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|  | **NEWSLETTER & UPDATE** |
| The International Society for Reproductive Surgery and Fallopian Tubes | |

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| **Ms Ritu Rana** |

Hope you all had an enjoyable break. The society aims to make this year academically enriching by hosting various meetings and workshops on reproductive surgery and enhancement of fertility. With the excellent feedback from our previous meeting in Nov. 2017 at Southampton, we aspire to reach out to wider audiences, bringing to the forefront, the latest and controversial topics in the field of reproductive medicine & surgery.

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| ***ISRSFT ANNUAL MEETING- International Society of Reproductive Surgery, Derby, 15th & 16th November 2018***  **Last Date for Abstracts Submission – 26th October 2018** |

***Journal Search***

**Endometriosis**

We are all aware of the decrease in the ovarian reserve with endometrioma, with or without surgery. An article was recently published in Fertility and Sterility on Endometrioma-related reduction in ovarian reserve (ERROR)1 This was a longitudinal study conducted in a tertiary hospital setting. All participants underwent serum Anti Mullerian hormone (AMH) testing twice, 6 months apart. AFC was also done in sexually active women. Serum AMH level at recruitment was 2.83 (0.70–4.96) ng/mL in the endometrioma group and 4.42 (2.26–5.57) ng/mL in the healthy age matched control group. The median percent decline in serum AMH level was 26.4% (11.36%–55.41%) in the endometrioma group and 7.4% (11.98%, 29.33%) in the control groups. Women with endometrioma experience a progressive decline in serum AMH levels, which is faster than that in healthy women

Surely, we have not exhausted the treatment modalities for treatment of endometriosis. With the continuing research, we are not far from having new treatments of this mystifying disease in mainstream medicine. The research suggests that IL-6 is a major inflammatory cytokine in endometriosis. A recent article in Fertility and Sterility mentions about a drug by name of Tocilizumab, a humanized anti-IL-6 receptor monoclonal antibody to treat endometriosis2.

We have clear evidence to suggest that surgery for minimal to moderate endometriosis improves fertility outcomes, however the question of fertility outcomes in patients surgically managed for large deep endometriosis (>2cm), infiltrating the rectum is unanswered and evidence is lacking. An article published in Human Reproduction based on an RCT, ENDORE, shows surgical management for rectal endometriosis is followed by high pregnancy rates, with majority being natural conceptions3. This study included the patients enrolled in ENDORE randomized trial who attempted pregnancy after the surgery. Patients had either conservative surgery by shaving or disc excision, or radical rectal surgery by segmental resection by the same surgeon.  In infertile patients, the postoperative pregnancy rate was 74%, and 53% of conceptions were natural. However this study does have limitations of being originally set up of ENDORE RCT to see the digestive function post-surgery and not infertility. Therefore several factors impacting fertility could not be revealed due to small sample size. The study included a high percentage of young women with an overall satisfactory prognosis for fertility, as patients’ median age was 28 years. The inclusion of only large infiltrations of the rectum does not allow the extrapolation of conclusions to small nodules of <2 cm in length. Also only one skilled gynaecologic surgeon performed all the procedures. Nevertheless, this study does open up the possibility of counselling women about surgery as the first line treatment for women with deep endometriosis and trying to conceive.

Laparoscopic surgery for endometriosis is effective in reducing painful symptoms and improving quality of life in short term, however very few studies have focused on the long-term effect of surgery in women operated for all stages of endometriosis. An article published in Journal of Minimal invasive Gynaecology, is based on the study on the benefit of surgery for up to 36 months after surgical treatment of endometriosis4. The SF-36 questionnaire was used and Physical and Mental scores were primarily evaluated. Dysmenorrhea was reported by 85% of patients at t0, 57% at 6M, 55% at 24M and 57% at 36M of follow-up (p<0.001). Pelvic pain and dyspareunia were reported by 49% and 60% of patients respectively at t0, 31% and 30% at 6M, 29% and 29% at 24M, then 27% and 29% at 36M of follow-up (p<0.001). This study revealed significant pain relief for all reported symptoms and an improvement in all QoL scores, as early as 6 months after surgery and moreover the symptom improvement was not significantly affected by different postoperative time points. One of the important finding is that this relief was observed in patients receiving postoperative medical treatment (all therapies combined) in addition to surgery and in the surgery only group. SF-36 outcomes obtained from the large number of patients analysed in this study, indicate that pain is the predominant symptom adversely affecting patients’ physical and mental well-being, and that following surgery the reported positive outcomes of reduced bodily pain, discomfort and physical limitations linked to pain remained stable throughout follow-up. In literature, vitality and bodily pain have been reported as the domains most affected by deep endometriosis and these see the most significant improvement post operatively.

The study outcomes suggest that preoperative SF-36 questionnaire scores would help in identifying the patients in whom surgery would enhance quality of life. It is reported that lower PCS and MCS scores before surgery led to increased chances of improved postoperative quality of life.

