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Multigravida at 31 Weeks with Imminent Preterm Labor, Type 2 Diabetes Mellitus, Maxillary Abscess, and Bad Obstetric History : A Case Report

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Abstract

Imminent preterm labor (IPL) is defined by irregular uterine contractions, back pain, and vaginal discharge, with approximately 25-30% of cases progressing to preterm delivery. Preterm birth remains a major global issue, contributing to 35% of neonatal deaths, and often results in long-term health complications for the infant. This case report discusses a 35-year-old woman (G4P2A1) at 30 weeks of gestation, with a history of type 2 diabetes mellitus (T2DM), bad obstetric history (BOH), and a right maxillary abscess. She presented with swelling and pus discharge from the maxillary region, along with abdominal cramps, but no signs of imminent labor. The patient's diabetes was managed with insulin, and her clinical condition was complicated by high blood glucose and an ongoing infection. The cervical length was measured via ultrasound, which indicated a risk for preterm delivery, and the patient was diagnosed with IPL. Initial management included fluid resuscitation, tocolytics to prevent labor, and antibiotics for the maxillary abscess. The patient was closely monitored, and insulin therapy was adjusted to stabilize glucose levels. Despite the complexity of managing IPL in diabetic patients, the patient's condition improved after debridement of the abscess and management of blood glucose levels. This case emphasizes the importance of multidisciplinary care in managing complicated pregnancies with comorbidities like T2DM.

Keywords: Imminent Preterm Labor, Type 2 Diabetes Mellitus, Bad Obstetric History, Maxillary Abscess, Preterm Birth

1. Introduction

Imminent preterm labor (IPL) is characterized by irregular contractions, lower back pain, vaginal discharge, or bleeding, which may or may not lead to preterm birth. Approximately 25–30% of threatened preterm labor cases progress to actual preterm delivery. A study conducted in a university hospital in northeastern Thailand in 2018 reported that 431 pregnant women experienced labor pain at gestational ages below 37 weeks. Of these, 286 (66.36%) were classified as IPL, and 52 of those 286 (18.18%) resulted in preterm birth. IPL can present with or without cervical changes, and sonographic cervical shortening is considered the most significant predictor of preterm delivery.[1,2]

Diabetes Mellitus in Pregnancy (DIP) encompasses preexisting diabetes (type 1 or type 2 diagnosed before pregnancy) and diabetes first diagnosed during pregnancy. When hyperglycemia occurs during conception and embryogenesis, it significantly increases both maternal and fetal risks for early complications. The presence of hyperglycemia during the critical period of organogenesis may lead to spontaneous abortion and congenital anomalies. Moreover, it can also trigger or exacerbate diabetes-related complications such as retinopathy and nephropathy. The World Health Organization (WHO) defines diabetes mellitus as a metabolic disorder with multiple etiologies, characterized by chronic hyperglycemia and disturbances in carbohydrate, fat, and protein

metabolism, due to defects in insulin secretion, insulin action, or both. Between 30% and 70% of individuals with diabetes (either type 1 or type 2) will experience cutaneous complications at some point, ranging from mild cosmetic changes to life-threatening conditions.[3,4]

Miscarriage presents a significant challenge for both couples and obstetricians, especially when recurrent. In women with a bad obstetric history (BOH), an underlying cause can only be identified in about 40–50% of cases; the remainder fall into the category of "unexplained," even after comprehensive evaluation. BOH is defined as having more than two consecutive spontaneous abortions, intrauterine fetal death (IUFD), stillbirths, fetal growth restriction, or congenital fetal anomalies, and requires careful monitoring. The global incidence of miscarriage is estimated at around 1–2%, with wide geographical variation.[5]

This report highlights the complexity of managing pregnancy complicated by imminent preterm labor, type 2 diabetes mellitus, and maxillary abscess, emphasizing the need for a multidisciplinary approach. A critical gap in the literature exists regarding the association between maxillofacial infections in pregnant women with T2DM and their potential to trigger imminent preterm labor. This includes challenges in determining the optimal choice of antibiotics, the timing of surgical debridement, and balancing maternal-fetal risks. We aim to describe the integrated obstetric–endocrine–surgical management and maternal–fetal course of IPL in a T2DM pregnancy complicated by a right maxillary abscess. It is expected that this session will contribute valuable insights for healthcare professionals in managing similar cases.

