Volume 3| Issue 26|2022

GYNAE SPECTRUM

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A Retrospective Study On Analysis Of Risk Factors Related To Extremely And Very Preterm Birth

Introduction: A major challenge for newborns and their families as well as for perinatologists and neonatologists Preterm birth (PTB), especially extremely preterm (EP) birth and very preterm (VP) birth[1]. Worldwide nearly 9.6% of all births are preterm, but incidences vary by time and region and the highest rates of preterm births have been noted in developing countries. There are no effective diagnostic measures for preterm birth but several reproductive risk factors have been associated with it, that includes prior spontaneous preterm birth, multiple pregnancies, advanced maternal age, smoking, obesity, preeclampsia, genital infections, congenital anomalies and assisted reproductive technology (ART)[2]. Nearly 25–30% are due to preterm rupture of membranes (PPROM), 30–35% of PTB are induced or iatrogenic because of medical or obstetric complications and 40–45% are spontaneous. Inspite of various advances, problem of preterm labor continues to frustrate satisfactory reproductive outcome and its prevention still awaits needed improvements[3].

Method: A retrospective cohort study and collected data from 1598 pregnant women and 1660 premature newborns. A total of 1889 babies were born at less than 32 weeks of gestation, excluding 229 premature babies who died due to severe illness and abandonment. women's and newborns' characteristics comparison was made by t-tests and Chi-square tests for continuous and categorical variables.

Results: The study result reveals Demographic and clinical characteristics for EP (n=287) and VP (n=1311) births. The probability of EP and VP births differed in pregnant women with the following risk factor that include scarred uterus, PPROM, GDM, multiple pregnancy, abnormal fetal position, cervical insufficiency, fetal intrauterine distress, hypertensive disease during pregnancy, abnormal amniotic fluid, abnormal umbilical cord blood flow, and chorioamnionitis. Complications associated with premature birth is related to gestational age and decreases with gestational age.

As shown in the figure 1, Compared with the 28–28+6 weeks of gestation group, neonatal complications were more common among the <26 weeks of gestation group. The incidence rates of NICH, PDA, PFO, pneumonia, BPD and sepsis were significantly higher among newborns born at 26–26+6 and 27–27+6 weeks of gestation than among those born at 28–28+6 gestational weeks.

Compared with newborns at 28–28+6 gestation weeks, the rate of neonatal complications significantly decreased at 31–31+6 weeks of gestation ($P<0.05$). The incidence of NHB, PDA, pneumonia, BPD and septicemia were significantly lower among neonates born at 30–30+6 gestation weeks than among those born at 28–28+6 gestational weeks ($P<0.05$)

