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THEME : IMPLEMENTATION OF EVIDENCE BASED CLINICAL CARE

MOTTO : SWEAT, SMILE & REPEAT

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TEAM AOGS MESSAGE

Dr. Jignesh Deliwala
President

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Hon. Secretary

As we step into the month of June, we are hopeful for new 'Time' to greet us; 'Time' which will be more of Gladness than sadness; 'Time' with more of 'Hopes' than frustrations; 'Time' which we will be happily carving in our minds in from of happy and beautiful memories...

Humans have suffered a lot, but not the humanity. Humanity has shone like a bright sun, assisting all the living beings in their survival with the best of the capability. Let us hope that the lessons learnt, the importance of many things we learnt; stay forever with us, reminding every minute we live on this earth.Family is one of the strongest pillars for every living being; yet being taken for granted some times. Many of us might have realized in past few years. Family absorbs the person as a whole, gives cushion and supports him/her in all of the ambitions. One of the key elements of forming Great society; Family has been valued more than ever in past some time.

This time, we have "Family" as our theme of this bulletin, and we pray that every human stays connected with his/her family. We pray that the forthcoming times do not show anyone any phases of "Quarantine" anymore. May the forthcoming times shower blessings and happiness and hope for each and every family; and may everyone contribute to support those families, who are struggling to survive.

Let there be light, let there be strength, let there be courage, let there be unity, let there be peace.

Thank You!

Dr. Jignesh Deliwala
President

Dr. Munjal Pandya
Hon. Secretary

PAST PROGRAMME

Metabolics Women's Health Workshop - Date : 03.05.2021

Happy Learning Gujarat Masterclass - Date : 09.05.2021

National Eclampsia Registry FOGSI – ICOG

The National Eclampsia registry is a platform to report experiences of eclampsia pan India encountered by the members of the FOGSI .Since its inception in 2008 it has endeavored towards acquiring this information and has found a very faithful and a consistent solicitation by its reporters.

Today's world is changing very fast and we have realized the need to have a more technologically savvy registry .Easy to report and prompt in response is the new mantra .The purpose is to report in a simplistic manner.

The registry also will be your reference portal for any guidance , assistance in management of your patients . A blog where you can offer your expert comments and a newsletter which will periodically reach your mailbox to keep you updated.

Achievements so far : We have come a long way now from the initial paper based registry to the web enabled registry . Generalized alertness of the members is enhanced and there is more confident approach towards managing these cases . Also the workshops and the newsletters have helped many members tackle this very dreadful eventuality of preeclampsia .More importantly we have been able to analyse our own data and the analytics are available for your reference.

Moving forwards : The final aim is to have an eclampsia free country and therefore our efforts must go on . It is only achievable with all the members joining together and helping the cause of eclampsia eradication . And yes it is possible.

ner-fogsi.in

PAST PROGRAMME

Webinar on Covid in Pregnancy - Date : 15.05.2021

Gestosis Score for Screening of Pre- eclampsia

Dr.Sanjay Gupte
MD,DGO, FICOG, FRCOG, LLB

Dr. Arati Gupte
MD, MICOG

In our country incidence of preeclampsia was found to be 10.3% (NER) and incidence of eclampsia is 1.9 % of all the pregnancies.
That means that in India, as we have 26 million deliveries per year, we are dealing with 26,78,000 cases of preeclampsia and 4,94,000 cases of eclampsia yearly.
Considering the magnitude of the mortality and morbidity associated with hypertensive diseases of pregnancy and especially preeclampsia there can be no two opinions regarding early and universal screening for these conditions.
Unfortunately, the tests available today for screening are costly and complicated. For universal screening to be adopted in even the smallest corners of the country, there is certainly a need for simplification.

HDP-Gestosis score:
Primary clinical assessment for screening and prediction of preeclampsia can be objectively performed by 'easy to use' HDP-Gestosis score. It is an effective and feasible prediction policy.

