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Obstetrical and Gynaecological Society of Malaysia

2019/2020 Council Issue 2

EMBRACING, ENGAGING & INFORMING

The Changing Role of the Obstetrician & Gynaecologist

A Bag with a Cause...

The Evolving MRCOG Pathway

INSIDE INBOX

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Contents

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Obstetrics & Gynaecology Postgraduate Programme in Malaysia: The Evolving MRCOG Pathway

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Since 1986, there have been two postgraduate programmes or pathways in Malaysia for young doctors who aspire to be Obstetricians & Gynaecologists. I took the MRCOG pathway in the early 1990s, passed the Part 1 when I was serving in a district medical centre on the Isle of Borneo. Subsequent to that, I joined Sarawak General Hospital (SGH), which had 5 training slots recognized by the Royal College of Obstetricians and Gynaecologists (RCOG). It was a 2-year programme back then and SGH was recognized for 18 months of "training". I spent the remaining 6 months in University Malaya, occupying a supernumerary post. I achieved my dream shortly after and 18 months later was gazetted as a specialist with the Ministry of Health (MOH).

The MRCOG pathway has since become a 4-year training programme and those who are successful only needed a minimum of 6 months to be gazetted as a specialist in the MOH. Unfortunately, passing rates for Malaysians were low and too few obtained their MRCOG postgraduate degrees, until recently.

The Masters in Obstetrics & Gynaecology Postgraduate Programme

This structured 4-year specialty programme began in Universiti Kebangsaan Malaysia (UKM) in 1986 with 3 candidates. Universiti Malaya (UM) and Universiti Sains Malaysia (USM) followed soon after and in 2009, Universiti Islam Antarabangsa Malaysia (UIAM) became the 4th university to offer this programme. All four universities share a common curriculum, training programme and hold a uniformed specialty examination.

One of the primary aims of the MOG programme was and still is, to produce competent specialists to meet the demand for such services in the country. Unfortunately, the intake is limited by the number of scholarships made available annually (around 60-70) and interested candidates had to sit for an entrance examination besides going through an interview process.

Have we been successful in meeting the demand of MOH hospitals?

Fast forward several decades, the situation has not changed and the MOH still lacks adequate number of Obstetricians & Gynaecologists. Newly gazetted specialists produced were just enough to replace those who have retired or resigned.

Table 1: Number of O&G specialists in the MOH (data provided by the Medical Development Division, MOH)

No.	2013	2014	2015	2016	2017	2018
O&G Specialists	**300**	**303**	**293**	**306**	**329**	**304**

At the same time, new MOH specialist hospitals are being built or identified. In a 2014 MOH report, there were a total of 14 state hospitals, 27 major and 27 minor specialist hospitals. There are also several district hospitals in Sabah and Sarawak which are not designated as specialist hospitals but have obstetricians and gynaecologists posted on a rotational basis. Based on the proposed staffing norms for MOH hospitals (Table 2), an additional 30% to 35% increase from the current number of specialists would be required.

Table 2: Proposed staffing norms for O&G specialist in MOH hospitals

Annual Delivery Rate	Current Staffing (Average)	Proposed Staffing Norms (5 years)
>15,000	10-12	≥15
>10,000 - 15,000	8-10	10-15
>7,500 - 10,000	4-6	8-10
>5,000 - 7,500	4-5	5-8
>3,500 - 5,000	2-4	4-5

The MOH-MRCOG Parallel Pathway Programme

In 2012, the Director-General of Health placed emphasis on increasing the number of competent specialists being produced. I was asked to prepare a working paper on the restructuring of the MRCOG "alternative" pathway.
The objectives were:

1. To encourage more doctors to take-up the alternative pathway
2. To put in place a structured MRCOG training program with logged work
3. To improve MRCOG examination passing rates
4. To improve the competency of specialists
5. To increase the number of O&G specialists being produced annually

The proposal was accepted in principle and along the way the term "alternative" pathway was appropriately changed to "parallel" pathway to reflect a programme that is parallel to the MOG postgraduate programme. Progress admittedly has been a little slow as it requires various structural and organizational changes. Furthermore, the parallel pathways involved various other clinical disciplines and a few had to practically start from scratch. However, several significant notable progress have been made since 2017.

MOH-MRCOG Parallel Pathway Programme Committee

This committee was established in 2018 by the Medical Development Division, MOH. The select committee is chaired by Dr. J Ravichandran and comprises of several senior Obstetricians & Gynaecologists from the MOH, Universities, Academy of Medicine and the International Representative Committee (IRC) of the RCOG. The committee is responsible in developing, implementing, overseeing and reviewing the training programme.

The role of the MOH-MRCOG Parallel Pathway Programme Committee include:

1. Appointments of Educational Supervisors & assigning registered trainees to their Educational Supervisors
2. Arrange transfers and attachments for registered trainees where necessary
3. Liaise with Educational Supervisors on registered trainees' development
4. Provide completion of training letter for trainees prior to sitting for Part 3 MRCOG Examinations
5. Support and facilitate relevant MRCOG-related courses
6. Liaise with the RCOG on relevant matters
7. Assist in formulating the O&G National Curriculum project

It is now compulsory for Malaysian doctors who passed their Part 1 MRCOG examinations to register with the Medical Development Division of the MOH. The response has been very encouraging with about 400 medical officers having registered so far.

Allocation for parallel pathway training activities as provided in the 11th Malaysian Plan, is being disbursed by the MOH to help support courses such as MRCOG examination preparatory courses, Train the Trainers for Educational Supervisors and the recently held 1st National MOH-MRCOG Parallel Pathway Trainees Conference in Johor Bahru, which was attended by about 140 registered trainees and about 10 house officers who had either passed their Part 1 or are interested in the parallel pathway.

There has been a significant increase in the number of MRCOG related programmes in Malaysia over the last several years, such as the Sarawak MRCOG Survival Course (SaMS) led by Dr. Muniswaran Ganeshan, the OGSM PACT courses led by Dr. Hoo Mei Lin, the RCOG courses organized by IRC which is led by Dr. Shilpa Nambiar and others. This plus the recent surge in the number of Malaysian candidates passing their Part 3 MRCOG examinations (Table 3) has led to growing confidence and interest among young doctors who aspires to become Obstetricians & Gynaecologists to consider the MRCOG pathway as a viable alternative to the MOG.

The National Postgraduate Medical Curriculum Project (NPMC)

The launch of the NPMC project in 2014, significantly changes the scenario for all postgraduate training programmes in the country. The national curriculum project involved all stakeholders and is intended to ensure that all junior doctors are trained to the highest standards, thus ensuring patient safety and quality of care.