2. Case Report

On July 16, 2024, a 35-year-old woman, gravida 4 para 2 abortus 1 (G4P2A1), was admitted to a hospital in Palembang with complaints of swelling in the right cheek and pregnancy at 30 weeks' gestation. The patient was referred by the surgical oncology team due to a growing mass in the right maxillary region. She had a known history of type 2 diabetes mellitus since 2020, for which she had been receiving regular treatment using Novorapid three times daily at a dose of 8 IU subcutaneously and Lantus once daily at 12 IU. She reported routine check-ups with an internal medicine specialist for diabetes management.

Two weeks prior to admission, the patient developed a small pimple on her right cheekbone that ruptured while she was wearing a helmet. Over time, additional pustules appeared and progressively enlarged into a mass the size of a tennis ball. The lesion progressed to purulent and bloody discharge, accompanied by increasing pain during the last three days prior to admission. The patient also reported mild lower abdominal cramps radiating to the flanks but denied vaginal discharge, watery leakage, or bloody mucus. She still felt fetal movements and had no urinary or bowel complaints. There was no history of trauma, traditional medicine intake, or recent sexual activity. She did report mild fever prior to admission but denied symptoms of toothache.

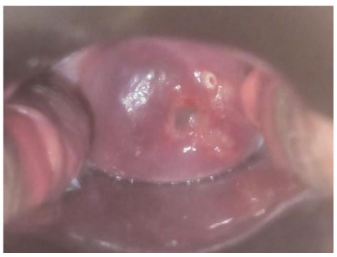
Her obstetric history revealed three previous pregnancies with poor outcomes. In 2019, she delivered a stillborn daughter at 32 weeks of gestation via cesarean section due to anhydramnios. In 2020, she experienced a miscarriage requiring curettage. In 2022, she again delivered a stillborn at 30 weeks, also via cesarean section at a referral hospital. The current pregnancy was her fourth, and she had

been receiving routine antenatal care from an obstetric and gynecology specialist.

On admission, the patient was alert and fully conscious. Her vital signs were stable with a blood pressure of 120 over 60 mmHg, pulse rate of 110 beats per minute, respiratory rate of 18 breaths per minute, and body temperature of 36.7 degrees Celsius. Her weight was recorded at 73 kilograms and her height was 155 centimeters. On physical examination, her palpebral conjunctiva appeared anemic, and there was no icterus. A 5 by 7 centimeter mass with ulceration, pus discharge, and tenderness was noted in the right maxillary region, with indistinct margins. There was no enlargement of lymph nodes or thyroid gland. Cardiopulmonary examination revealed normal vesicular breath sounds without wheezing or rhonchi, and regular heart sounds without murmurs or gallops. No pretibial edema was observed.

On abdominal examination, fundal height was measured at 29 centimeters between the xiphoid process and the umbilicus. The fetus was in longitudinal lie with the back on the left side and head presentation. Uterine contractions were absent. Fetal heart rate was 145 beats per minute, and the estimated fetal weight was approximately 2480 grams. Per speculum examination showed a livid cervix with a closed external os and no signs of discharge, erosion, or lesions (Figure 2). Vaginal examination was not performed.

Figures 1. Clinical presentation of the right maxillary abscess (July 11, 2024)