Process of risk scoring:
This score involves all the existing and emerging risk factors in the pregnant woman.
Score 1, 2 and 3 is allotted to each clinical risk factor as per its severity in development of preeclampsia.
With careful history and assessment of woman a total score is obtained time to time.
When total score is =/> 3; pregnant woman should be marked as 'At risk for Preeclampsia

Risk Factor	Score
Age older than 35 years	1
Age younger than 19 years	1
Maternal Anemia	1
Obesity (BMI >30)	1
Primigravida	1
Short duration of paternity (cohabitation)	1
Woman born as small for gestational age	1
Polycystic Ovary Syndrome	1
Inter pregnancy interval more than10 years	1
Conceived with Assisted Reproductive (IVF/ ICSI) Treatment	1
MAP>85	1
Chronic vascular disease (Dyslipidemia)	1
Excessive weight gain during pregnancy	1

Risk Factor	Score
Maternal Hypothyroidism	2
Family history of preeclampsia	2
Gestational diabetes mellitus	2
Obesity (BMI > 35)	2
Multiple Pregnancy	2
Hypertensive disease during previous pregnancy	2
Pregestational diabetes mellitus	3
Chronic hypertension	3
Mental disorders[5]	3
Inherited / Acquired Thrombophilia	3
Maternal chronic kidney disease	3
Autoimmune disease (SLE / APLAS / RA)	3
Pregnancy with Assisted Reproductive (OD or Surrogacy) Treatment	3

Significance of gestosis score

Unlike other guidelines which consider each factor as of equal significance, the Gestosis score gives weightage according to the severity.
While completing the score sheet, it allows points to be kept blank if patient is unable to give the history.
It denotes the indication for available prophylaxis rather than claiming high probability of prediction.

Use of this Gestosis score for screening of Pre-eclampsia can not only bring down the maternal mortality associated with it, but can also be used as a warning signal to predict and preempt its occurrence altogether.

Recent updates on management of PCOS in adolescents

Dr Hetal Patoliya
MD

PCOS is the most common endocrine disorder in the reproductive age group and is becoming more frequent in the adolescent age group too, with an incidence of 6 to 18% due to various lifestyle, environment and genetic factors.

Diagnosis and treatment of PCOS in adolescent is confusing and challenging due to the overlap of symptoms of PCOS with the normal changes of puberty and lack of clear guidelines for treatment due to inadequate and suboptimal- only adolescent studies. However, the international guideline of ESHRE on PCOS of 2018 and ACOG guidelines of October 2019 for screening and management of hyperandrogenic adolescents, provide good quality evidence on management of PCOS in adolescent populations.

The presenting symptoms usually for an adolescent PCO is irregular cycles or hyper androgenic symptoms of acne, alopecia, hirsutism or just obesity and weight gain.

The irregular cycles at adolescent requires a detailed evaluation according to the international guidelines as follows:

Time post menarche	*Definition of irregular menstrual cycles*
Less than 1 year post menarche	Irregular menstrual cycles are normal pubertal transition
>1 to <3 years post menarche	<21 or >45 days
>3 years post menarche	<21 or >35 days or <8 cycles per year
More than 1 year post menarche	>90 days for any one cycle
	Primary amenorrhoea by age 15 years or >3 years post thelarche (breast development)

Source: Peña, A.S., Witchel, S.F., Hoeger, K.M. et al. Adolescent polycystic ovary syndrome according to the international evidence-based guideline. BMC Med 18, 72 (2020). https://doi.org/10.1186/s12916-020-01516-x

However ovarian dysfunction can occur in adolescents with regular menstrual cycles and if anovulation is suspected, a serum progesterone levels can be measured to confirm it.

Features of hyperandrogenism present with hirsutism in 10%, acne in 80 to 90% and alopecia in 30 to 40% of the cases. The modified ferrimen Gallaway score is used to assess the degree and progress of hirsutism. A score of greater than 8 is indicative of hirsutism. Grading for acne includes quantity -mild moderate or severe, location and quality - Comedonal, inflammatory or mixed. There is no grading but more than 10 lesions on the face are significant. Alopecia or temporal recession of hair can be assessed with toolkits like the Ludwig visual score. Past Treatment history for the treatment of hirsutism and acne is very important before making a diagnosis as most of the time patients have taken some cosmetic treatments for it, already.

The third presenting symptom is of obesity and weight gain with or without insulin resistance. This can be seen as an increase in the BMI above 85th percentile adjusted for age and sex is considered as overweight and >95th percentile as obesity. Higgins et al has suggested that a body fat of >33% or a waist circumference of >71cm to be considered as adverse risk factors in adolescents There is a physiological 25-50% decrease in insulin sensitivity at puberty which improves when puberty ends. Skin changes like Acanthosis nigricans indicate insulin resistance.

Taking a detailed history is very important to determine further evaluation and treatment. The medical history should include the age of thelarche, adrenarche and menarche. A detailed menstrual history is also required. The onset and progression of acne and hirsutism along with a record of previous therapies should be noted. A history of rapid virilisation like deepening of voice and frontal balding may point towards an androgen secreting tumour. If obesity is present the progression of weight gain should be noted. A family history for PCOS or obesity should be recorded as PCOS is a familial disorder, with a single autosomal dominant gene effect, and a variable phenotype.

