adequate care without over- or under- treating or diagnosing the patient, a multidisciplinary approach is needed.

CASE SCENARIO

In the article, a pregnant woman with Eisenmenger syndrome (ES) and severe pulmonary artery hypertension would require multidisciplinary care. A cardiologist, maternal-foetal medicine specialist, neonatologist for the management of ES which affects both the mother and foetus as is a complex congenital heart defect resulting in severe pulmonary arterial hypertension and right-to-left shunt. Similarly, management of severe pulmonary artery hypertension would too require a multidisciplinary specialist.

RECOMMENDATIONS FROM DIFFERING EXPERTS:

1) **Cardiothoracic surgery and cardiology:** given the extent of severe pulmonary hypertension, the patient was deemed not a surgical candidate for ASD closure. She was given oxygen therapy to maintain SpO2> 90%. PAH-specific therapies including sildenafil and treprostinil were initiated. The central line and arterial line were placed under close hemodynamic monitoring.

2) **Anesthesiology:** the decision was made to perform general anaesthesia and endotracheal intubation. Epidural anaesthesia was avoided as a sympathetic blockade could reduce systemic vascular resistance, leading to worsening right-to-left shunt and hypoxemia.

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MANAGING HIGH-RISK PREGNANCIES: A MULTIDISCIPLINARY APPROACH

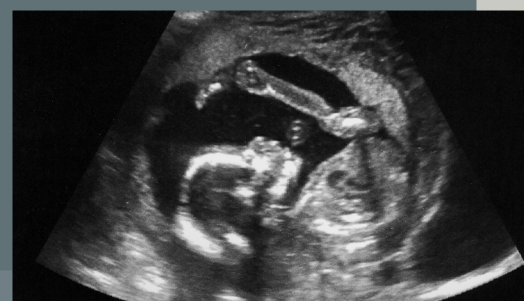
Written by Janelle Siew

RECOMMENDATIONS FROM DIFFERING EXPERTS:

3) Mechanical circulatory support: extracorporeal membrane oxygenation (ECMO) was planned for rescue in the event of decompensation. Femoral veins and artery were cannulated intraoperatively as needed for ECMO.

4) Obstetrics: as acute blood loss during delivery could pose a high risk for cardiopulmonary decom- pensation, the decision was made to proceed with ju- dicious use of oxytocin in small and intermittent dose to augment contraction and prevent postpartum haemorrhage.

5) Neonatology: as hypoxemia in maternal circulation could lead to fetal hypoxia, neonatologists were standby in the event of newborn resuscitation.



6) Intensive care: the intensive care unit (ICU) level of care was deemed necessary to provide close monitoring, supportive care, and PAH-specific therapy.

References:

Troko J, Poonawala Y, Tarekegn Geberhiwot, Martin B. Multidisciplinary Team Approach Is Key for Managing Pregnancy and Delivery in Patient with Rare, Complex MPS I. JIMD reports [Internet]. 2016 Jan 1 [cited 2023 Aug 25];1–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5110447/

Managing high risk pregnancies: a multidisciplinary approach.

Written by Malik Ruxan

Case-based discussion

PATIENT INFORMATION

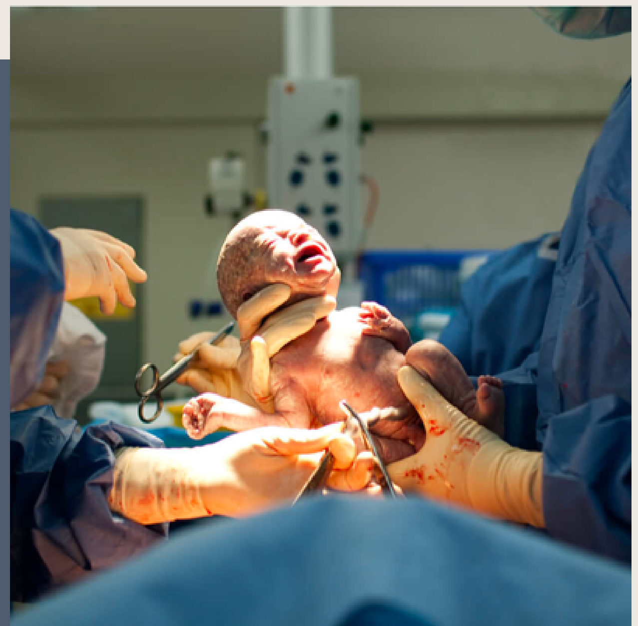
In this case discussion, we encounter a 32-year-old female who presented at 36(+6) weeks of gestation with hypoxemia and bilateral lower extremity edema. She had Eisenmenger syndrome (ES) and severe pulmonary artery hypertension (PAH). The article highlights the importance of a multidisciplinary approach in managing pregnancies complicated by ES, as it significantly improves maternal and infant outcomes