Figures 2. Speculum Examination

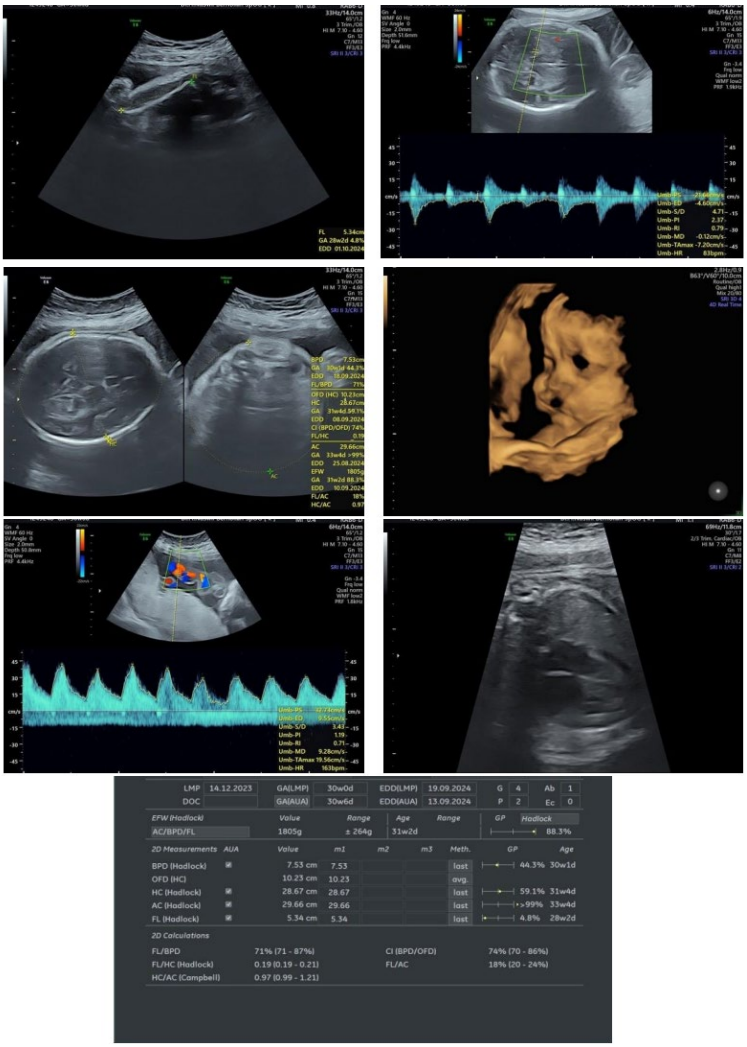
An ultrasound examination conducted on July 11, 2024 showed a single live fetus in cephalic presentation. Biometric measurements indicated a biparietal diameter of 7.53 centimeters, abdominal circumference of 29.66 centimeters, femur length of 5.34 centimeters, and head circumference of 28.67 centimeters, with an estimated fetal weight of 1805 grams. The amniotic fluid volume was adequate, and the placenta was located on the posterior uterine wall.

The laboratory results from July 16, 2024, indicate normocytic normochromic anemia likely associated with inflammation, accompanied by marked neutrophilic leukocytosis suggestive of an active bacterial infection. Mild thrombocytosis may represent a reactive process. Elevated random blood glucose and HbA1c levels point to poorly controlled diabetes mellitus. Renal function remains within acceptable limits despite a slight increase in creatinine, while electrolyte levels and coagulation parameters are within normal ranges. Serological tests for hepatitis B, syphilis, and VDRL were non-reactive, ruling out these infections.

The working diagnosis for this patient was 30 weeks' pregnancy not in labor with type 2 diabetes mellitus on insulin therapy, right maxillary abscess with possible underlying tumor and secondary bacterial infection, bad obstetric history, and history of two cesarean deliveries. The fetus was a single live baby in cephalic presentation.

Table 1. Laboratory Examination

Test	Result	Normal Range
Hemoglobin (g/dL)	9.0	11.40 – 15.00
Erythrocytes ($10^3/mm^3$)	3.03	4.00 – 5.70
Leukocytes ($10^3/mm^3$)	24.92	4.73 – 10.89
Platelets ($10^3/\mu L$)	475	189 – 436
MCV (fL)	81.8	85 – 95
MCH (pg)	30	28 – 32
MCHC (g/dL)	36	33 – 35
RDW-CV (%)	15.6	11 – 15
Differential Count (%)		
Basophils	0	0 – 1
Eosinophils	0	1 – 6
Neutrophils	88	50 – 70
Lymphocytes	10	20 – 40
Monocytes	12	2 – 8
Hemostasis Function (seconds)		
PT + INR	14.4	12 – 18
Patient	14.4	12 – 18
INR	1.04	0.9 – 1.2
APTT	27.6	27 – 42
Control	30.4	27 – 42
Patient	30.2	27 – 42
GDS (mg/dL)	266	70 – 100
Hb-A1C (%)	7.7	4.0 – 6.0
Urea (mg/dL)	23	15 – 40
Creatinine (mg/dL)	1.36	0.5 – 1.2
Potassium (mmol/L)	3.5	3.5 – 5.0
Chloride (mmol/L)	111	98 – 107
Immunoserology		
Hepatitis (HBsAg)	Non-reactive	Non-reactive
Syphilis TPHA	Non-reactive	Non-reactive
VDRL	Non-reactive	Non-reactive