The key features of the NPMC includes;

1. A curriculum (for all specialties) which has the following features:
   a) A common governance structure
   b) A similar structure
   c) A common entry and exit strategy
   d) A common structured syllabus
   e) A common system of progression
   f) A common assessment strategy
   g) Open and transparent

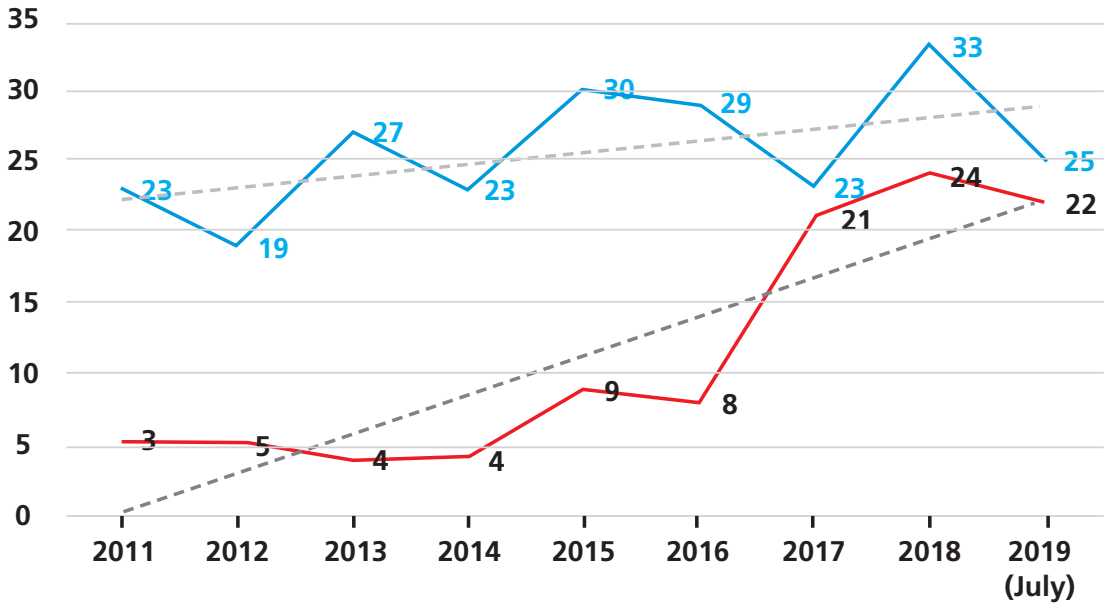
2. Core modules – e.g. professional values & ethics

3. Work based assessments

Table 3: Annual MOG/MRCOG passes (Data from Medical Development Division, MOH)

COMPARING MOG & MRCOG PASSES

No.	2011	2012	2013	2014	2015	2016	2017	2018
MOG	23	19	27	23	30	29	23	33
MRCOG	5	5	4	4	9	8	21	24



A common curriculum for both the MOG and MRCOG parallel pathway is in the final stages of completion. The national curriculum committee for obstetrics and gynaecology has made a decision to adopt the RCOG curriculum with some minor modifications. A common log book based on the current Malaysian MRCOG Parallel Pathway Log Book & Personal Development Programme is being readied, with some changes to make it more relevant locally.

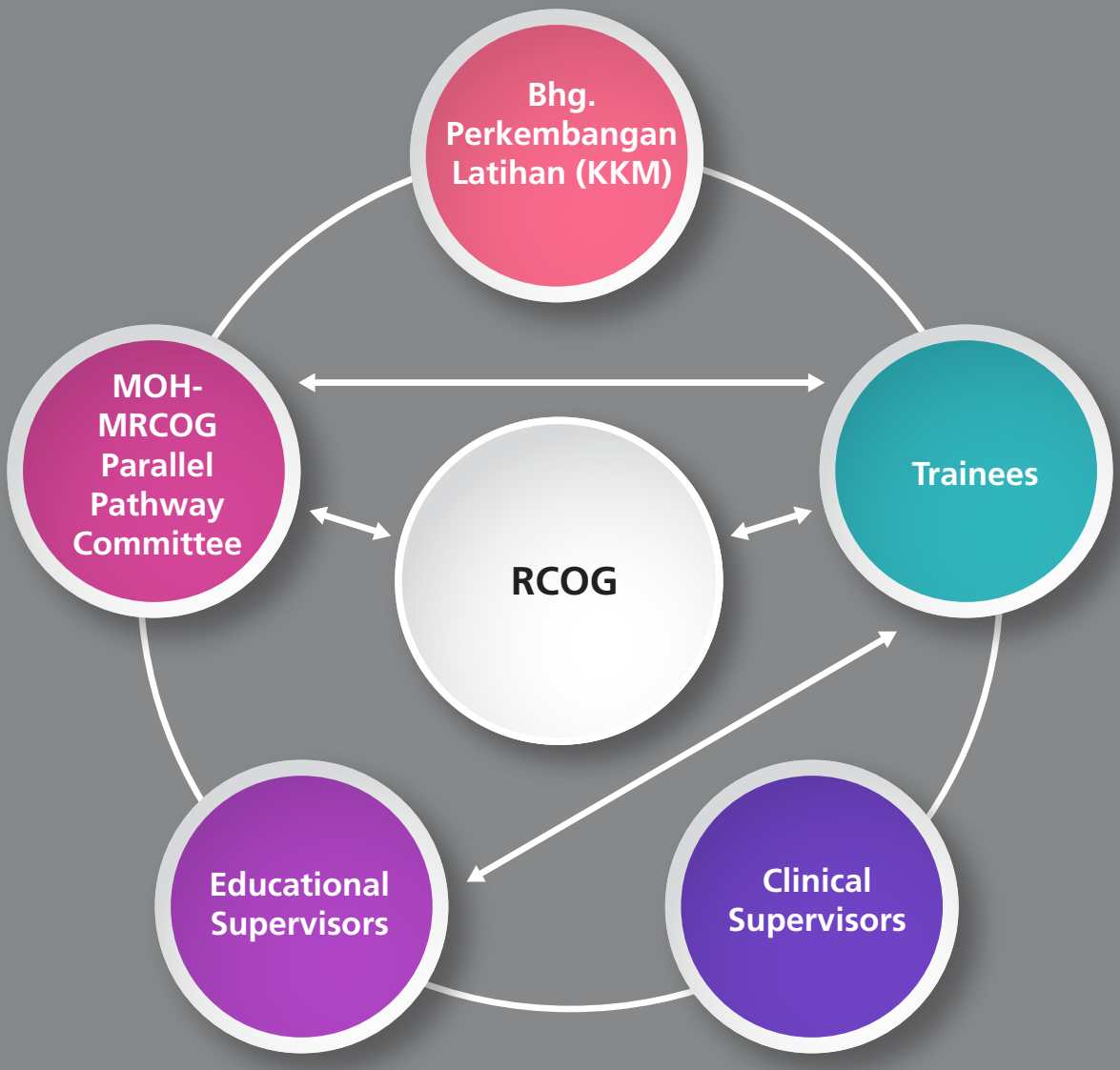
Where are we at now?

The MRCOG pathway to becoming an Obstetrician & Gynaecologist in Malaysia is still evolving. 2020 would be an important year for the MOH-MRCOG Parallel Pathway Programme Committee in terms of finalising the core framework and policies. Among others the committee would be assigning registered trainees to Educational Supervisors throughout all states in Malaysia. Hopefully, the criteria for recognized training centres would be finalised.

Furthermore, the O&G National Curriculum project would be completed by then and we can move towards implementing a common curriculum and log book. I wonder if at some point, it is going to be called the "Common" pathway!

The future looks bright for those who dream to be an Obstetrician & Gynaecologist!

THE MRCOG PARALLEL PATHWAY TRAINING STRCUTURE



When 'Balance' is a Complex Equation

Dr Eeson Sinthamoney

Our annual scientific congress is by far the single largest activity we organize. Much time, effort and funds are spent on making these events memorable. The exact specifications of the congress in regards to dimensions, directions and specifications are often dictated by the organizing committee, customarily led by the incoming president. Inevitably, after the closing ceremony, when the dust has settled, we pronounce the congress a resounding success and give ourselves a pat on the back. But how do we (or should we) assess the success (or otherwise) of our congress? The inconvenient truth is that success is almost always determined by the profit margin achieved. The quintessential question however is - should this really be the only parameter in determining success?

Why do we attend the congress? It really depends on who we are. Only recently, a senior member of our fraternity, who heads a large academic entity, remarked that our annual congress was more of a 'social' event. Many (myself included) may beg to differ. But that said, I think we are mature enough to accept alternative viewpoints and where possible, try to correct wrong perceptions. Certainly, many attend for the academic content and the recent changes to APC requirements provides useful impetus. Yet others may attend for a diverse variety of reasons. The true proportions of these various subgroups remains a 'guesstimate' at best as we have no reliable way of collecting such data.