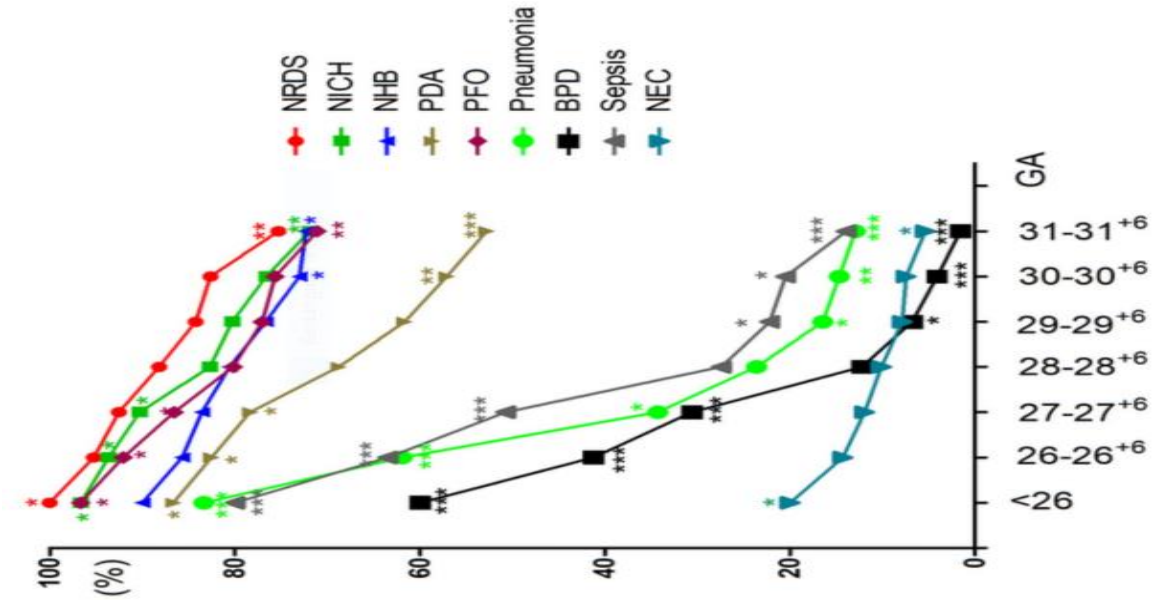

Figure 1 Comparison of complications of premature infants at different gestational ages

In this study there were significant differences in the incidence rates of neonatal pneumonia, BPD and I sepsis between the 28–28+6 weeks of gestation and the 29–29+6 weeks of gestation groups, while other complications, including NRDS, NICH, NHB, PDA, PFO, sepsis, and neonatal NEC, did not differ significantly between these groups. This may provide a basis for extending the gestational period beyond 28 weeks when EP birth is unavoidable while ensuring the safety of the mother and child.

Conclusion: The study concludes that PPROM, is the most common risk factor for EP and VP birth, and cervical insufficiency, multiple pregnancy, and primipara are independent risk factors for EP birth so during pregnancy, attention should be given to the risk factors for PPROM, and reproductive tract infection should be actively prevented to reduce the occurrence of PPROM

References:

1. Ji X, Wu C, Chen M, Wu L, Li T, Miao Z, Lv Y, Ding H. Analysis of risk factors related to extremely and very preterm birth: a retrospective study. BMC Pregnancy Childbirth. 2022 Nov 5;22(1):818.
2. Raisanen S, Gissler M, Saari J, Kramer M, Heinonen S. Contribution of risk factors to extremely, very and moderately preterm births - register-based analysis of 1,390,742 singleton births. PLoS One. 2013;8(4):e60660.
3. El Beltagy NS, Rocca MM, TahaEL-Weshahi HM, Ali MS. Risk Factors for Preterm Labor among Women Attending El Shatby Maternity University Hospital, Alexandria, Egypt. Archives of Nursing Practice and Care. 2016 Oct 5;2(1):045-9.

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Management Of Pain with Epidural Analgesia in Acute Pancreatitis during Pregnancy and Its Effect on Maternal and Fetal Outcome

Introduction: Acute pancreatitis (AP) during pregnancy is a rare presentation and the most common risk factors are gallstone disease and hypertriglyceridemia[1]. Incidence of Acute pancreatitis was approximately 1 in 1000 to 5000 pregnancies, and is most often seen in the third trimester or the postpartum period and the common cause of pregnancy-related acute pancreatitis is cholelithiasis, which accounts for more than 65% of cases[2]. High morbidity and mortality was noted in patients with severe acute pancreatitis. Recent evidence supports the beneficial effects of epidural analgesia (EA) in AP, such as increased gut barrier function and splanchnic, pancreatic and renal perfusion, decreased liver damage and inflammatory response, and reduced mortality and they also suggest EA might be a safe procedure in the critically ill[3]. Epidural analgesia is a better modality for AP pain management is that it causes improvement in pancreatic microcirculation due to sympathetic blockage and resulting vasodilatation, therefore preventing pancreatic necrosis. Epidural analgesia prevents pancreatic necrosis, it also prevents other adverse outcomes associated with it and ultimately decreases the morbidity associated with AP[1]. The aim of current study was to investigate the different pain relief modalities used in AP in pregnancy and the efficacy in terms of better pain relief and maternal-fetal outcomes.

Method: A retrospective observational study conducted over a period of 6 years on Pregnant women with clinical signs and symptoms suggestive of acute pancreatitis were included in the study. Patient consent was obtained to use the patient data for research purposes. The diagnosis was confirmed using the revised Atlanta classification. Women were followed up until discharge. The APGAR scores and birth weight of neonates were noted at the time of delivery and maternal and fetal conditions at discharge were noted.