Physical examination would include measurement of BP, BMI, skin examination for hirsutism, acne and acanthosis and external genital examination for assessment of virilisation as indicated by a clitoral glans width of more than 5 mm.

A sonography is not indicated to demonstrate polycystic ovaries as 50% of adolescent ovaries are normally polycystic but it can be done to rule out ovarian mass and pregnancy were suspected other uterine and adrenal pathology and assessment of liver for fatty degeneration in obese adolescents. A sonography for polycystic ovaries can be done 8 years after menarche only.

Lab investigations are done to support the diagnosis of PCOS and exclude other causes of hyper androgenism and assess for associated endocrinopathies. Free or total testosterone is measured using high-quality radioimmunoassay and values as adult cut offs are diagnostic of biochemical hyperandrogenism. Values of total testosterone more than 200 mg/dL are suggestive of virilising tumour and should prompt further investigations. DHEAS, the adrenal steroid is measured to rule out adrenal contribution in hyperandrogenism and where non classic adrenal hyperplasia (NCAH) is suspected, a morning 17 0HP measurement is done. Adolescent PCOS like adult counterparts should be screened for diabetes and dyslipidaemia especially when obese and a liver function test is done if fatty liver is seen. Associated endocrine abnormality like thyroid prolactin are evaluated but measurement of AMH or FSH and LH is not recommended at this stage.

PCOS in adolescents can have long-term implications for metabolic and reproductive health hence early treatment is

critical. The goal of therapy is to manage irregular menses to prevent unopposed oestrogen stimulation, reduce acne, hirsutism and obesity and help improve body image and confidence and decrease the risk of development of diabetes and cardiovascular diseases and to preserve fertility and improve the quality of life.

Treatment begins with therapeutic lifestyle changes (TLC) with diet, exercise and behavioural strategies. This is endorsed by the endocrine Society and clinical practice guidelines as well as recent international evidence-based guidelines on PCOS. It has proven effective in altering the course of the disease progression with decrease in androgen production improving insulin sensitivity and regularising the menses, especially in overweight or obese phenotypes.

Pharmacological therapy for adolescents with PCOS begins with the combined oral contraceptive pills. It suppresses the HPO axis decreasing the ovarian and adrenal androgen productions and regularising the menses and improving hyperandrogenism. COC contains 20 to 35 µg of ethinyl oestradiol and a progestin. Among the progestins, third-generation progestin such as desogestrel, gestodene or Norgestimate Have less androgenic activity than the second generation Progestins like levonorgestrel. Drospirenon is a progestin derived from Spironolactone and has anti mineralocorticoid and glucocorticoid action and hence is used to treat hirsutism. The amount of Drospirenon in COC is equivalent to 25 mg of spironolactone. Hormones should not be started before menarche. Once initiated, patients should be counselled that it may take six months before they see the benefits of treatment and they should not be prescribed where contraindicated like migraine with aura, past VTE etc.

For moderate to severe hirsutism, anti-androgens can be added along with COC. They act at the pilosebaceous unit to prevent action of testosterone and other androgens. Spironolactone, flutamide and finasteride are used here however these can slow the growth but do not remove the existing hair. Physical methods of hair removal like bleaching, shaving, waxing, chemical depilators, electrolyses and laser therapy can be used safely and effectively in adolescents. Eflornithine cream is approved for treatment of facial hair and has a topical inhibitor of enzyme ornithine di carboxylase needed for hair growth. However, it is limited to small areas and hair growth re occurs when discontinued.

For acne, topical retinoic acid and antibiotics can be helpful adjuncts to oral antibiotics hormonal therapy or anti androgens.

Insulin resistance which is common in obese PCOS requires insulin sensitisers. Metformin is a biguanide that acts to decrease hepatic glucose production and increases peripheral insulin sensitivity. It helps decrease weight and hyperandrogenism and improves glucose intolerance and dyslipidaemia. It is recommended in the dose of 1000- 1500 mg/day. N acetyl cysteine is also used at 1800 mg/ day for six months. Both help in decreasing BMI and improve the hormonal and metabolic imbalance in adolescents. They can also be combined with COC for better outcomes.