Therefore, it would seem most reasonable to revert to our constitution for some guidance. Clearly, from its very inception, the objective of the Society has been both more 'academically inclined' as well as 'localized' (in contrast to having an international objective). But that said, one must be mature enough to appreciate that an organization such as ours must have the agility to evolve with the needs of time. Most however, would agree that the academic slant likely remains. In fact, the need for this inclination has probably never been more acute than it is now.

Returning therefore to the primary question at hand - how does one measure success, if not purely by profit margin? Does the number of speakers necessarily indicate higher academic quality? Is the level of pomp and glitter during the Opening or Gala Dinner indicate success? I have often overheard varied voices suggesting that food quality, congress venue attached to a hotel as well as our legendary hospitality suite as important markers of success.

Therefore, most mature thinkers would be inclined to opine that a 'balance' would be the best approach. Hence leading to the next issue - defining 'balance'. A large profit margin augurs well for the Society's bank balance and financial future. But have we not argued in ever so many AGMs - what this financial fortune would be used for? I remember we did undertake a survey of the membership on their thoughts on how these funds would be best spent. The majority felt that subsidizing congress registration and course fees would be most appropriate. Are we surprised?

I would thus propose that 'balance' be defined as a profit margin that when combined with our other usual sources of Society income (primarily - interest from our substantial fixed deposit and rental income), allows the total financial wealth of the society to grow by 8.3% (this was the average growth in total society wealth over a 10 year period between 2007 and 2017 and ranges between 0.4% to 26.2%, the vast difference due to the Society organizing international meetings which are known to be highly profitable) but recognizing the fact that management costs are rising and rental income may sometimes fall due to suboptimal occupancy rates.

While I have always been a staunch advocate for prudence, I must now also warn that 'cutting costs' to 'maximize profits' at our annual congress isn't difficult. Keeping the faculty 'local' or perhaps 'internationalizing' the faculty with friendly neighbours and removing most of the glitzy trimmings are some of the ways. But unfortunately, one does wonder if all this leaves members holding the short end of the stick!

High Intensity Focus Ultrasound (HIFU)

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FRCOG (UK) MRM (UW Sydney) FICS (USA), is a Consultant Obstetrician and Gynaecologist, and a subspecialist in Reproductive Medicine.

Many of you may have heard about HIFU for the treatment of fibroids. However, the general impression we get is that HIFU is not that effective. Recently, I was introduced to a new modality called ultrasound-based HIFU (USgHIFU) as opposed to the older magnetic resonance imaging, Focused Ultrasound Surgery (MRgFUS). Here, I will outline the difference between these two modalities and the benefits of USgHIFU for fibroids and adenomyosis.

What is HIFU?

High intensity focused ultrasound (HIFU) is also known as focused ultrasound surgery, which uses focused sound energy to heat and destroy tissues in the treatment of various medical conditions. It is a non-invasive, organ sparing, thermal ablative procedure. The principle of this treatment is similar to the concept of focusing sunlight through a magnifying glass to burn a hole in a leaf. Just as the focal point of a magnifying glass has the highest intensity, the extracorporeal transducer used in this treatment focuses a high-intensity ultrasonic beam on the targeted tissue, depositing increased levels of ultrasound energy. This highly concentrated energy will be absorbed by the tissue generating temperatures between 60°C-80°C to thermally ablate the abnormal cells.

Under a precise imaging guidance, a high intensity acoustic energy pulse termed sonication is converted to heat energy at the focal point, resulting in coagulative necrosis and the destruction of targeted tissue. HIFU causes pressure waves in the tissues, causing the tissue to vibrate and leading to mechanical cavitation and stress to the cells. This subsequently leads to cell death. As the transducer causes the ultrasonic beam to be focused at a focal point, there will be minimal injury to intervening tissues.

What diseases benefit from HIFU?
HIFU is used for many medical conditions such as renal stones, cataract, neurological disorders, benign thyroid nodules, hypertrophic parathyroid glands ablation, breast fibroadenoma ablation, prostate diseases, benign gynaecological diseases, solid tumours and palliative therapy. In gynaecology, HIFU can be used to treat uterine fibroids, adenomyosis, cervicitis and valvular diseases.

Types of HIFU
HIFU consists of 2 different techniques, depending on the type of diagnostic monitor used. The 2 types are: Magnetic Resonance Imaging Focused Ultrasound Surgery (MRgFUS) which uses magnetic resonance imaging (MRI) as the imaging modality, and Ultrasound-guided High Intensity Focused Ultrasound (USgHIFU) which uses ultrasound scan as the imaging modality.

Both techniques offer different advantages and disadvantages, respectively, as shown in Table 1.

MRgFUS	USgHIFU
Procedure is operated by a radiologist.	Procedure is operated by a gynaecologist.
Provides a better anatomical resolution, thus easing the identification of critical structures such as the bowel and sacral nerves.	Poor visualisation of the target tissue during sonication with only grey-scale changes.
MRI-based thermal mapping offers real-time temperature monitoring during treatment to reveal any potentially dangerous heating or unwanted exposure.	Ultrasonography does not provide accurate temperature mapping which limits information regarding the response of the target tissue to the treatment.
MRI-guided does not provide real-time imaging where sequential imaging steps must be taken following the progressive tissue coagulation by overlapping focal spots.	Ultrasound offers anatomic real-time imaging which enables operators to continuously evaluate the greyscale changes during treatment and monitor the direct ablation capabilities.
Longer treatment duration.	The use of a larger and more powerful transducer enables shorter treatment duration with greater efficiency.
Patient is required to lay still in a confined space. This is uncomfortable to many patients.	Less sensitive to movement and offers greater flexibility with regard to patient positioning. Patients feel more comfortable.
Costly.	Less costly.

Why choose USgHIFU treatment?
Since HIFU is a non-invasive treatment, patients are scar-free and able to recover within a short duration. The duration for each USgHIFU treatment session ranges between 1 to 4 hours. Most treatments can be completed in one session. However, patients with multiple or large diameter fibroids may need to undergo a few sessions.

During the procedure, patients do not require general anaesthesia; they remain conscious and are able to communicate with others, read or watch videos. During treatment, patients will only have minimal blood loss where blood transfusion is not required. They will only experience minor discomforts. Most of them can be discharged once the sedation wears off on the day of treatment if they do not encounter any complications.

Women with fertility desires benefit the most from HIFU treatment because they do not need to wait for their uterus to heal completely before trying to conceive. They can resume sexual intercourse after the completion of the next menstrual cycle.

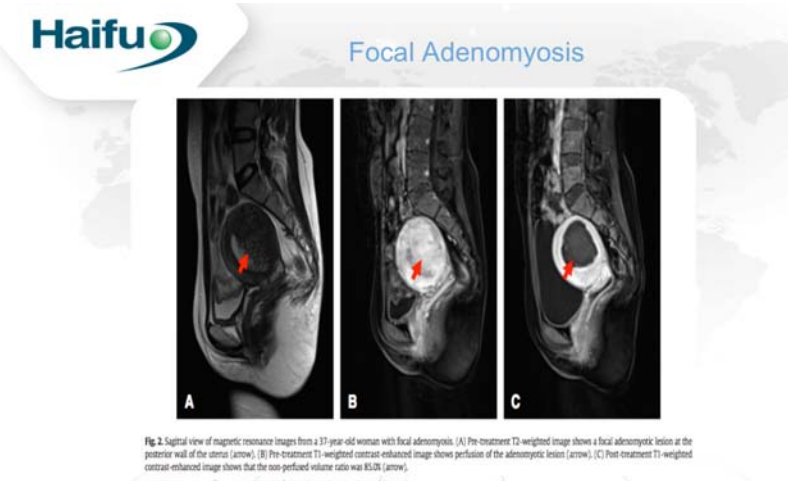
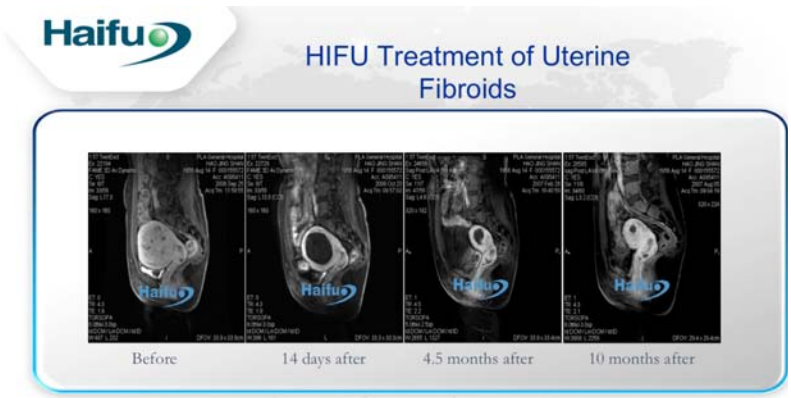