Results: The study result reveals that twelve patients with clinical and biochemical diagnoses of acute pancreatitis were included in the study**.** Five patients (41.7%) had gall stones associated with AP, 2 had hypertriglyceridemia, and 1 each was associated with preeclampsia and eclampsia, respectively. As shown in table 1 two patients were given an I/V infusion of fentanyl at a rate of 1 mcg/kg/hr. VAS scores in these two patients decreased to 3. Five patients (47%) were given 100 mg I/V boluses at 6 hourly intervals. In 5 patients, high lumbar analgesia was provided after inserting the epidural catheter in lumbar interspace L1-L2. These patients experienced a reduction of VAS scores from 8 or 9 to 1 or 2, indicating excellent pain relief after boluses of 10–15 ml of 0.1% ropivacaine at 2- hour intervals All the patients delivered within 48–72 hours of hospital admission and therefore required epidural analgesia for a maximum of 72 hours.

Table:1 VAS scores of patients with respect to mode of Analgesia

I.V. fentanyl infusion	I.V. tramadol boluses	Epidural analgesia
P1: 8⟶3	P1: 9⟶4	P1: 9⟶1
P2: 9⟶3	P2: 8⟶5	P2: 8⟶2
	P3: 8⟶5	P3: 9⟶2
	P4: 8⟶4	P4: 8⟶2
	P5: 7⟶3	

As compared to the second and third trimesters because the signs and symptoms mimic hyperemesis gravidarum Acute pancreatitis in pregnancy is more difficult to diagnose in the first trimester. In this study majority of patients presented with epigastric pain, anorexia, nausea, and vomiting. Therefore, in pregnant women presenting with severe nausea and vomiting, always evaluate the serum amylase and lipase levels. In this study the patients who underwent emergency caesarean section in the epidural analgesia group received anesthesia through the same epidural catheter with a dose of 10–12 ml of 0.2% ropivacaine with good surgical conditions

Conclusion: The study concludes that Epidural analgesia is better than conventional intravenous analgesia in pregnant women with acute pancreatitis, as it also aids in improving disease prognosis

References:

1. Ji X, Wu C, Chen M, Wu L, Li T, Miao Z, Lv Y, Ding H. Analysis of risk factors related to extremely and very preterm birth: a retrospective study. BMC Pregnancy Childbirth. 2022 Nov 5;22(1):818.
2. Hot S, Egin S, Gokçek B, Yeşiltaş M, Karakaş DO. Acute biliary pancreatitis during pregnancy and in the post-delivery period. Ulus Travma Acil Cerrahi Derg. 2019 May;25(3):253-258.
3. Bulyez S, Pereira B, Caumon E, Imhoff E, Roszyk L, Bernard L, Bühler L, Heidegger C, Jaber S, Lefrant JY, Chabanne R, Bertrand PM, Laterre PF, Guerci P, Danin PE, Escudier E, Sossou A, Morand D, Sapin V, Constantin JM, Jabaudon M; EPIPAN Study Group; AzuRea network. Epidural analgesia in critically ill patients with acute pancreatitis: the multicentre randomised controlled EPIPAN study protocol. BMJ Open. 2017 May 29;7(5):e015280.

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Assessment of Relationship between maternal pre-pregnancy weight and fetomaternal outcomes in twin pregnancies

Introduction: Body mass index (BMI) is associated with a higher risk for twin pregnancies. With the prevalence of obese people worldwide almost tripling in the last three decades, it is no surprise that twinning rates rise in the context with increasing overweight and obesity incidences[1]. Obesity is a significant public health concern and is likely to remain so Impact the foreseeable future. Maternal obesity increases the risk of a number of pregnancy complications, including preeclampsia, gestational diabetes mellitus (GDM), and cesarean delivery[2]. Even though relationship between maternal weight and the likelihood for twins has been evaluated, only few studies related to the risks of overweight and obesity on fetomaternal outcomes. overweight and obesity lead to a 18 – 47% higher risk for obstetric complications in singleton pregnancies and incidence of overweight and obese women of child-bearing age in Germany is at a distressing level[1]. The aim of the current study is to assess the impact of maternal weight and especially obesity on fetomaternal complications and outcomes in twin pregnancies, hypothesizing that an increasing BMI and an increasing obesity class lead to a higher likelihood for adverse fetomaternal outcomes

Method: A retrospective study included 2,586 pregnant women delivering twins, 2,449 women fulfilled the two primary inclusion criteria, diamnionicity and an available pre-pregnancy BMI and were analyzed for maternal outcomes. The mothers were subdivided according to their pre-pregnancy BMI based on WHO standards. The obese group consisted of 265 women, whereof 171 were in obesity class I, 58 in obesity class II and 36 in obesity class III. GDM was diagnosed according to the guidelines of the American Diabetes Association. Every gravida underwent a 75 g oral glucose tolerance test between 24 and 28 weeks of gestation Neonatal outcomes analyzed were birth weight discordance between twins, admission to the neonatal intensive care unit (NICU), pH of the umbilical artery and an APGAR score value below seven after five minutes.

