MICRO LABS LIMITED

Volume 5| Issue 34|2024

GYNAE SPECTRUM

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Gynae Spectrum
Volume 5|Issue 34|2024

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Evaluation of fetal growth after fresh and frozen embryo transfer and natural conception

The risk of small for gestational age was higher after fresh ET compared with FET, whereas the risk of large for gestational age and macrosomia was lower.

Introduction

Infertility is defined as inability to conceive after a year of unprotected sexual activity. Infertility can result from male and female causes both.[1] The rate of successful embryo implantation (fertility) with a fresh IVF embryo is steadily increasing globally. In fresh embryo transfer (ET) pregnancies, there is an increased risk of preterm delivery and small for gestational age (SGA), according to previous studies. Frozen embryo transfer (FET) has become more common as live birth rates have improved; in 2019, 48% of treatment cycles that resulted in ET were FET-related.[2] The current study aimed to compare fetal development between pregnancies after fresh ET, FET, and natural conception (NC).

Methods

This was a longitudinal population-based cohort study which included all singleton pregnancies leading to delivery from 22^{+0}gestational weeks. Three exposure groups—fresh ET, FET, and NC were taken into consideration. Foetal weight was the primary outcome. Variations in SGA, large for gestational age (LGA), and macrosomia risks were assessed as secondary outcomes. The impact of fresh ET and FET on fetal weight was investigated by longitudinal studies, with NC serving as the reference group. After adjusting for confounders, the impact of either fresh or frozen ET on fetal development was investigated using a general least squares model.

Results

A total of 10970 fresh ET, 6520 FET and 178518 NC were included for the final analysis. The study results showed that risk of SGA was higher after fresh ET compared with FET, whereas the risk of LGA and macrosomia was lower. Fetal weights in fresh ET were lower at 120 days than in NC. After that, there were no variations in the fetal weights of fresh ET and FET compared to NC until the second trimester. FET fetuses were heavier than fresh ET fetuses at 210 days, whereas fresh ET fetuses showed lower foetal weights than NC fetuses from 245 days. At 40 gestational weeks, the expected fetal weight for fresh ET was lower than for NC (−1.1%), while for FET it was higher compared with NC (2.1%) (Figure 1). SGA was more common following fresh ET, whereas LGA and macrosomia were less frequent, than after FET.

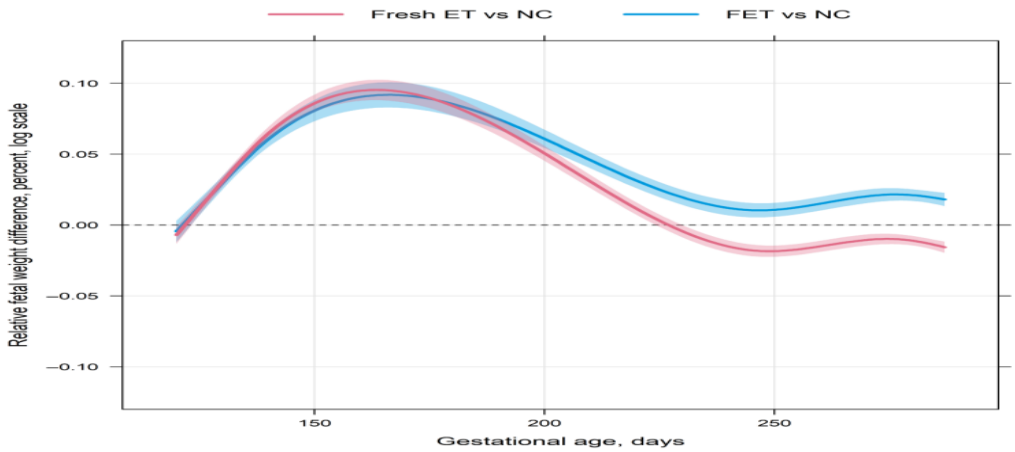

Figure 1. The predicted weight of fetus at 40 gestational weeks

Discussion

When compared to NC pregnancies, the estimated fetal weights in the second trimester of both fresh ET and FET pregnancies were higher. Fresh ET had a slower growth rate in comparison to FET and NC. While FET fetuses remained to be larger than NC fetuses with higher mean birthweight. The higher percentage of babies with SGA in fresh ET pregnancies and LGA and macrosomia in FET pregnancies, regardless of small variances, may have clinical implications.[2] Terho et al. found that there was increased LGA following FET and increased SGA in fresh ET pregnancies in the third trimester, as well as both preterm and term birthweights in a large number of IVF and spontaneous pregnancies.[3]

Conclusion

IVF pregnancies showed different fetal growth trajectories compared with naturally conceived pregnancies, probably due to fresh ET pregnancies' slower growth, which increased the risk of SGA. Meanwhile, FET pregnancies exhibited a greater incidence of LGA and macrosomia.