Fig. 2. Sagittal view of magnetic resonance images from a 37-year-old woman with focal adenomyosis. (A) Pre-treatment T2-weighted image shows a focal adenomyotic lesion at the posterior wall of the uterus (arrow). (B) Pre-treatment T1-weighted contrast-enhanced image shows perfusion of the adenomyotic lesion (arrow). (C) Post-treatment T1-weighted contrast-enhanced image shows that the non-perfused volume ratio was 85.0% (arrow).



How is HIFU performed?

Preoperative bowel preparation is necessary for 4 days before surgery. Patients are asked to be on a low fibre diet, followed by a liquid diet. An enema is given 12 hours before surgery. The patient is then asked to fast for 12 hours.

The patient will be given light sedation during the procedure and will need to lie motionless during the entire surgery. After USgHIFU, the blood flow into the treated tissue is checked using contrast enhanced ultrasound (e.g. Sonovue). Postoperatively, she must be observed for several hours and can be discharged on the same day.

Please watch this video

Efficacy of USgHIFU in fibroids

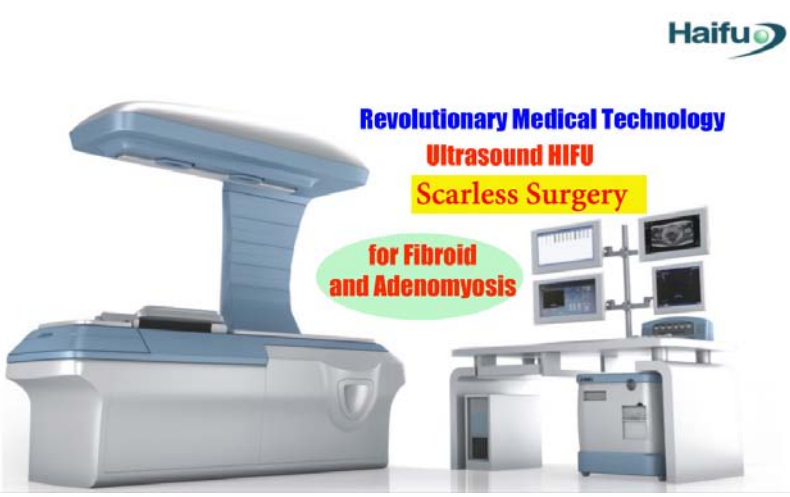
Non-perfused volume ratio is the ratio of non-perfused volume of all treated lesions to the total volume of lesions. This is evaluated by MRI performed after the USgHIFU surgery. A higher NPV ratio indicates lack of blood perfusion in the lesions, otherwise indicating a successful treatment outcome with lower risk of re-intervention. USgHIFU was introduced in the gynaecological field in 1999. In a retrospective study conducted in China using USgHIFU, 98.4% (7319 of 7439 participants) with fibroids were successfully ablated with a mean NPV ratio of 83.1 + 15.6%[1]. The NPV ratio was >70% in >80% of treated fibroids, while the re-intervention rate was < 10%. The positive outcome of this treatment was also shown in M. Zou et al.'s study[2]. The average rates of volume reduction were 45.2 + 21.3% and 59 + 25.6% at 3 and 6 months post-USgHIFU treatment, respectively. No adverse effects or complications were found during and after treatment. Another study also reported the mean NPV ratio of 84.15 + 10.4% post-treatment[3].

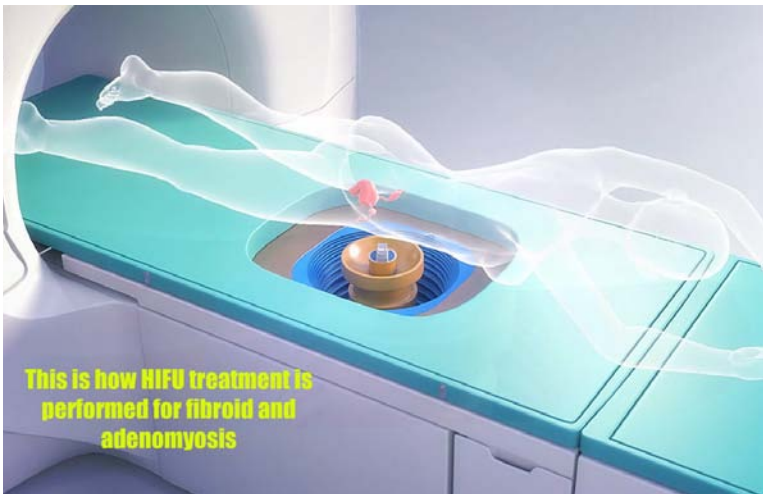
Efficacy of USgHIFU in adenomyosis

Among 224 patients recruited in Lian et al.'s study, the NPV reported was 49.4 + 37.5 cm3 and the NPV ratio was 72.7 + 18% post USgHIFU[4]. The symptom of dysmenorrhea post-treatment was reported among 203 patients at the relief rates of 84.7%, 84.7% and 82.3% at 3-month, 1- and 2-year periods. The menstrual volume significantly reduced among 109 patients at the relief rates of 79.8%, 80.7% and 78.9% at 3-month, 1- and 2-year duartions, respectively. Zhou et al. and Liu et al. also demonstrated that USgHIFU is safe and effective in alleviating the symptoms and ablating the lesions[5,6]. By comparing the efficiency of USgHIFU in focal and diffuse adenomyosis, no significant difference was found in the NPV ratio and symptom relief (7). In short, USgHIFU can treat both diffuse and focal adenomyosis.

Fertility potential

As HIFU can precisely ablate the lesion, it can help to preserve the surrounding uterine musculature, collagenous fibre and elasticity[2]. Without injuring the healthy tissues and less scar formation on the uterus wall, the expansion of the uterus to accommodate





pregnancy and the contractility during labour can be retained [2,8-10]. Patients can also try to conceive much sooner after HIFU treatment compared to myomectomy. Studies have shown successful pregnancy within months after HIFU treatment for fibroids, either by natural pregnancy or assisted reproductive treatment[8,11,12]. Zhou et al. also reported 54 of 68 patients with adenomyosis conceived at 10-month post-HIFU and 21 of them delivered without complications[8].

Adverse effects

The most common reported adverse effects are pain at the treated region, mild sacrococcygeal pain and abnormal vaginal discharge. All these can be explained by the inflammation caused by the thermal effect of HIFU. They will usually subside within 3 days. The abnormal vaginal discharge is usually seen among patients with submucosal fibroids and adenomyosis where the endometrium is damaged during the HIFU treatment. However, this symptom will subside after undergoing hysteroscopy to remove the necrotic tissues.