CLINICAL HISTORY

The patient had a history of previous spontaneous miscarriage and induced abortion, and she was lost to follow-up due to the COVID-19 pandemic. Upon presentation, she exhibited signs of central cyanosis, digital clubbing, and pitting edema. Diagnostic evaluations, including arterial blood gas tests, laboratory tests, computed tomography (CT), electrocardiogram, and echocardiogram, confirmed the diagnosis of pregnancy complicated by ES with a large arterial septal defect (ASD) and severe pulmonary hypertension

To manage this high-risk pregnancy, a multidisciplinary team (MDT) was assembled, consisting of specialists from cardiology, cardiothoracic surgery, anesthesiology, obstetrics, neonatology, and intensive care. The MDT formulated a comprehensive management plan to optimize the patient's preoperative hemodynamic status, bridging to an elective cesarean section.

Due to the severity of pulmonary hypertension, the patient was not a surgical candidate for ASD closure. Oxygen therapy was initiated to maintain oxygen saturation levels above 90%. PAH-specific therapies, such as sildenafil and treprostinil, were started, and the patient was closely monitored using central and arterial lines. The plan included the use of general anesthesia and endotracheal intubation for the cesarean section to avoid sympathetic blockade that could worsen the right-to-left shunt. Mechanical circulatory support, such as extracorporeal membrane oxygenation (ECMO), was prepared as a rescue option in case of decompensation.



During the cesarean section, a floating catheter was used to monitor pulmonary artery pressure, and standby ECMO was available. The baby girl was delivered and immediately resuscitated by the neonatology team. Intraoperatively, vasopressors, inotropes, and continuous treprostinil infusion were used to maintain adequate systemic vascular resistance and prevent an increase in the right-to-left shunt. The estimated blood loss was 400 mL.

Postoperatively, the patient was transferred to the intensive care unit (ICU) for close hemodynamic monitoring and received postoperative care. She was extubated 6 hours after the surgery and maintained on high-flow oxygen to maintain oxygen saturation levels between 95% and 98%. PAH-specific therapies were continued, and LMWH was initiated for venous thromboembolism prophylaxis. The patient received psychological support, lactation suppression, and postpartum contraception. Follow-up evaluations showed satisfactory outcomes for both the patient and the baby.

This case demonstrates the successful management of a high-risk pregnancy complicated by ES and severe PAH through a multidisciplinary approach. The MDT played a crucial role in providing expertise, coordinating care, and ensuring optimal maternal and infant outcomes. The utilization of PAH-specific therapies, careful hemodynamic monitoring, and judicious use of medications during the perioperative and postpartum periods contributed to a favorable outcome.

The case discussion emphasizes the importance of early screening for heart disease during pregnancy and appropriate referral to specialized centers. It highlights the significance of a multidisciplinary team approach, including collaboration between cardiology, obstetrics, anesthesiology, neonatology, and intensive care, to optimize patient care and outcomes. The case also underscores the need for individualized management strategies based on the patient's specific condition, risks, and preferences.