Figures 3. Ultrasound Examination

Figures 4. Clinical presentation of the right maxillary abscess (July 16, 2024)

The prognosis was considered guarded for the mother and poor for the fetus. The initial management plan included continuous monitoring of vital signs, uterine contractions, and fetal heart rate. Intravenous fluids were administered, and oral supplementation with folic acid, calcium carbonate, and iron was initiated. Tocolytics were planned before any further surgical intervention. Consultation with surgical, endocrinology,

and obstetrics departments was arranged for coordinated care.

The surgical assessment included intravenous antibiotics with Ceftriaxone 1 gram every 12 hours, paracetamol for pain management, and a recommendation for elective debridement with biopsy. The internal medicine team evaluated glycemic control, conducted HbA1c and lipid profiling, and planned further tests for C-peptide and B2-glycoprotein if approved. Additional measures included a 6-hour blood sugar curve, urinalysis, and adjustment of insulin regimen with Novorapid 3 times daily at 10 IU and Apidra once daily at 14 IU.

On Day 1 of follow-up, the 30-week pregnant patient (G4P2A1) with a history of PPI, type II DM, and other complications presented with abdominal discomfort. Her vital signs were stable: blood pressure 130/73 mmHg, heart rate 90 bpm, and temperature 36.4°C. CTG showed category 1 with baseline 140 bpm and variability 5-10, with no accelerations or decelerations. A genital examination revealed a soft cervix, 2 cm dilation. The treatment plan included fluid infusion, nifedipine, dexamethasone, and supplements (sulfas ferrosus, folic acid, and CaCO3), with further evaluation planned.

By Day 2 of follow-up, the patient reported pain from a maxillary abscess. Blood glucose was elevated at 237 mg/dl. An ultrasound confirmed a viable single fetus in breech presentation. CTG initially showed category 2, improving to category 1 after resuscitation. The initial CTG tracing was classified as Category 2, indicating an indeterminate fetal heart rate pattern that may be associated with fetal acid-base abnormalities and thus requires close monitoring and possible intrauterine resuscitation. After appropriate resuscitative measures, the tracing improved to Category 1, which reflects a normal fetal heart rate pattern, reassuring for adequate fetal oxygenation and normal acid-base status. This classification is based on the three-tier system established by the National Institute of Child Health and Human Development (NICHD).[6]

Treatment continued with strict glucose monitoring, and medication adjustments were made. On Day 3, the patient was prepared for surgery, with blood glucose fluctuating. Intraoperative CTG showed a baseline of 120 bpm with low variability, which improved after resuscitation. A debridement and biopsy were performed, with ongoing glucose monitoring. By Day 4, pain from the surgery decreased, but electrolyte imbalances (hyponatremia and hypokalemia) were noted and treated. CTG remained stable.

On Day 6 of follow-up, the patient's condition improved with stable vital signs. CTG showed category 1 with baseline 135 bpm, and glucose levels were controlled at 127 mg/dl. Sulfas ferrosus and CaCO3 therapy continued. On Day 7, pain decreased (POD+4) with glucose levels of 146 mg/dl. Transfusion of 2 units of PRC was completed, and further evaluation was performed. On Day 8, the patient remained stable with continued therapy. By Day 9, the patient's Hb levels were 10.3 g/dl, and glucose control remained stable. Outpatient management was considered. By Day 10, the patient had no complaints and her vital signs remained stable. CTG showed category 1 with baseline 135 bpm. Glucose was well controlled at 103 mg/dl, and supplements continued. The medical team planned the patient's discharge for follow-up care on Day 13.