**What’s new on the horizon?**

**Uterine Transplant**

Uterine transplant has been picking up in recent past after the birth of the first child from a transplanted uterus in Gothenburg, Sweden, in 2014. American society for reproductive medicine gave a position statement on uterine transplantation5.

The American Society for Reproductive Medicine recognizes uterus transplantion as the first successful medical treatment of absolute uterus factor infertility, while cautioning health professionals, patient advocacy groups, and the public about its highly experimental nature.This procedure should be performed within an Institution-

al Review Board (IRB)–approved research protocol.

**Hysteroscopy**

From previous studies we know that the reproductive outcome in women treated for intrauterine adhesions is poorer than menstrual or other clinical outcomes, with pregnancy rates reported to range from 44 to 93%. The impact on pregnancy following surgical treatment of IUA is likely related to a deficiency in the residual endometrium and myometrial fibrosis along with an altered endometrial biochemical milieu, affecting implantation. An article in Human Reproduction published a study to report the live birth rate and other fertility, obstetric and neonatal outcomes following hysteroscopic treatment for intrauterine adhesions over a 14-year duration from two referral centres6. It showed that the chance of pregnancy was 98/124 in women wishing to conceive and the chance of a live birth was 79/124.The chance of a miscarriage was 29/124 i.e 37.1%. There were 93 live births in 79 women following surgery, with detailed obstetric data available for 85 of these births. They were complicated by abnormal placentation in 15/85 women and 4/85 needed postpartum hysterectomy with 25/85 women having premature delivery. In short after hysteroscopic management of IUA, pregnancy rates might exceed 60 but these pregnancies are more likely complicated by premature delivery, and the sequelae of abnormal placentation.The findings if this study would aid in patient counselling.

**Mullerian Anomaly**

A question was raised on the impact of new ESHRE/ European Society of Gynaecological Endoscopy (ESGE) classification on the women with previous modified ASRM classification of arcuate uterus and this was published in Human Reproduction in April this year7. Some of these women would now be classified as having sub septate Mullerian anomalies. This in turn would increase the number of surgical procedures in these women. A retrospective study was recently published in Human Reproduction, highlighting the potential discrepancies in Mullerian anomaly nomenclature and subsequent impact on treatment due to this. This was a retrospective cohort study where stored ultrasound images of these women scans were looked at. Specific measurements of ESHRE/ESGE was applied. Although similar in approach to the ASRM classification, one of the most controversial recommendations in the new ESHRE/ESGE classification is the fact that the term arcuate uterus has been abandoned. This common minor anomaly of the uterus according to the ASRM classification, is now either described as normal or as a partial septate uterus, depending on the size of fundal indentation in relation to the uterine wall thickness in ESHRE/ESGE classification. Due to myometrium distortions, ESHRE classification is not applicable in women with 28% cases, hence authors of ESHRE classification defined two different approaches to uterine assessment in women with myometrial abnormalities, MO [main option] and AO [alternative option] in classifying women with myometrial problems. With main option, MO138/237 (58.2%] women were diagnosed with partial septate uterus compared to 61/230 (26.5%) women when using the AO, alternative option. Hence neither the MO nor AO technique could be applied to nearly10% of women. Not only that in a third of cases in the study the MO and AO techniques gave discordant results in classifying the uterus as being normal and partial septate. This highlights a major methodological issue and prospective studies are needed to examine further the level of agreement between the two assessment techniques.

**Tubal Surgery**

I remember doing tubal surgeries about 15 years back but nowadays we do not see much of this happening. We should extrapolate technical advances in tubal surgery into practice and further into training. An article recently published in Fertility and Sterility, shares sentiments with quite a few reproductive surgeons8. In this article Lui et al., explores the topic of tubal anastomosis and its role in our patients' care. He writes about a transvaginal technique for tubal anastomosis combined with single-site surgical skills to demonstrate an alternate method to this procedure. In total, ∼200 million women worldwide use female sterilization for contraception. About 20% for women ≤30 years of age regret having this done. Successful reversal of tubal sterilization was initially performed by catgut, which had lower success rate than currently used monofilament and avoidance of mucosa in the suturing of the tube. Microscopy, Laparoscopy and robotics and recent Transvaginal natural orifice surgery are all further advancements. Although the classic four-suture technique remains the most popular however alternatives like single-stitch technique, use of microstaplers, biologic glue, and even, most recently, the use of 5-0 barbed suture without knot tying. Literature review of outcomes demonstrate that pregnancy rates are similar for microsurgical anastomosis performed by laparotomy, laparoscopy, and robotic surgery, and depending on the site of anastomosisand are ∼70%–80%. Age is still considered to be the most important prognostic factor but IVF does not provide a superior outcome in women less than 37 years of age. Cumulative delivery rates have been reported to be 72% for those undergoing tubal anastomosis group and 52% for those undergoing IVF with cost per delivery being much less for surgical reversal of tubal ligation.