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Gynae Spectrum
Volume 5|Issue 34|2024

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Evaluation of different surgical approaches in overweight or obese cervical patients by comparing their surgical and oncological outcomes

Robot-assisted radical hysterectomy was the best treatment option when compared to other surgical approaches.

Introduction

Cervical cancer is the fourth most common cancer in women. It has been estimated in 604,000 women worldwide will be diagnosed with cervical cancer and approximately 342,000 women will die from the disease in 2020.[1] The widespread acceptance of laparoscopic method, also known as minimally invasive surgery (MIS, i.e., laparoscopy or robotic surgery), for radical hysterectomy to treat cervical cancer has been widely accepted as a standard treatment for early-stage cervical cancer. Remarkably, in comparison to open surgery, minimally invasive radical hysterectomy was linked to decreased rates of disease-free survival and overall survival in the Laparoscopic Approach of the Cervix (LACC) clinical trial outcomes in 2018.[2] Some studies have reported overweight and obese individuals during surgery are more likely to have comorbidities, difficulties in managing intraoperative anesthesia, difficulties in exposing the surgical field, high risk of postoperative complications and difficulties in recovery.[1] This study compares the oncological and surgical outcomes of the three surgical methods in order to provide obese or overweight patients with cervical cancer a rational basis for preoperative decision-making.

Methods

This was a retrospective study conducted on patients with overweight or obese patients with stage IB-IIA cervical cancer. Patients were divided into three group- open radical hysterectomy (ORH) group, laparoscopic radical hysterectomy (LRH) group, and robot-assisted radical hysterectomy (RRH) group according to the surgical approach. Statistical analyses were performed using SPSS 25.0 to analyse data.

Results

In this study, 382 patients with stage IB-IIA cervical cancer who were overweight or obese were included, of which, 51 (13.4%) were in the ORH group, 225 (58.9%) were in the LRH group, and 106 (27.7%) were in the RRH group. Operating time was significantly shorter in the RRH group in comparison to the ORH and LRH groups (182.0 min VS 230.0 min and 180.0 min VS 215.0 min). The RRH group had the lowest estimated blood loss (EBL)when compared to the ORH group and the LRH group (80.0 ml VS 400.0 ml and 80.0 ml VS 100.0 ml). The LRH group had a lower transfusion rate during hospitalization than the ORH group. The postoperative hospital days were shorter in the RRH group than in the ORH and LRH groups (8.0 days VS 11 days and 8.0 days VS 9 days). ORH group took longer time to return of bowel movement than the LRH and RRH groups (2.45 days VS 1.92 days and 2.45 days

VS 1.90 days). While comparing postoperative complications, ORH has the highest rate of postoperative infection and wound complication compared to LRH and RRH, and RRH has the highest proportion of urinary retention. A total of 23 patients (6.0%) were lost, 21 patients passed away, and 26 patients experienced recurrences over the follow-up period. The 5-year overall survival (OS) was 89.3% for ORH group, 94.7% for LRH group and 95.7% for RRH group, with no significant difference among three groups. The 5-year recurrence-free survival (RFS) was 89.3% for ORH group, 91.7% for LRH group and 95.1% for RRH group, with no significant difference among three groups.