Figures 5. Clinical presentation of the right maxillary abscess (July 25, 2024)

3. Discussion

Risk of Preterm Birth and Diagnosis of Partus Prematurus Imminens (PPI)

Preterm birth, defined as delivery before 37 completed weeks of gestation, remains a major global health concern and is responsible for approximately 35% of neonatal deaths worldwide. Despite advances in perinatal care and decreased neonatal mortality, the global prevalence remains high—affecting an estimated 8–13% of all births and over 15 million families annually. Preterm infants are at risk for long-term complications such as chronic respiratory issues, gastrointestinal disorders, neurological deficits, and cognitive impairments.[7]

Partus Prematurus Imminens (PPI) is defined by the presence of uterine contractions accompanied by cervical changes and is considered a precursor to preterm delivery in 25–30% of cases. A study conducted in Thailand reported that 66.36% of pregnancies with preterm contractions were classified as PPI, with 18.18% progressing to preterm birth.[6] Cervical shortening, as observed via ultrasound, serves as a critical marker for preterm birth risk. While advanced tools such as sonoelastography and shear wave velocity are being developed, transvaginal ultrasound remains the practical modality of choice. A cervical length (CL) of <10 mm, particularly when measured within four weeks of contractions, strongly correlates with preterm birth.[7,8]

In this case, the patient presented with uterine contractions on July 17, 2024. Upon vaginal examination, the cervix was found to be soft, posterior, 25% effaced, and dilated to 2 cm. Ultrasound dated July 18, 2024, confirmed a 30-week gestation with breech presentation, a change from previous cephalic presentation. This alteration in fetal position is considered physiological before 32 weeks due to greater intrauterine space and amniotic fluid volume. Cervical length was measured at 26.2 mm on July 18, and shortened to 17 mm by July 24, indicating progressive cervical change consistent with PPI. Based on these findings and current literature, the patient was diagnosed with PPI and monitored closely to prevent preterm delivery.

Type 2 Diabetes Mellitus in Pregnancy and Infection Risk

The patient had pre-existing type 2 diabetes mellitus (T2DM), diagnosed prior to pregnancy and managed with insulin therapy. The prevalence of diabetes in pregnancy continues to rise globally, with data suggesting that one in ten women by age 30 are affected. Between 1996 and 2010, the incidence of both gestational diabetes and pre-existing T1DM/T2DM nearly doubled, with T2DM-related

pregnancies increasing by up to 111% in Scandinavian countries.[9]

Diabetes in Pregnancy (DIP) includes both pre-existing and newly diagnosed diabetes during gestation. When hyperglycemia occurs at or before conception, it significantly increases the risk of maternal and fetal complications, including congenital malformations, spontaneous abortion, retinopathy, and nephropathy [8]. Diagnostic criteria for DIP include fasting plasma glucose ≥7.0 mmol/L (126 mg/dL), 2-hour OGTT ≥11.1 mmol/L (200 mg/dL), or random plasma glucose ≥11.1 mmol/L with symptoms. T2DM is characterized by insulin resistance and beta-cell dysfunction, with recent studies showing that beta-cell decline may begin earlier than previously understood.[9]

In the present case, a C-peptide level of 5.3 ng/mL supported preserved beta-cell function, favoring a diagnosis of T2DM or MODY over T1DM. T2DM is a well-established risk factor for soft tissue infections due to impaired immune response, delayed wound healing, and chronic hyperglycemia. The accumulation of advanced glycation end-products (AGEs) contributes to skin barrier disruption by inhibiting keratinocyte proliferation and migration. During pregnancy, these pathological mechanisms are amplified by physiological immunosuppression, leading to increased infection susceptibility.[4,9,10,11,12]

Maxillofacial Infection and Histopathological Findings

The patient developed a right maxillary abscess during pregnancy, initially appearing as a pustule and progressing to a draining soft tissue infection. Although maxillary abscesses are uncommon in pregnancy, diabetes mellitus is a known risk factor for severe soft tissue infections, including Staphylococcus aureus-related facial abscesses. In diabetic patients, such infections may rapidly worsen and require urgent surgical intervention. Debridement, histopathological examination, and culture-directed antibiotic therapy were essential in this case.