Other minor adverse effects such as lower limb paraesthesia, nausea and vomiting, skin blisters, fever and haematuria rarely occur and can be explained due to the use of a sedative medication, inflammation or urethral catheter injury. Some patients with a retroverted uterus may also encounter urinary retention which can be treated by indwelling urinary catheters for 3 days. In Liu et al.'s study, 38 out of a total of 27053 patients with benign uterine disease treated with USgHIFU experienced 2nd or 3rd degree skin burns (0.1405%)[13]. All 38 patients had prior surgical abdominal scars. The denervated scar tissues which are fibrotic, less sensation and vascular compared to normal healthy tissue caused difficulty for the ultrasound beam to penetrate. Instead, the ultrasound energy will be readily absorbed by the scar tissue resulting in thermal damage to the skin. To prevent skin burns, gynaecologists should regularly check on the skin and move the transducer down in the water tank. On the other hand, leg pain and numbness post-HIFU are due to sacral nerve irritation. These are temporary and will subside with NSAIDs within 2 weeks.

Bowel injury is a rare but devastating complication. Liu et al. reported that 4 patients (0.01485%) encountered bowel injury and perforation 4-12 days post-HIFU but recovered fully after surgical repair[13]. One of the reasons could be that the bowel was not completely pushed away by the degassed water balloon from the acoustic pathway, causing direct thermal injury on the bowel. Another reason can be due to the presence of adenomyosis and endometriosis which have a high risk of pelvic adhesion. If the bowel adheres to the uterus or abdominal wall, the risk of bowel injury will significantly increase.

Overall, the rate of major adverse effects reported was low. We can conclude that USgHIFU is safe in treating patients with benign uterine diseases.

Who is suitable to undergo HIFU?

In order to optimise the outcome of USgHIFU, the body fat of the abdomen wall should be <4 cm and the distance between the abdominal skin to the lesion must be <13 cm. The size of the uterine fibroids should be 1 cm–12 cm. Lesions with lesser hyperintense foci on the T2-weighted MRI scan have lower success rates. A hyperintense lesion contains higher perfusion which allows heat to dissipate more quickly, resulting in lower NPV ratio. For safety, lesions which are close to the sacral bone surface should not be offered HIFU.

So, patients with thinner abdominal wall, poor blood supply to the lesions, larger lesion volume, less hyperintense foci on the T2-weighted MRI scan and lesions located on the anterior wall of the uterus are the most ideal candidates for HIFU treatment.

Which patient should be excluded from HIFU treatment?

- Cervical tumour patients as there is a risk of contraction of the cervix during HIFU treatment
- Interposition of the bowel in the USS beam path
- Extensive cutaneous scars
- History of lower abdominal surgeries which may cause difficulties in exposing the lesions
- History of uterine surgeries in the last 3 months
- Acute or chronic infection
- Uncontrolled co-morbidities (hypertension, history of stroke, connect tissue disease and radiotherapy)
- Leiomyosarcoma
- Patients who cannot lay still for more than 1 hour

Bibliography

1. Ultrasound-guided high intensity focused ultrasound for the treatment of gynaecological diseases: A review of safety and efficacy. Zhang L, Zhang W, Orsi F, Chen W, Wang Z. 3, 2015, Int J Hyperthermia, Vol. 31, pp. 280-284.
2. Pregnancy outcomes in patients with uterine fibroids treated with ultrasound-guided high-intensity focused ultrasound. Zou M, Chen L, Wu C, Hu C, Xiong Y. s.l.: BJOG, 2017, Vol. 3, pp. 30-35.
3. Outcome of unintended pregnancy after ultrasound-guided high intensity focused ultrasound ablation of uterine fibroids. Qin J, Chen JY, Zhao W, Hu L, Chen WZ, Wang ZB. 3, s.l.: Int J Gynaecol Obstet, 2012, Vol. 117, pp. 272-277.
4. HIFU for adenomyosis: Two year follow-up results. Shui L, Mao S, Wu Q, Huang G, Wang J, Zhang R, Li K, He J, Zhang L. s.l.: Ultrason Sonochem, 2015, Vol. 27, pp. 677 - 681.
5. Ultrasound-guided high-intensity focused ultrasound ablation for adenomyosis: The clinical experience of a single center. Zhou M, Chen JY, Tang LD, Chen WZ, Wang ZB. 3, s.l.: Fertil Steril, 2011, Vol. 95, pp. 900 - 905.
6. Clinical Predictors of Long-term Success in Ultrasound-guided High-intensity Focused Ultrasound Ablation Treatment for Adenomyosis. Xin Liu, Wei Wang, Yang Wang, Yuexiang Wang, Qiuyang Li, Jie Tang. 3, s.l.: Medicine (Baltimore), 2016, Vol. 95.
7. Effective ablation therapy of adenomyosis with ultrasound-guided HIFU. Zhang X, Li K, Xie B, He M, He J, Zhang L. 3, s.l.: Int J Gynaecol Obstet, 2014, Vol. 124, pp. 207 - 211.
8. Vaginal delivery outcomes of pregnancies following ultrasound-guided high-intensity focused ultrasound ablation treatment for uterine fibroids. Liu X, Xue L, Wang Y, Wang W, Tang J. 1, s.l.: Int J Hyperthermia, 2018, Vol. 35, pp. 510 - 517.
9. Pregnancy outcomes in nulliparous women after ultrasound ablation of uterine fibroids: A single-central retrospective study. Shu LJ, Wang Yong, Chen J, Chen W. 3977, s.l.: Scientific Reports, 2017.
10. Pregnancy and Natural Delivery Following Magnetic Resonance Imaging-Guided Focused Ultrasound Surgery of Uterine Myomas. Yoon SW, Kim KA, Kim SH, Ha DH, Lee C, Lee SY. 3, s.l.: Yonsei Med J, 2010, Vol. 51, pp. 451 - 453.
11. Pregnancy outcome after magnetic resonance-guided focused ultrasound surgery (MRgFUS) for conservative treatment of uterine fibroids. Rabinovici J, David M, Fukunishi H, Morita Y, Gostout BS, Stewart EA, MRgFUS study group. 1, s.l.: Fertil Steril, 2010, Vol. 93, pp. 199 - 209.
12. Outcome of unintended pregnancy after ultrasound-guided high-intensity focused ultrasound ablation of uterine fibroids. Qin J, Chen JY, Zhao WP, Hu L, Chen WZ, Wang ZB. 3, s.l.: Int J Gynaecol Obstet, 2012, Vol. 117, pp. 273 - 277.
13. Adverse effect analysis of high-intensity focused ultrasound in the treatment of benign uterine diseases. Liu Y, Zhang WW, He M, Gonf C, Xie B, Wen X, Li D, Zhang L. 1, s.l.: Int J Hyperthermia, 2018, Vol. 35, pp. 56 - 61.

Severe Dysmenorrhoea In Adolescents: When Should Clinicians Suspect Mullerian Tract Obstruction?