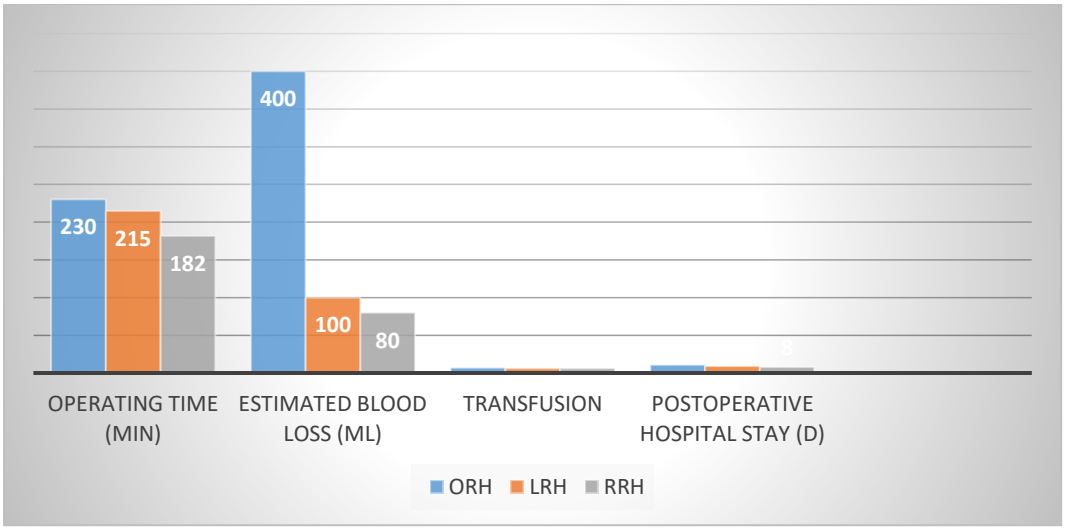

Figure 1. Surgical outcomes in the study cohort (N=382)

Discussion

In this study, it was found that EBL, bowel function recovery time, postoperative hospital days, wound complications, and infections in RRH were significantly lower than ORH. RRH group patients showed EBL, bowel function recovery time, postoperative hospital days significantly lower than LRH, RRH has significant benefits in patient perioperative outcomes. Operative time was significantly shorter for RRH than that of ORH and LRH.[1] Brunes M et al. showed that compared to open and conventional laparoscopic surgery, robotic assisted surgery was significantly better.[3] Previous study has shown that less bleeding and shorter operating had fewer postoperative complications.[4] So, in case of robot-assisted radical hysterectomy, patients had a lowest incidence of postoperative infections, faster recovery, fewer postoperative hospital days and reduced use of medical resources, such as blood transfusions and antibiotics.

Conclusion

For more challenging treatments like overweight or obese cervical cancer, robotic assisted surgery has the least EBL, the shortest operative time, the least rate of postoperative infection, and the shortest postoperative days.

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Evaluation of fetal autopsy and placental histopathology in missed abortion during the 11-21week period

Introduction

Cord complications were more common in missed abortion suggesting a probable etiopathogenetic connection to fetal death in this condition.

Missed abortion (MA) is a type of miscarriage occurs when an embryo or a fetus dies and the retained intrauterine products of conception do not discharge naturally from the body. The World Health Organization (WHO) defines a miscarriage as the early loss of a fetus that weighs less than 500 grams and occurs at a gestational age of less than 22+0 weeks.[1] In approximately 8–20% of clinically confirmed intrauterine pregnancies, missed abortion occurs and its confirmed using ultrasonography.[2] Hence, this present study aimed to explore the utility of post-mortem and placental examination in late first and second trimester MA and to increase knowledge in clinical practice.

Methods

This was a retrospective case series study that includes 794 cases of MA between week 11^{+0} –week 20^{+6}. The foetal factors that were examined were gestational week, sex of the fetus, degree of maceration, FGR (fetal growth restriction), brain/liver weight ratio (BLWR), malformation, chromosome analysis and signs of infection. Variables recorded were placental weight, vascular pathology, inflammation, umbilical cord pathology and other pathology of the placenta. Statistical analysis was carried out to compare the variables.

Results

This study results showed that 531 cases of MA were observed in late first and early second trimester (week 11+0 to 14+6) which was grouped as A and 263 of cases in the later weeks of the second trimester (week 15+0 to 20+6) grouped as B (Figure 1). Placental pathology and FGR were more common in the later gestational age group B (15+0 to 19+6), with the latter showing a rate as high as 41%. On the other hand, group A had a considerably larger number

of patients with abnormalities during early gestational weeks. In group B, there was a statistically significant increase in the incidence of vascular pathology in the placenta (8 % vs. 16 %, $p < 0.001$). Regarding placental inflammation, the same was true (11 % vs 17 %, $p = 0.04$). In early MAs, group A, the incidence of LGA placenta was significantly higher. During the fetus's autopsy, symptoms of inflammation or infection were found in 15 out of 794 cases. One patient was identified with CMV and three cases with parvovirus B19. 110 cases out of 794 were analysed for chromosome anomaly. Study found 5 cases with trisomy 21, six cases with trisomy 18 and two cases with trisomy 13. 17 cases were identified as another chromosome anomaly.