Liu et al demonstrated how a transvaginal natural orifice transluminal endoscopic surgery (NOTES) for tubal re anastomosis is a novel route for tubal surgery which is

done by a single-site gel port in the vagina followed by hydro dissection of the fallopian tube9. This is followed by removal of blocked tube portion and threading of epidural catheter through each lumen followed by end to end anastomosis. Skills using single-site suturing is needed. This gives the patient a 60%–90% intrauterine pregnancy rate postoperatively. NOTES has the benefit of fast recovery.

The presence of a hydrosalpinx has been shown to impair the outcome of in vitro fertilization (IVF) treatment. This outcome can be improved by removing the hydrosalpinx however this is not without risks in women with previous surgeries and dense adhesions. Results of tubal aspiration with or without sclerotherapy remain unclear. A metanalysis was published in Journal of Minimal Invasive surgery, to evaluate the efficacy of hydrosalpinx aspiration with or without sclerotherapy on the risk of recurrence and the IVF outcome when compared with salpingectomy or no intervention10. The overall recurrence rates of hydrosalpinx aspiration with or without sclerotherapy were 21.7% to 30.5% and 21.8% to 32.5%, respectively. The clinical pregnancy or miscarriage rate between hydrosalpinx sclerotherapy and salpingectomy were similar. However when compared with salpingectomy, hydrosalpinx aspiration only was associated with a significantly lower clinical pregnancy rate and higher miscarriage rate. When compared with no intervention, hydrosalpinx aspiration resulted in significantly higher clinical pregnancies rates but a similar miscarriage rate. It was therefore concluded that hydrosalpinx sclerotherapy before IVF improves the fertility outcome and can be used as an alternative to salpingectomy. Another treatment is proximal tubal occlusion with the Essure device has been associated with chronic pelvic pain, abnormal uterine bleeding, and increased pregnancy loss. Aspiration of hydrosalpinx fluid is a less invasive technique that can be performed under ultrasound guidance. In addition, a sclerosing agent can be instilled into the tube. Instillation of a sclerosing agent (e.g. Ethanol) into a fallopian tube is expected to be associated with inflammation and fibrosis and subsequently results in tubal wall adherence and closure. Surprisingly, the recurrence rate of a hydrosalpinx after sclerotherapy was shown to be similar to that of aspiration only however women with a recurrent hydrosalpinx after sclerotherapy had similar fertility outcome compared with those without recurrence.

**Intrauterine adhesions**

Intrauterine adhesions (IUAs) can lead to partial or complete closure of the uterine cavity, which may result in symptoms including abnormal menstruation, infertility, and pelvic pain. A meta-analysis was published in JMIG to assess the effect of adjuvant therapy on the prevention and treatment of IUAs11. This studied showed an alginate hyaluronate–carboxy methylcellulose membrane (ACH) was the adjuvant treatment that most effectively reduced IUA incidence. This was followed by intercoat and misoprostol. Autocross-linked hyaluronic acid (ACP) and intercoat each corresponded to a relatively high preventive effect against severe IUAs. ACP plus a balloon and a freeze-dried amnion graft plus a balloon were most effective in reducing IUA recurrence. ACP plus a balloon and freeze-dried amniotic agents plus a balloon were most likely to reduce IUA recurrence and IUA scores after adhesiolysis.

**Forthcoming meetings & Courses**

* **ESGE 2018 Vienna ISRST SESSION on 9th October 2018**
* ***Annual International Society of Reproductive Surgery Conference Advances in Reproductive Surgery for Fertility enhancement 15-16th November 2018*.**

*This meeting has hands on workshop on-*

*Laparoscopy & Robotics*

*HyCosy & TVUS*

*Hysteroscopy*

*\*At no extra cost when you register for the meeting and membership.*

Book early

Last Date for Abstracts Submission – 26th October 2018.

ISRSFT believes that reproductive surgery is vital for enhancing and treating fertility problems in women. This meeting will be focusing on advances in reproductive surgery and explore the scientific evidence, emerging technology and research in this field Evidence and also provide an opportunity to hear pros and cons from the world renowned experts. The programme will cover a range of topics within the field of reproductive surgery including laparoscopy and tubal assessment tests, hysteroscopy, imaging in infertility, endometriosis, fibroids, uterine septum, intrauterine adhesions, caesarean section niches, ovarian tissue transplant and ovarian cryopreservation. There will be a variety of debates, case based discussions, lectures, and question and answer sessions.

* ***8th March 2019 Transvaginal workshop Gynaecology and Early pregnancy***

***Venue St Georges Hospital, London***

* ***2nd May 2019 ,Reproductive Workshop at ASPIRE Meeting at Hongkong***
* ***November 2019 Annual ISRSFT meeting at St Georges London***

**Travelling Fellowships**

The society encourages exchange of knowledge and skills in the field and has links with centre in Leuven, Belgium.

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