Prof Dr Nur Azurah Abd Ghani
Consultant Obstetrician and Gynaecologist and Paediatric Adolescent Gynaecologist in UKM Medical Centre

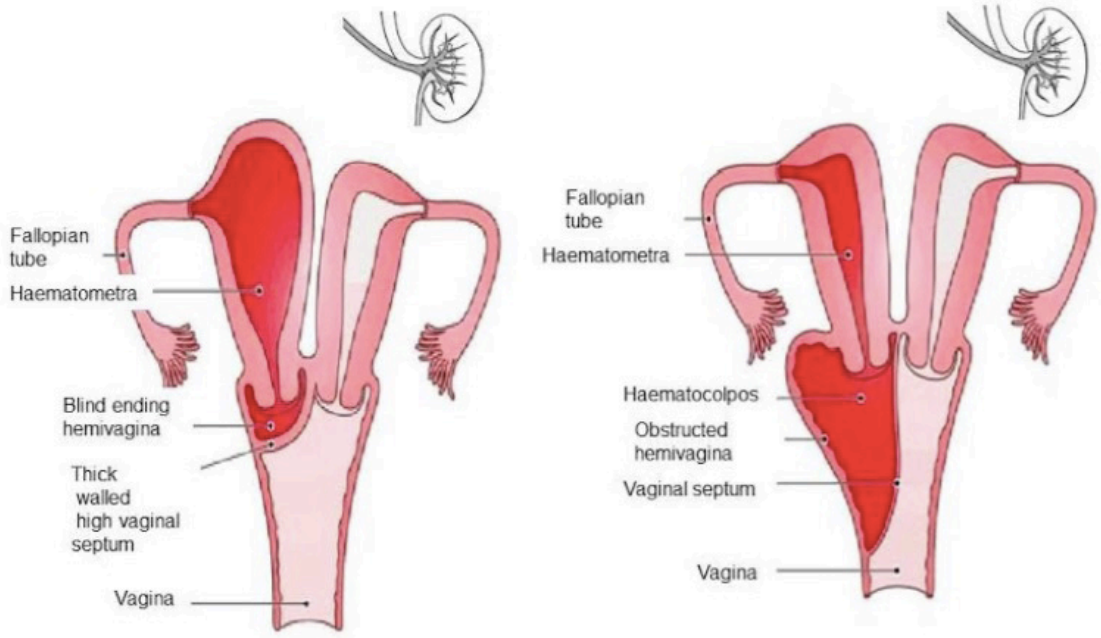
THINGS THAT WE SHOULD KNOW:

The average age of menarche is around 12 years old. In the first 3-5 years post-menarche, the menstrual cycles are anovulatory, hence dysmenorrhea does not occur. Primary dysmenorrhea will only occur during the ovulatory cycles. Thus, any pain resulting at the time of menarche is not normal and warrants further investigations to look for Mullerian tract abnormalities.

Dysmenorrhoea is a common complaint among adolescents. It significantly affects their quality of life and causes school absenteeism. In 90% of cases, it is due to primary dysmenorrhea which can be treated with lifestyle modifications and medications. Only 10% may be due to secondary dysmenorrhea that could be related to Mullerian tract obstruction or endometriosis in adolescents.

Obstructed hemivagina ipsilateral renal anomaly (OHVIRA) commonly presents as severe dysmenorrhea a few months post-menarche. It is a rare birth defect that affects approximately 1 in 20,000 girls worldwide. The exact mechanism is unknown, but it could be sporadic or hereditary with increased risk of 12-fold in women with first degree relatives with Mullerian duct anomalies. OHVIRA is characterised by three key anomalies: abnormal uterus, unilateral blind hemivagina and ipsilateral renal anomaly. The uterine anomalies described in OHVIRA were mainly didelphys, but bicornuate and septated uteri have been reported. Renal agenesis is the most common associated renal anomaly, followed by horseshoe or pelvic kidney, cystic renal dysplasia, duplication of the collecting system and ectopic ureters. In more than 50% of cases, renal agenesis was predictive of an ipsilateral obstructive Mullerian anomaly.

Girls with OHVIRA syndrome are often unrecognised and asymptomatic until they attain menarche. Unfortunately, in most cases, the menstrual pain is often not given much attention by clinicians and is regarded as part of growing up. Many of these girls suffer in silence. Occasionally, OHVIRA can present itself as



pelvic mass, abnormal vaginal discharge and intermenstrual bleeding, making diagnosis more difficult. Delay in diagnosis and management can result in endometriosis due to retrograde menstruation and this can potentially affect future fertility.

The management of OHVIRA is basically excision of the septum causing the obstruction. It is essential to determine the thickness of the septum prior to surgery, as the technique of excision would very much depend on the thickness of the septum and its level. Unfortunately, it is very difficult to clinically ascertain the thickness and its level as most patients are not sexually active, thus will not cooperate for perineal or rectal examination.

Diagnosis can be made using ultrasound and MRI. However, not many radiologists are able to accurately report the film to provide useful information for clinicians to decide the surgical approach for patients.

Excision of the septum may be approached via the pull-through or push-through method. The pull-through technique is usually used in patients with a thin septum located at the lower or mid-vagina. The obstructed vagina is approached vaginally. Excision of high and thick septum is technically more difficult. The push-through technique would be a more appropriate choice. In cases with severe endometriosis and dense adhesion, laparotomy is performed over laparoscopy to prevent injury to adjacent structures. Performing Z-plasty would allow scarring to occur longitudinally instead of transversely, thus preventing stenosis of the upper vaginal mucosa.

KEY POINT:

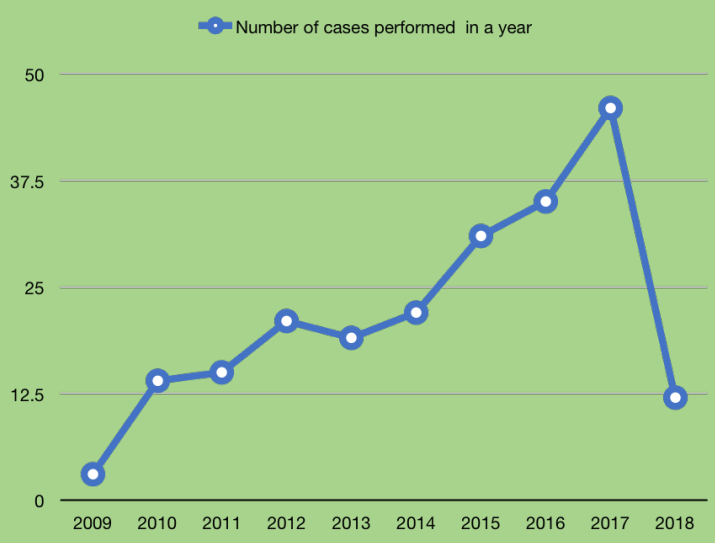
Clinicians should have a high index of suspicion in adolescents presenting severe dysmenorrhoea immediately post-menarche. The aim is to establish an accurate diagnosis early enough to treat in order to prevent complications and preserve reproductive capacity.

The History and Resumption of Fetoscopic Laser Ablation Services

Dr Tan Lee Na
An Obstetrician and Gynaecologist in Hospital Raja Permaisuri Bainun, Ipoh, who is subspecialising in Maternal-Foetal Medicine with special interest in foetal surgeries.

All great things start with a dream. Not too long ago, a visionary man had a big dream; his dream was to improve the outcomes of pregnancies with complications arising from monochorionic placentation. At the time, the incidence of multiple pregnancies in Malaysia was already rising with the advent of assisted reproductive therapy and increasing maternal age. Twin-to-twin transfusion syndrome (TTTS) affects approximately 15% of all monochorionic pregnancies and has a mortality rate of almost 100% if left untreated. Fetoscopic laser ablation (FLA) has been shown to significantly improve the survival of foetuses by up to 90%.

In pursuit of this dream, in 2009, a committed team led by the late Dr Japaraj Robert Peter flew over to Brisbane, Australia, and underwent intensive training in fetoscopic laser surgery with Dr Glenn Gardener and his team in Mater Mother Hospital. Armed with fresh skills and extensive knowledge, Dr Japaraj and his team introduced FLA services to Malaysia and performed their first case on the 24th of November, 2009. Subsequently, the number of cases of TTTS treated with FLA exponentially picked up over the years; initially with 3 cases in the first year, and gradually increasing to 46 cases in 2017. The last case of FLA in 2018 was done in May, before a brief hiatus of seven months due to untimely events.