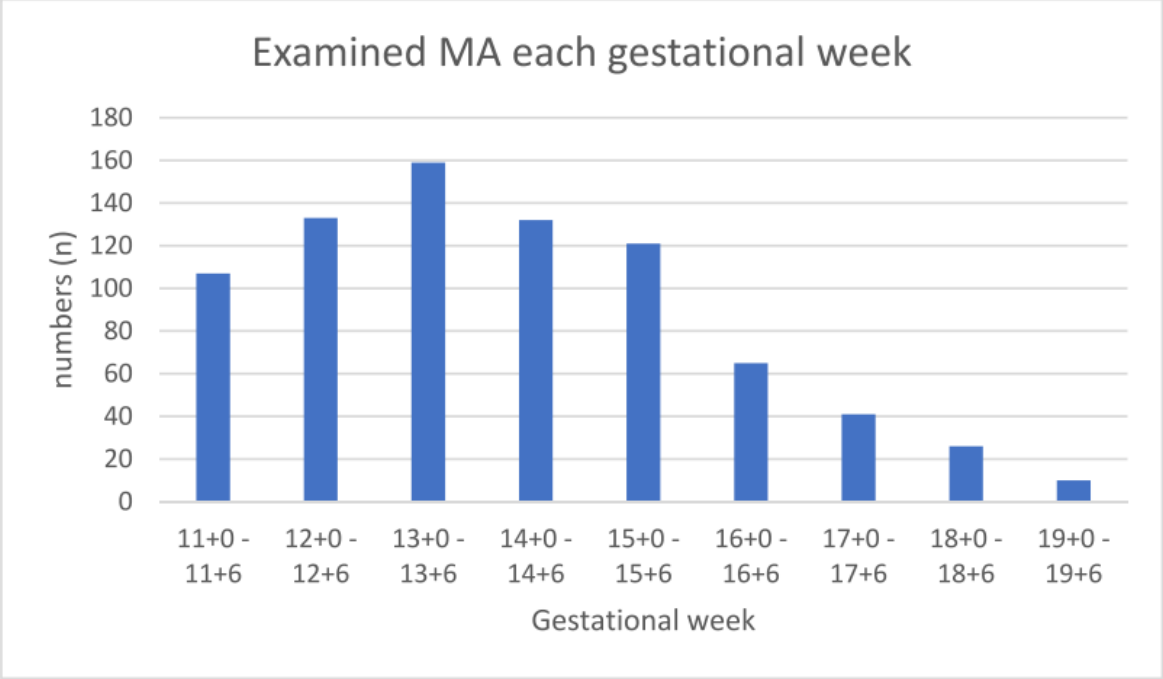

Figure 1. Number of missed abortion examined at each gestational week.

Discussion

This was the first retrospective series study to report the histological investigation of the fetus and matched placenta in late first and second trimester missed abortions. Placental pathology and fetal growth restriction were more prevalent in late MA, although instances of malformation were more common in early MA.[1] Fetal growth restriction during the first trimester has been linked to higher risks of preterm birth, low birth weight, and small size for gestational age at delivery.[3] Of the patients, cord pathology was observed in about 40%. In the late second trimester of MA, placental pathology was more prevalent. This was mainly due to the higher prevalence of vascular pathology in conjunction with the foetal finding of FGR. Study results showed equal frequency of cord abnormalities between early and late MA groups. This study found a very low incidence of foetal abnormalities, although the number was significantly higher in early MA. The lower number of fetal malformations detected in late MA may be due to the fact that most malformations were recognized by ultrasonography and result in termination.[1]

Conclusion

Histopathological analysis of fetus and placenta is a crucial diagnostic technique for determining the underlying pathogenetic process and providing an explanation for foetal mortality. Throughout the gestational period under investigation, cord pathology was quite common, while vascular pathology and abnormalities were more common in late gestation and early gestation, respectively.