Weight reduction is very important to arrest the progress of PCOS in obese phenotypes. Lifestyle modification is the first line of treatment with changes in diet and exercise. Pharmacotherapy in the form of orlistat, metformin, liraglutide can be added to reduce weight in adolescents. Experts in paediatric obesity and bariatric surgery recommend that adolescents with a BMI ≥ 35 kg/m2 and a severe comorbidity that has significant short-term effects on health — such as moderate to severe obstructive sleep apnoea, type 2 diabetes mellitus, pseudotumor cerebri, or severe and progressive steatohepatitis — or BMI ≥ 40 kg/m2 with more minor comorbidities be considered as candidates for bariatric surgery. The results are comparable with adult population in terms of weight loss, however long term follow up is required and a multi-disciplinary team approach is mandatory.

Mood disturbances are common among adolescents with PCOS also obesity and hirsutism can lead to poor self-esteem and depression. Weight reduction and improvement in hyperandrogenism does improve mood but more severe disorders need timely psychiatric evaluation and therapy.

Among the multi vitamin supplements and probiotics, vitamin D supplementation has shown benefits in menstrual regularisation in patients with PCOS.

Adolescent with PCOS is followed up every 3-6 months to assess for progression of the disease and effects of treatment. Adolescent at risk of PCOS, who have features of PCOS but do not meet the diagnostic criteria should be reassessed 3 yrs. post menarche for menstrual irregularities and 8 years post menarche for sonography evaluation.

In conclusion, it is very important to avoid delayed, under or over diagnosis of PCOS in adolescents. The international guidelines have now refined the diagnostic and treatment criteria for PCOS in adolescents and have low- moderate quality evidence to support the recommendations. Long term individualised management that integrates various modalities should be implemented in timely management of adolescents with PCOS considering its long-term implications on future fertility and metabolic health.

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4. Screening and Management of the Hyperandrogenic Adolescent, ACOG October 2019 (Accessed at: https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2019/10/screening-and-management-of-the-hyperandrogenic-adolescent)

SINGLE FOETAL DEMISE IN A MONOCHORIONIC TWIN PREGNANCY - A CASE REPORT

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INTRODUCTION

There has been a substantial increase in the incidence of multifoetal pregnancies over the past two decades. Twin pregnancies are at a higher risk for perinatal complications – especially monochorionic pregnancies.1 Monochorionic foetuses derive their nutritional support from a common pool of placental vasculature. These shared blood vessels are responsible for the most characteristic and common complications – Twin to Twin Transfusion Syndrome (TTTS), selective foetal growth restriction (sFGR), and single foetal demise. Recent studies suggest that certain first trimester markers like CRL discordance and abnormal cord insertion in a monochorionic twin pair are strong predictors for the development of an adverse outcome later in the pregnancy.[2–4] Here, we present a case of monochorionic twin pregnancy screened to be at high-risk for complications, developing single foetal demise.

CASE REPORT

A 26-year old, naturally conceived primigravida patient without any comorbidities, Mrs. X, presented as an antenatal outpatient with approximately 3 months of amenorrhea, for confirmation of pregnancy. A specialist foetal study revealed a monochorionic diamniotic twin gestation with a menstrual age of 14 weeks 5 days. Foetus A demonstrated biometry parameters, nuchal translucency measurement, amniotic fluid levels and Doppler study appropriate for the assigned age. The placental cord insertion in Foetus A was central.

Study of Foetus B revealed an evidently smaller foetus (Figure 1), with a Crown-Rump Length (CRL) discordance of ~ 25% as compared to Foetus A. (Figure 2)

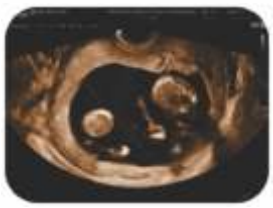
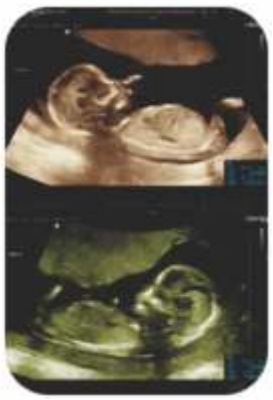


Figure 1 *Size discordance between both foetuses with a single placenta and a thin inter-twin membrane*

Rest of the biometry parameters were also correspondingly discordant. Additional findings included single umbilical artery (two-vessel cord) and an echogenic cardiac focus. The cord insertion was noted to be marginal (Figure 3), at the edge of the placental plate. Amniotic fluid levels were appropriate. However, Doppler assessment revealed zero forward flow during diastole in para-vesical Umbilical Artery. (Figure 4) Additionally, forward flow in a-wave in Ductus Venosus Doppler was also noted to be reduced.