In early 2019, with the aim of continuing efforts to improve outcomes of TTTS in Malaysia, the team in Hospital Raja Permaisuri Bainun, Ipoh, Perak, had resumed FLA services. The first case was performed in March 2019 after a period of simulation to imitate real-life surgery, enhance familiarity with equipment and procedures as well as synchronise communication and skills between new and existing team members before the actual surgery. Since then, we have performed 9 cases and the early outcomes are promising.

All women with multiple pregnancies should have ultrasound examination between 11+0 and 13+6 weeks of gestation to determine chorionicity of the pregnancies, as monochorionic pregnancies have higher foetal loss rates than dichorionic pregnancies[1]. Screening for TTTS in all monochorionic pregnancies should begin from 16+0 weeks and performed every 2 weeks until delivery[1]. The deepest vertical pocket (DVP), visualisation of foetal bladder, umbilical artery pulsatility index (PI), estimated foetal weight and weight discrepancy should be accomplished to screen for TTTS and selective growth restriction (discordance of greater than 20%) and these information should be documented[1]. The diagnosis of TTTS is made based on the Quintero staging system:

The team performing FLA during Dr Glenn Gardener's visit to Ipoh

The FLA team in Ipoh with (from far right) Dr Tan Lee Na, MA Ghani Hassan Perumal and Sister Rohanita Ahmad Zainuddin who went to train in Brisbane with the late Dr Japaraj

Stage	Criteria
I	Amniotic fluid discordance (oligohydramnios: DVP <2cm, polyhydramnios: DVP >8cm)
II	Bladder of donor twin not visible
III	Persistent abnormal arterial or venous Doppler studies in either donor, recipient or both foetuses
IV	Ascites, skin oedema, pericardial effusion or hydrops in one or both foetuses
V	Demise of one or both foetuses

Left untreated, perinatal death occurs in more than 90% of cases and neurological damage in 50% of survivors[2]. FLA has been advocated as the standard care (compared with amnioreduction or septostomy) for severe TTTS (Quintero stages II-IV) to improve survival (up to 90% for single twin survival and 50% for dual twin survival), reducing neurological morbidity among survivors (3-5%)[3,4,5]. Further studies have shown that selective laser coagulation of placental vessels (SLCPV) followed by the Solomon technique are associated with improved survival and may reduce the risks of recurrent TTTS and twin anaemia-polycythaemia sequence resulting from the presence of sub-centimetre vascular anastomoses[5].

It is important to note that the progression of TTTS is mostly unpredictable; for example, stage I disease may have evidence of cardiac dysfunction and may not have the best outcome compared to more severe stages. Some stage I diseases progress to stage III without obviously passing through stage II[6,7]. Therefore, all cases with suspicion of TTTS should be promptly referred and managed in conjunction with foetal medicine centres to ensure optimal outcomes in these pregnancies.

References:

1. *Kilby MD, Bricker L on behalf of the Royal College of Obstetricians and Gynaecologists. Management of monochorionic twin pregnancy. BJOG 2016;124:e1-e45.*
2. *Quintero RA. Twin-twin transfusion syndrome. Clin Perinatol 2003;30:591-600.*
3. *Senat MV, Deprest J, Boulvain M, Paupe A, Winer N, Ville Y. Endoscopic laser surgery versus serial amnioreduction for severe twin-to-twin transfusion syndrome. N Engl J Med 2004;351:136-144.*
4. *Roberts D, Neilson JP, Kilby MD, Gates S. Interventions for the treatment of twin-to-twin transfusion syndrome. Cochrane Database Syst Rev 2014;(1):CD002073.*
5. *Ruano R, Rodo C, Peiro JL, Shamshirsaz AA, Haeri S, Nomura ML, Salustiano EMA, De Andrade KK, Sangi-Haghpeykar H, Carreras E, Belfort MA. Fetoscopic laser ablation of placental anastomoses in twin-twin transfusion syndrome using 'Solomon technique'. Ultrasound Obstet Gynecol 2013;42:434-439.*
6. *Ville Y. Twin-to-twin transfusion syndrome: Time to forget the Quintero staging system? Ultrasound Obstet Gynecol 2007;30:924-7.*
7. *Luks FI, Carr SR, Plevyak M, Craigo SD, Athanassiou A, Ralston SJ et al. Limited prognostic value of a staging system for twin-to-twin transfusion syndrome. Fetal Diagn Ther 2004;19:301-4.*

REFLECT TO REFRACT : 5 PITFALLS IN PERFORMING NIPT

Dr Voon Hian Yan is a Maternal Fetal Medicine Fellow serving in Sarawak GH. He tries his best to advocate evidence-based practices. He will contribute a series of articles based on recent developments which he feels may improve one's practice. Hian Yan is periodically reminded by his better half/personal ophthalmologist to have his 'vision' reassessed from time to time, inspiring the title of his column in CONNECT, "REFLECT TO REFRACT".

1 OMITTING ULTRASOUND BEFORE AN NIPT

A 42-year-old primigravida who was 11 weeks into her pregnancy requested an NIPT after reading about it on Facebook. You have previously confirmed her dates at 6 weeks of gestation by ultrasound and decided to "just draw the blood" due to pressure of time.

You saw her a week later and congratulated her on a low risk NIPT screening result. However, when you performed an ultrasound before sending her home, you realised the foetus had anencephaly.

PITFALL 1:

A normal euploid chromosome 13, 18 & 21 by NIPT means just that. Remember, it does not indicate that the foetus is completely normal. Obvious structural anomalies could be excluded by 11 weeks, including anencephaly.

2 NIPT WHEN OBVIOUS ANOMALY IS SEEN

A 42-year-old primigravida who 11 weeks into her pregnancy had an ultrasound, shown on the right. You suspected trisomy 18 and offered her an NIPT. The results returned low risk for T13, 18, 21 and gonadosomes.

PITFALL 2:
Omphalocele is associated with T13/18 in 1/3 to 1/2 of cases. NIPT is a screening test with detection rates of only 91% for T13 and 96% for T18. In the presence of structural anomaly, invasive testing is confirmatory. It may also detect genetic (non-chromosomal causes) of omphalocele.

3 VANISHING TWIN

A 42-year-old primigravida who was 11 weeks pregnant had an NIPT done. She conceived via IVF and had two-day 5 blastocysts transferred. Vanishing twin was diagnosed at 8 weeks of gestation but the surviving foetus appeared normal. Her NIPT result showed monosomy X.

Subsequent testing displayed normal karyotype from both amniocentesis and maternal blood.

PITFALL 3:
False positive NIPT can persist up to 8 weeks after embryonic demise, before residual DNA is removed completely from maternal circulation. Therefore, it is pertinent to obtain information regarding the method of conception and review previous USS findings.

Most embryonic demise, including vanishing twins, are due to underlying chromosomal anomalies.

4 MATERNAL MEDICAL CONDITION

A 42-year-old primigravida 11 weeks into her pregnancy conceived spontaneously and was excited to discover the gender of her baby. Her NIPT showed low risk for T13, 18, 21 with the presence of a Y chromosome. However, when reviewed at 18 weeks, the foetal morphology was consistent with a female foetus.

On further history, you realised she had a liver transplant during childhood. Amniocentesis confirmed that the foetus was XX.

PITFALL 4:
Discordant foetal gender may occur in women with previous transplant. NIPT should not be offered to such cases. In this scenario, the liver donor was likely male.

5 ROUTINE MICRODELETION TESTING

A 42-year-old primigravida 11 weeks into her pregnancy requested an NIPT and she came across as someone who needed a lot of reassurance. She was asking much more questions than his usual patients. The obstetrician decided to send off an NIPT which also screened for additional 84 microdeletions. The result came back positive for chromosome 5p deletion. This was consistent with Cri-du-chat syndrome. A repeat ultrasound assessment did not show any anomalies and she was referred to a maternal foetal specialist. She declined a CVS and after 4 anxious weeks, had an amniocentesis which returned normal.