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Case report on Idiopathic chylous ascites in pregnancy

Introduction

Chylous ascites results from the leakage of lymph rich in lipids into the peritoneal cavity

Chylous ascites (CA) is usually a rare form of ascites that results from the exudation of lipid-rich lymph into the peritoneal cavity. It may show signs of discomfort or distension in the abdomen, or it may be asymptomatic.[1] Pregnancy has rarely been linked to chylous ascites. Most instances were unintentionally discovered after caesarian sections or in the setting of pancreatitis.[2] This study aimed to describe a case on chylous ascites during pregnancy and to provide a clinical update.

Case presentation

A 35-year-old G2T1P0A0L1 woman at 35 + 4 weeks of gestation, without comorbidities presented with the complaints of sudden epigastric abdominal pain. Pain was consistent with episodes of exacerbation despite treatment with oral analgesics. Patient had a history of epigastralgia. Patient was hemodynamically stable. Blood tests were performed, including liver and renal profiles were normal. Urinalysis showed normal. Large amount of IV analgesics for pain management (1 vial of dipyrone 2 g IV, 1 vial of acetaminophen 1 g IV, 1 vial of omeprazole 40 mg IV, 1 vial of scopolamine butyl bromide 20 mg IV, and 6 cc IV of morphine chloride) was required by patient. An abdominal ultrasound showed distended gallbladder without clear ultrasound signs of acute cholecystitis and a minimal perihepatic fluid pocket. Due to poor pain control, an urgent cesarean section was performed which upon entering the peritoneal cavity, approximately 500 cc of milky fluid was evacuated from the upper abdomen. A live newborn baby was born weighing 3140g. It was estimated that 500 cc of blood was lost during the procedure, and only 10 units of IV oxytocin bolus were required to aid in placental delivery and uterine involution. Samples were sent for microbiological and cytochemical investigation following the routine, and the results were negative. Antibiotics were not given after surgery since there was a high suspicion of chylous ascites due to the

peritoneal fluid's milky appearance rather than its purulent character. About 1580.20 mg/dL of triglycerides was found, which was consistent with chylous ascites. Analytical monitoring following the caesarean section revealed no hepatic or renal abnormalities. On the fourth postoperative day, the patient was discharged from the hospital following an ultrasound check that revealed no signs of free fluid within the peritoneal cavity. It was believed to be an instance of spontaneous idiopathic chylous ascites due to the positive development.

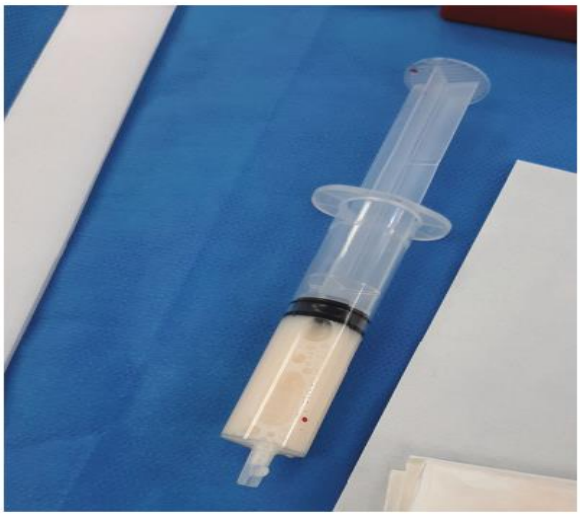

Figure 1. Ultrasound showing distended gall bladder and a minimal perihepatic fluid pocket	**Figure 2. Milky fluid discharge from the upper abdomen**

Discussion

Chylous ascites is an uncommon form of ascites that results from the peritoneal cavity leaking lipid-rich lymph. From a cellular perspective, lymphocytes represent 95% of chyle's cellular composition, which might result in lymphopenia and a higher risk of infection. Abdominal distention accounted for 81% of symptoms, with pain or peritonitis following in 11% of instances.[1] Yang et al. described a case of pregnant lady with fever and epigastric abdominal pain was found to have chylous ascites after a caesarean section.[3]

Conclusion

Chylous ascites was a very rare disorder during pregnancy. It was a benign condition that resolved spontaneously in the postpartum period, it often required the termination of the pregnancy.

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