Figure 2 *CRL discordance between both foetuses Foetus A: upper Foetus B: lower*

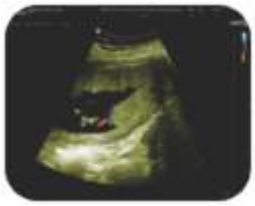
Mrs. X and her family were informed regarding the ultrasound findings and were offered counseling for the possible prognostic implications including development of complications like TTTS, sFGR or single foetal demise.



Close foetal surveillance by weekly follow-up scans was recommended, with the possibility of selective feticide of the smaller/affected foetus if worsening of the indices was noted.

Figure 3 *Marginal cord insertion of Foetus B at the edge of the placental plate*

Figure 4 *Absent flow during diastole in paravesical Umbilical Artery Doppler of Foetus B*



Unfortunately, the patient was lost to follow-up for almost 2 months and presented for the next evaluation at 24 weeks of gestation. Ultrasound at 24 weeks revealed foetal demise of Foetus B, with compressed appearance of the foetal remnant and biometry parameters corresponding to approximately 21 weeks of gestational age with an estimated foetal weight of 528 gm.

Growth and development of Foetus A was along the expected growth curves. Doppler indices and amniotic fluid levels were within the range for gestational age. Targeted imaging for anomalies was unremarkable except for mild enlargement in the renal size. High-resolution transvaginal neurosonogram was offered and did not reveal any evidence of intraventricular hemorrhage (IVH), periventricular leukomalacia (PVLM) or subependymal cysts. (Figure 5)

Figure 5 *Transvaginal neuro-Sonogram showing Normal parenchyma With no evidence of IVH/PVLM*

Appropriate counseling regarding the findings was discussed with Mrs. X and her family. The implications for the surviving co-twin with regards to short-term and long-term complications and possible outcomes was conveyed in detail. Additional neuroimaging in the form of foetal MRI and a third trimester follow-up ultrasound was recommended.

Maternal evaluation with regards to complications of foetal demise was carried out. A baseline maternal blood evaluation revealed blood counts and coagulation profile within the expected range. Follow-up blood investigations were carried out every fortnightly for the next month, to appropriately manage maternal DIC if required. The patient remained vitally stable and blood investigations did not

reveal any alarming findings. The pregnancy was continued with close maternal surveillance.

Due to the COVID-19 pandemic situation and additional unavoidable circumstances, Mrs. X did not opt for MRI neuroimaging. A follow-up ultrasound at 34 weeks 3 days gestation revealed that the surviving co-twin A had continued to grow well (Figure 6), with an estimated foetal weight of 2225 gm. Doppler indices and amniotic fluid levels were within the range for gestational age. As an incidental finding, loop of umbilical cord was noted around the foetal neck. Additional high-resolution transvaginal neuroimaging showed a well-developing foetal brain parenchyma, with sulcation and gyration patterns appropriate for gestation. No evidence of structural parenchymal abnormality or destructive brain injury was noted. (Figure 7)

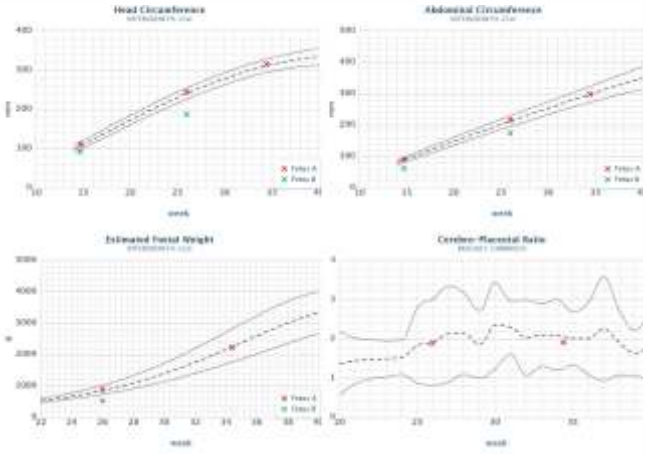


Figure 6 *Charts showing serial foetal growth foetus A & B*

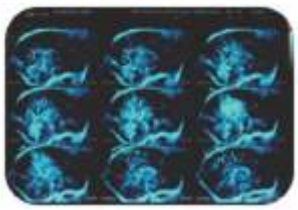


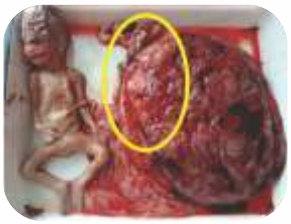
Figure 7 *TUI imaging of neurosonogram at 34 weeks showing parenchyma of surviving co-twin*

The patient went into spontaneous labour at term and a successful vaginal birth was conducted at 37 completed weeks of gestation. A healthy baby girl was delivered, weighing 2750gm. The baby cried immediately at birth and did not require any active neonatal intervention. A neonatal MRI evaluation and neuropediatric specialist consult has been requested and will be carried out over the next few weeks.