PITFALL 5:
Whilst it may be tempting to screen for everything offered on a panel, the positive predictive value of a test is highly dependent on its incidence. Proper pre-test counselling is essential to avoid psychological scarring of the patient.

A Bag with a Cause....

Dr Patricia Lim Su-Lyn
Consultant Obstetrician and Gynaecologist with KPJ Tawakkal Specialist Hospital, Kuala Lumpur

Cerebral palsy (CP) is the most common childhood disability. According to statistics, cerebral palsy occurs in 2-3 per 1000 children. It is a lifelong disability characterised by neurological symptoms that affect the movement, structure and coordination of the body, as well as the developmental ability of a child.

The 27th Congress of OGSM featured a congress bag with a cause. In collaboration with the Cerebral Palsy Association (GAPs, which stands for Gabungan Anak-Anak Palsi Serebrum), the NGO for the cerebral palsy community in Malaysia, we produced a bag made from sustainable material called jute cotton. The special design was customised, depicting the image of a majestic peacock with it feathers represented by the handprints of children with cerebral palsy. For every bag, OGSM contributed eight ringgit to GAPs. A total of 36,000 ringgits was collected.

The 6th of October marked the World Cerebral Palsy Day, which is annually observed worldwide to celebrate the lives of about 17 million people living with cerebral palsy across 75 countries around the world. OGSM was invited to this celebration held at Tamarind Square, Cyberjaya. The event was a success, being officiated by Puan Seri Azlin Hezri, wife of our Minister of Health, Dato Seri Dr Haji Dzulkefly Ahmad. It was a day filled with activities highlighted by their very own "CP Got Talent". The enthusiasm of the children brought great happiness and joy to those who attended. OGSM had the honour of being awarded with a token of appreciation for its contribution to the association made by the congress bags during the 27th Congress of OGSM held in July, 2019.

Sarawak MRCOG Survival Course (SaMS) –

A Stepping Stone to Passing the MRCOG Exams

Written by,
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Edited by,
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It is the ambition of most doctors to one day complete their training and become specialists in their fields of choice – for obstetrics and gynaecology, the MRCOG examinations is an option. Attempting to complete the MRCOG examination is no easy task. Trainees must understand, amongst other things, how the exam works, what is expected of them, techniques to employ when answering questions and topics to focus on.

This is where the Sarawak MRCOG Survival (SaMS) Course comes in. The first of its kind in the country with a full Part 3 circuit, SaMS came about after the need arose for a platform of experienced MRCOG holders to share their knowledge and guidance with O&G trainees on how to prepare for the exams. Boasting a panel of both MRCOG holders who have years of experience to share and new MRCOG holders who have recently completed the examination and are thus able to tell the latest dos and don'ts, SaMS endeavours to teach trainees on everything needed to pass the exams. The Sarawak General Hospital's O&G Department proudly claims to be one of the few hospitals producing at least one new MRCOG holder each diet (i.e. each exam conducted), with a fair number of trainees passing on their first attempt.

While Part 2 mostly deals with theoretical knowledge, Part 3 of the MRCOG requires candidates to apply that knowledge and articulate their thoughts verbally; a skill that is of utmost importance. This may require some brushing up when preparing for the exams. Thus, SaMS attempts to mirror the Part 3 circuits, with clinical and lay examiners as well. Immediately following the exam circuit is an intense feedback circuit where candidates acquire invaluable personal feedback from each examiner, allowing them to identify the areas which require improvement.

SaMS aims to impart exam tips and study skills that will prepare candidates to pass exams. 12 active participants from SaMS during March 2019 attempted the Part 3 MRCOG exams in May 2019; 9 of them passed (75% passing rate). 30 participants from previous SaMS (including March 2019) attempted Part 3 MRCOG in May 2019, and 22 of them passed (73.3% passing rate). We are happy to see these numbers, but we are further committed to improve these numbers; an endeavour which ultimately, we hope, will enhance the quality of O&G services in Malaysia.

The Changing Role of the Obstetrician & Gynaecologist

Imelda Balchin
Consultant Obstetrician & Gynaecologist,
Subspecialist in Maternal & Fetal Medicine,
KPJ Damansara Specialist Hospital.

Exercise in pregnancy to improve maternal and fetal outcomes.

With the rise in obesity, Obstetricians & Gynaecologists must play a bigger role in prevention of complications in pregnancy. We must take a more active role in encouraging pregnant women to be physically active and exercise during pregnancy to improve pregnancy outcomes.

Obesity, by Caucasian standards, is defined as a body mass index of 30 kg/m^2 or greater, women in our region, Asian standards is used whereby a body mass index of 27.5 kg/m^2 is classed as obesity.

Obesity in pregnancy has been known to cause the increase in the risk of miscarriage, congenital birth defects, diabetes in pregnancy, hypertension in pregnancy, antenatal depression, preterm birth, caesarean section, surgical site infection and slower to start breastfeeding.

In addition, excessive maternal weight gain in pregnancy also contributes to large-for-gestational age, or fetal macrosomia. Macrosomia in turn leads to childhood obesity and this increases the risk of adult obesity. Other studies have shown that maternal obesity is an independent factor that reduces the chance of mothers to successfully breastfeed exclusively, and the use of formula milk increases the risk of childhood obesity when compared to breast milk.

We must break this obesity cycle.

In the last decade we now have evidence that exercise in pregnancy resulted in the reduction of average maternal weight gain, gestational diabetes, hypertension in pregnancy, depression, fetal macrosomia and caesarean section, without causing miscarriage or preterm birth. Furthermore, a reduction in fetal macrosomia also may potentially reduce the need to induce labour for the prevention of birth trauma and shoulder dystocia. Thus, encouraging pregnant women to exercise is more likely to result in a reduction in medical intervention during pregnancy and childbirth.

Even in normal-weight pregnant women, routine exercise in pregnancy has been shown to reduce the incidence of diabetes in pregnancy by 49%, hypertension in pregnancy by 21% and caesarean section by 18%.

Thus, American College of Obstetricians & Gynecologists has recommended that all pregnant women should exercise with moderate intensity for 150 minutes per week. A good example is 30 minutes per day for 5 times a week, or 50 minutes per day for 3 times a week. The contraindications to exercise in pregnancy include cardiac disease in pregnancy, severe anaemia, severe hypertension, placenta praevia, or women at risk of preterm birth, for example, cervical insufficiency, bleeding in pregnancy, multiple pregnancy or spontaneous rupture of membranes.

And so, at the dawn of the new decade, the changing population trend requires Obstetricians & Gynaecologists to change our job scope, to include more experience and expertise in the management of obesity in pregnancy and its potential medical problems, but we must now also learn how to become exercise coaches and give advice on how to exercise safely in pregnancy.

The intensity of exercise recommended in pregnancy should be of moderate intensity to increase the heart rate to between 50% and 85% of maximum allowed heart rate. Here, the sing-talk-test is introduced to allow pregnant women to gage the intensity of their exercise regime themselves, which is, the level of intensity where a women is not able to sing a melody but is able to have a conversation at an effort.

The types of exercises considered to be safe in pregnancy include swimming, cycling, low impact aerobics, brisk walking, modified yoga or pilates.

A pregnant woman should take doctors' advice before jogging, running, racquet sports or weightlifting sports, if this is the usual exercises prior to her pregnancy.

We must give pregnant women the confidence that it is safe to exercise during pregnancy and inform pregnant women that exercise in pregnancy increases the chance of a good birth outcome.

A New Way of Looking at Tubal Patency Testing.

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