References:

Troko J, Poonawala Y, Tarekegn Geberhiwot, Martin B. Multidisciplinary Team Approach Is Key for Managing Pregnancy and Delivery in Patient with Rare, Complex MPS I. JIMD reports [Internet]. 2016 Jan 1 [cited 2023 Aug 25];1–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5110447/

RESEARCH CORNER

A comparison of the pregnancy outcomes between ultrasound-guided high-intensity focused ultrasound ablation and laparoscopic myomectomy for uterine fibroids: a comparative study

WRITTEN BY TAN WEN YEE

A comparison of the pregnancy outcomes between ultrasound-guided high-intensity focused ultrasound ablation and laparoscopic myomectomy for uterine fibroids: a comparative study

Written by Tan Wen Yee

Fast Fact:

- Ultrasound-guided high-intensity ultrasound ablation gave rise to a faster time to pregnancy compared to laparoscopic myomectomy.
- Rate of caesarean delivery was significantly lower for USgHIFU than LM.
- Incidences of placenta previa, placenta increta & postpartum haemorrhage were greater for LM than USgHIFU.
- Pregnancy rates were similar in USgHIFU & LM.
- USgHIFU resulted in a higher number of preterm birth, foetal distress, foetal growth restriction & puerperal infection when compared to LM.

With regards to the female population, one of the most common benign tumours that cause infertility and miscarriage is uterine fibroid (UF). UF affects a woman's ability to reproduce by changing the anatomical environment of the uterus, increasing oestrogen levels, induce uterine contractions & dysmotility, disrupt endometrial receptivity and prevent efficient ovulation. Approximately 20-30% of females have experienced miscarriages with statistical numbers being 2 to 3 times greater than non-uterine fibroid bearing women.

As more women above the age of 35 are looking forward to bearing children, the need for safer and effective treatments for uterine fibroids have intensified over the years. Current treatments such as drug therapy, myomectomy and uterine artery embolization (UAE) can help reduce the size of uterine fibroids and remove them.

However, not all treatments are suitable to increase the rate of successful pregnancies in women with uterine fibroids. A good example is drug therapy: reduction of fibroid size can be appreciated with improved UF symptoms, although the therapy cannot help with pregnancy.

On the other hand, surgical treatments such as myomectomy can reduce miscarriages and improve the live birth rate. Nevertheless, it must be noted that myomectomy is an invasive operation, it may come with varying side effects or complications. For example, myomectomy may cause uterine rupture in the mid and later phases of pregnancy;

One study found 0.4 - 1.2% of patients with uterine rupture at mid and late pregnancy phase, post myomectomy. Another treatment for UF is Uterine artery embolisation (UAE).

This is a minimally invasive technique in reducing fibroid volume, but may impair blood supply to the ovaries & damage the endometrium function, causing permanent infertility. Hence, newer treatment methods have been sought after. The laparoscopic myomectomy (LM) and ultrasound-guided high-intensity focused ultrasound (USgHIFU) ablation are two very effective methods of reducing fibroid volume while ensuring an increase in the rate of pregnancy. Both treatments improve pregnancy outcomes, but to what extent, is explained with the help of a comparison study conducted by the healthcare and education sector of Chongqing, China.

USgHIFU ablation

The USgHIFU ablation method can precisely target tumour tissue and rapidly heat it. This is beneficial as the surrounding tissue is left relatively unaffected. With extreme temperature of heat, more than 70% of target fibroid volume undergoes coagulation necrosis in a single USgHIFU session. According to a study reported by Zou et al., the pregnancy rate of 78 patients with uterine fibroids were significantly improved post USgHIFU ablation. Additionally, Li et al. stated a 69.3% pregnancy rate and 93 successful deliveries out of 133 patients, post USgHIFU ablation; no uterine rupture or serious adverse complications were noted. Li et al. also mentioned that 87.7% of pregnancies happened within 2 years of treatment while studies conducted by Qin et al. and Zou et al., discovered no adverse effects on patients' pregnancy and delivery within 1 year post surgery. This would suggest that the time period to conception post treatment is conducive with the desire to conceive for uterine fibroid bearing women.

Ultrasound-guided high-intensity focused ultrasound ablation vs Laparoscopic myomectomy (LM):

According to the study Wu et al., there was a significant difference in the average time to pregnancy between treatment using USgHIFU ablation compared to LM (13.6 ± 9.5 months versus 18.9 ± 7.3 months, $p<0.05$). Furthermore, the rate of spontaneous vaginal delivery was higher in USgHIFU ablation than in (91 (51.1%) vs 63 (36.4%), $p<0.05$), and caesarean delivery rate was lower in the USgHIFU group than in theLM group (74 (41.6%) versus 95 (54.9%), $p<0.05$). The study by Wu et al. further reported that compared to LM, the USgHIFU ablation method of treatment resulted in a significantly higher incidence of preterm labour (9 (5.2%) versus 16 (8.9%), $p<0.05$).