Results: The study result reveals that Pregnancies resulting from Assisted reproductive technology were most common in the underweight group and lowest in the obese group. rates of primiparas were similar in underweight and normal weight mothers, they decreased in overweight and obese mothers. Rates of underlying hypertension and diabetes mellitus were the highest among obesity class II mothers Rates of history of cesarean sections increased parallel to weight classes. Table 2 depicts that Gestational diabetes mellitus (GDM) was significantly associated with maternal weight in the comparison of all four weight groups. Obese mothers had a significantly higher risk for GDM when compared to underweight, normal weight. Obese women had a significantly increased risk for wound healing disorders compared

to women of normal weight.

Preterm delivery was not associated with maternal weight or obesity. Nonetheless, mothers with obesity class III had the highest rate of delivery between 32 and 36+6 weeks of gestation in the obesity comparison. Interestingly, in the overall analysis, underweight mothers had the highest rate of delivery between 32 and 36+6 weeks of gestation.

Table:2 Obstetric and neonatal outcomes in underweight, normal weight, overweight and obese mothers

Outcome	Underweight	Normal weight	Overweight	Obese
GDM	11 (11%)	152 (10%)	70 (14%)	67 (25%)
Wound healing disorders	2 (2%)	13 (1%)	10 (2%)	11 (4%)
Delivery 32 and 36+6 weeks	49 (49%)	721 (46%)	228 (45%)	112 (42%)

Conclusion: The study concludes that Obesity or increasing BMI were shown to be associated with higher rates of fetomaternal complications as well as admission to NICU in singleton pregnancies. Confirming these findings, a significantly higher risk for admission to NICU in neonates of obesity class III mothers and especially for their firstborn was observed. Obesity, and overweight represent risk factors for adverse fetomaternal outcomes in twin pregnancies.

References:

1. Nagler L, Eissmann C, Naimi AA, Wasenitz M, Bahlmann F. Relationship between maternal pre-pregnancy weight and fetomaternal outcomes in twin pregnancies: an original research.
2. Leddy MA, Power ML, Schulkin J. The impact of maternal obesity on maternal and fetal health. Rev Obstet Gynecol. 2008 Fall;1(4):170-8.

The study concludes that Obesity, and overweight represent risk factors for adverse fetomaternal outcomes in twin pregnancies.

A Rare Case on Retzius space hematoma following spontaneous vaginal delivery in a woman with an unscarred uterus and its management

Introduction: Retroperitoneal hematoma in obstetrics is a rare cause of concealed postpartum hemorrhage and most common cause include surgical management of urinary incontinence, caesarean section and anticoagulant therapy[1]. Concealed postpartum hemorrhage may locate at intrauterine, intra-abdominal or within a hematoma, Puerperal hematomas are mainly located in the vulva, vagina, broad ligament and rarely may be retroperitoneal. To reduce morbidity and mortality a high index of suspicion and urgent management needed in case of Concealed postpartum hemorrhage[2]. There has been too little evidence related to factors of retroperitoneal hematomas as evident by the fact that the RCOG guideline, only mention two causes of retroperitoneal hematoma, namely the splenic artery rupture and hepatic rupture[3]. The aim of this study is to present a rare case of Retzius space hematoma after spontaneous vaginal delivery in an unscarred uterus and its management.

Case: A 39-year-old woman, after an uncomplicated spontaneous vaginal delivery of a 2510 g infant complained of sudden abdominal pain associated with urinary retention after two hours of delivery. Delivery of child progressed well spontaneously within 2 h, and the second stage lasted only 10 min. The placenta was delivered intact five minutes after fetal expulsion, and a first-degree laceration tear was repaired after childbirth. On vital examination reveals that she was hemodynamically stable with a blood pressure of 120/70 mmHg and a pulse rate of 90 bpm. mild tenderness on palpation at the suprapubic region with an absence of peritonism revealed in abdominal examination and near the fornices pelvic examination demonstrated a palpable mass at the anterior upper part of vaginal wall.

mixed-echogenicity mass between the bladder and lower part of the uterus, suspected to a Retzius space hematoma, measuring 110 × 90 × 60 mm, with no peripheral vascularization and well confined was observed through a transabdominal and transvaginal ultrasonography as shown in figure 2 and 3. Patient was clinically stable and conservative management was provided that includes Broad-spectrum antibiotics (intravenous cefuroxime and metronidazole) and regular analgesia were given.