Figure 8 *Foetus papyraceous shown alongside the shared placenta. Calcified part of the placenta is marked.*

Foetus B was delivered as a severely compressed "foetus papyraceous", weighing 650gm. No evident external anatomic abnormalities were noted. Evaluation confirmed a two-vessel umbilical cord attached at the margin of the single placental plate. Placental territory supplying Foetus B appeared grossly calcified, and disproportionately smaller in area in comparison to the placental territory of Foetus A (Figure 8).

DISCUSSION



Spontaneous single foetal demise is often seen in the initial weeks of gestation and is labeled as a "vanishing twin". However, approximately 0.5% - 6% of all twin pregnancies are affected by spontaneous single foetal demise after 14 weeks.[5,6] Demise in the second or third trimester can potentially jeopardize the survival of the co-twin and can cause maternal morbidity as well.

Evidently, the incidence of such complications is higher in the case of a monochorionic pregnancy, due to the shared placental vasculature. Single foetal demise results in low pressure in that vascular tree, leading to a "back-bleed" from the surviving co-twin through placental anastomoses to the demised foetus. The resulting acute hypoperfusion, hypotension and anemia in the surviving co-twin can result in tissue hypoxia of critical organs including the foetal brain and may cause a second foetal demise.

A meta-analysis of 39 studies published in 2019[6] reveals that the surviving co-twin of a monochorionic pair is at an increased risk of developing complications like foetal demise (41%), preterm birth (58%), abnormal foetal neuroimaging on MRI (20%), abnormal neonatal neuroimaging on MRI (43%), neurodevelopmental comorbidity (28%) and neonatal demise (28%). The complication rate was even higher in pregnancies which involved a single foetal demise before 28 completed weeks of gestation.

The most important maternal complication following foetal demise is Disseminated Intravascular Coagulation (DIC). In rare cases, the release of fibrin and tissue thromboplastins from the dead foetus in the maternal circulation will activate the extrinsic coagulation pathway and subsequently induce DIC. Although potentially fatal for both mother and foetus, maternal coagulopathy appears to be uncommon.[7,8] Moreover, coagulopathy has been reported to occur in about 3–5 weeks following foetal demise. Therefore, when single foetal death occurs in twin pregnancy after the first trimester, an initial maternal coagulation profile with reassessment in 2–3 weeks is reassuring.[9]

CONCLUSION

There is no gold standard for the optimal management of a pregnancy complicated by single foetal demise. A more conservative approach is advocated, because the ischemic brain damage in the surviving co-twin likely occurs during or soon after the foetal demise. Thus, immediate delivery would not prevent this damage but would add to the complications of prematurity.[10] The surviving co-twin needs to be followed-up for signs of perfusion injuries to critical organs. Antenatal MRI imaging and neurosonogram are complementary modalities, and they can provide potentially crucial information regarding the neurological status of the surviving co-twin. This can be helpful for planning the obstetric management of the pregnancy.

Established guidelines recommend that uncomplicated monochorionic multiple pregnancies must be examined every 15 days.[1] Such close and frequent monitoring by an experienced team can help predict the evolving complications in monochorionic pregnancies so that appropriate therapy options like laser ablation of communicating vessels or selective feticide can be offered. This can help improve the prognosis and outcome for the surviving co-twin.

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Vani

A step towards happiness

Vani IVF Team Shares shoulders to Fulfill your Dream of Parenthood

Viren Patel

Vani Patel

Vishal Pandhade

Dr. Kamini Patel

OUR SERVICES

IVF Services

- TESA, PESA For Azoospermic Patients
- Special Team working for Reduced Ovarian Reserve
- Innovation for Implantation Failure
- IVF Specialist and well Trained Embryologist working with Aim of Using "Self Gametes"

Stem Cell Therapy

- Thin Endometrium
- Recurrent Implantation Failure
- Azoospermia

Surrogacy

Genetic Counselling by Geneticist

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