Ultrasound-guided high-intensity focused ultrasound ablation vs Laparoscopic myomectomy (LM):

No significant complications during pregnancies between both groups of women such as foetal abnormalities were noted in the study ($p>0.05$). However, the LM method of treatment had a significantly reduced incidence rate compared to USgHIFU for foetal macrosomia. USgHIFU ablation had a more impressive results compared to LM in the incidences of placenta previa and placenta increta (Placenta previa: 5 (2.8%) versus 15 (8.7%); Placenta increta: 2 (1.1%) versus 11 (6.4%), both $p<0.05$). Lastly, it was noted by Wu et al. that incidences of preterm birth, foetal distress, foetal growth restriction & puerperal infection were higher post USgHIFU ablation compared to post LM; a reason could be due to ablated fibroids in pregnant women.

Notes:

In summary, the USgHIFU ablation method ensures faster time to conception and higher rates of natural birth compared to the LM method. Moreover, complications were similar between USgHIFU ablation and LM method. Regarding certain mechanisms such as the effect of ablated fibroids with the use of USgHIFU ablation on increase of certain complications as mentioned before, further clinical evaluation must be done to better understand them. Additionally, the effect of type of target fibroid and diameter of fibroid on foetal growth restriction and foetal distress in the USgHIFU requires further study. Lastly, Wu et al stated that the myomectomy for a caesarean section procedure increased the incidence of postpartum haemorrhage. This occurrence would also require more investigation to improve obstetrical procedures and promote a greater pregnancy rate for women with UF.

References:

Wu G, Li R, He M, Pu Y, Wang J, Chen J, et al. A comparison of the pregnancy outcomes between ultrasound-guided high-intensity focused ultrasound ablation and laparoscopic myomectomy for uterine fibroids: a comparative study. International Journal of Hyperthermia. 2020 Jan 1;37(1):617–23.

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SIGMUM Newsletter Write Up Submission

We are excited to invite you to share your valuable insights and experiences in the field of surgery. This is an excellent opportunity to contribute to our SIGMUM Newsletter and engage with fellow professionals, students, and enthusiasts who share a passion for surgical advancements

Interested in submitting your write up and get it published at our next SIGMUM newsletter? Scan this QR code for more info!

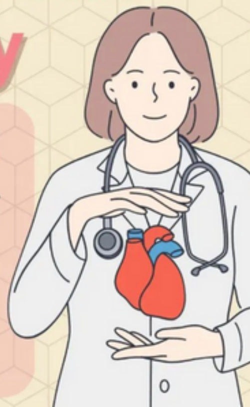
SIGMUM PAST EVENTS

Webinar
Suturing Wokrshop
Surgical Portfolio Workshop
Journal Club
Surgical Conference

SIGMUM PAST EVENTS

Heart to heart talk:

Cardiothoracic Surgery



Saturday | 6th May 2023

9:00am - 10:30am | MYT

Webinar | Zoom | IDs will be sent after registration

Free*

Breast Surgery:

Benign Breast Diseases

Saturday | 3rd June 2023

12:30pm - 2:00pm | MYT

Webinar | Zoom | IDs will be sent after registration

Free*

*FREE webinar for all SIGMUM

Suturing Workshop

Saturday & Sunday | 15th & 16th April 2023

8:30am - 2:00pm | MYT

CSJB Skills Lab | Monash University

Members RM40 | Non-members RM45

Intro to:

Surgical Portfolios

Come discover what a surgical porfolio is and why you should have one!