Laboratory Investigations repeated after 24 h showed the patient's hemoglobin level had dropped from 12 g/dl to 10 g/dl, and she was treated with one unit of packed red blood cell transfused. Patient condition was stable and was discharged home on day 5 postpartum. The total duration of antibiotic administration was two weeks and follow up was made at 2, 4 and 6 weeks postpartum. She was clinically well, and transabdominal ultrasound follow-up examination showed a complete resolution of the hematoma.

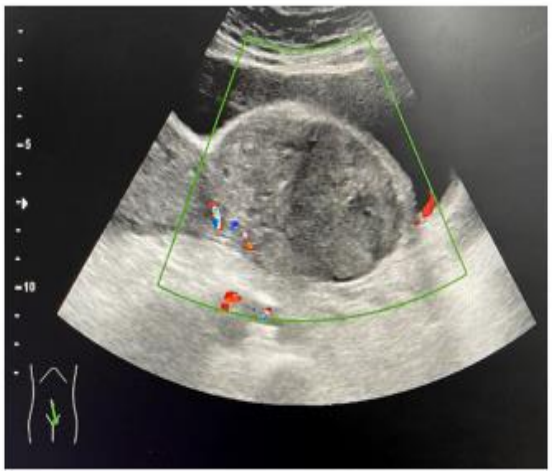

Figure 2 Ultrasonography showing no peripheral doppler uptake around the hematoma.

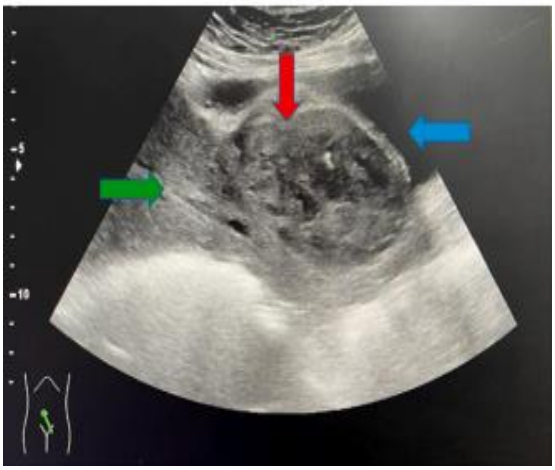

Figure 3 Ultrasonography Retzius space hematoma

Discussion

No evidence of active bleeding or external trauma was seen in this case, the labour had progressed spontaneously and the baby was delivered vaginally without instrumentation, which posed an initial diagnostic dilemma and the overall outcome is good with early diagnosis and prompt treatment. Use of a conservative approach in patients who are hemodynamically stable and can be supported with blood products in this case proved effective, even for a large Retzius space hematoma. Reabsorption of the hematoma depends on its size and may take several weeks. These hematomas are likely to respond with conservative management and supportive management with fluid resuscitation and packed cell transfusion. Broad-spectrum antibiotics and analgesia are the key focus of management to prevent infection and provide supportive care

Conclusion: The study concludes that Broad-spectrum antibiotics and analgesia are the key focus of management to prevent infection and provide supportive care

References:

1. Zon EM, Afendi NR, Ismail MP, Ibrahim A, Hashim NA. Conservative management of Retzius space hematoma following spontaneous vaginal delivery in a woman with an unscarred uterus: A case report. Case Reports in Women's Health. 2022 Nov 5:e00463.
2. Acreman ML, Sainani M. Retzius space haematoma as a rare cause of concealed retroperitoneal postpartum haemorrhage following spontaneous vaginal delivery. BMJ Case Rep. 2018 Aug 29;2018:bcr2018225980.
3. Rafi J, Khalil H. Maternal morbidity and mortality associated with retroperitoneal haematomas in pregnancy. JRSM Open. 2018 Jan 8;9(1):2054270417746059.

The study concludes that Broad-spectrum antibiotics and analgesia are the key focus of management to prevent infection and provide supportive care