Thursday | 25th May 2023

9:00pm - 10:30pm | MYT

Webinar | Zoom

SIGMUM Conference of Surgery & Surgical Education

Congress - Day 1

oin us to xplore a ariety of undamental urgical topics nd the

Saturday, July 29th

8:00 AM - 5:00 PM

Clinical School Johor Bahru | Monash Building 1

SIGMUM Conference of Surgery & Surgical Education

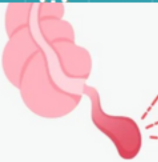
Post-Congress - Day 2

Registration is now OPEN!

Sunday, July 30th

8:00 AM - 2:00 PM

Clinical School Johor Bahru | Monash Building 1



Journal Club 1

APPENDICITIS IN PREGNANCY

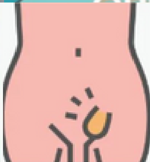
Tuesday | 25th April 2023

5:30pm - 7:00pm | MYT

Webinar | Zoom | IDs will be sent after registration

Free!

We'll be focusing on the article "Clinical Outcomes of Acute



Journal Club 2

REPAIR OF INGUINAL HERNIA

Saturday | 10th June 2023

10:00pm - 11:30pm | MYT

Webinar | Zoom | IDs will be sent after registration

Free!

MEMBERSHIP INFO & SIGMUM CONTACT

Pricing Guide

Types of Event Passes	Pricing (per webinar)	Pricing (yearly)
SIGMUM members*	Free	Free
Undergraduate Monash Students	RM 5	RM 40
Undergraduate Non-Monash students	RM 10	RM 45
Postgraduates	RM 15	RM 50

*Members registered during C&S week

Pricing Guide

Types of Event Passes	Perks
SIGMUM members and other undergraduate Monash students	Complimentary undergraduates webinars Discounted fee for physical events
Undergraduate Non-Monash students	Complimentary undergraduates webinars
Postgraduates	Complimentary undergraduates webinars

STAY UPDATED

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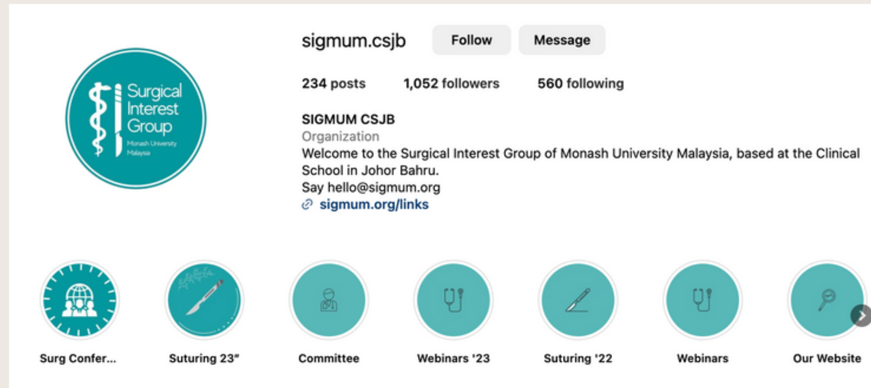

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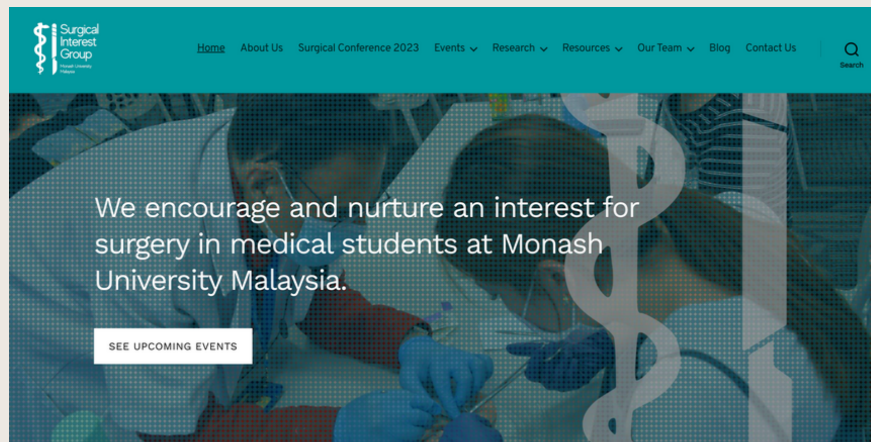

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