Histopathological evaluation revealed pseudoepitheliomatous hyperplasia (PEH) and suppurative granulomatous inflammation of the right maxilla. PEH is a benign, reactive epithelial proliferation that mimics squamous cell carcinoma histologically. It is commonly associated with chronic infections, trauma, or inflammation, and is thought to function as a physiological mechanism for trans-epithelial elimination of foreign material.[13]

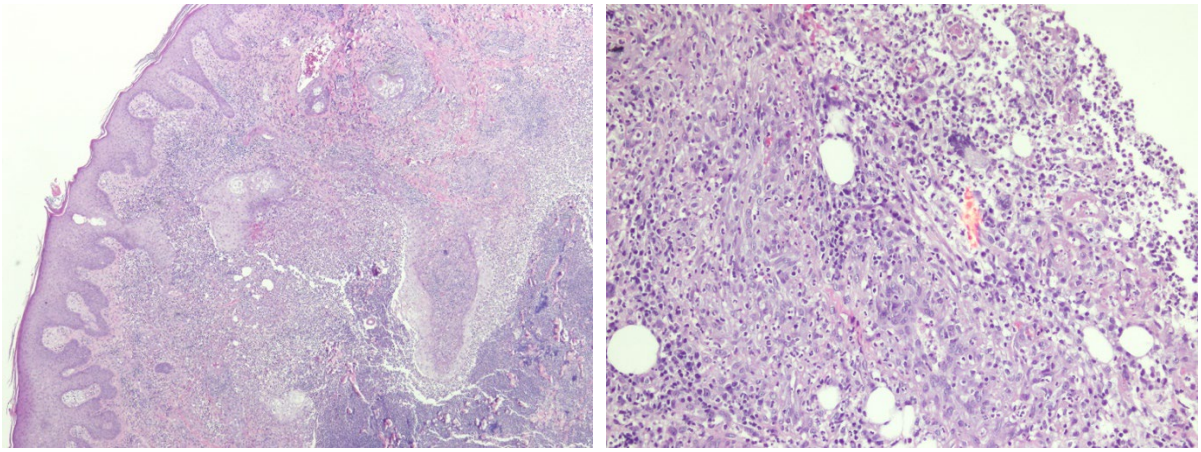
Bad Obstetric History (BOH) and Antiphospholipid Syndrome (APS) Evaluation

The patient also had a history of Bad Obstetric History (BOH), defined as more than two consecutive spontaneous abortions, intrauterine fetal death, stillbirths, fetal growth restriction, or congenital anomalies. Globally, the miscarriage rate is 1–2%, with each pregnancy loss increasing the recurrence risk—up to 30% after two losses and 33% after three losses, particularly in women without a history of live birth.[5,14]

The etiology of BOH is multifactorial, encompassing chromosomal abnormalities, uterine defects, hormonal imbalances, thrombophilia, autoimmune factors such as Antiphospholipid Syndrome (APS), and environmental exposures. In up to 75% of cases, no definitive cause is found despite extensive evaluation, classifying them as idiopathic.[5,14]

APS is an acquired autoimmune condition characterized by recurrent arterial or venous thrombosis and/or pregnancy morbidity, with laboratory criteria including persistent presence of

antiphospholipid antibodies (aPL) such as lupus anticoagulant (LA), anticardiolipin (aCL), and anti-beta-2 glycoprotein I (β2GPI).[15] During pregnancy, APS can lead to placental thrombosis and reduced fetal perfusion, resulting in miscarriage, stillbirth, or preterm delivery. Diagnosis is based on the Sydney criteria, requiring both clinical and laboratory findings repeated at least 12 weeks apart.[16,17,18] Although the patient was evaluated for APS, laboratory findings were negative, thus ruling out a diagnosis of primary or secondary APS in this case.



(A) (B)

Figures 6. Histopathological Findings of Pseudoepitheliomatous Hyperplasia (A) and suppurative granulomatous inflammation (B) (July 24, 2024)

Table 2. Clinical and laboratory criteria of OAPS, OMAPS and NC-OAPS[19]

Criteria	OAPS	OMAPS	NC-OAPS
Clinical Criteria	1. ≥3 consecutive miscarriages before 10 weeks of pregnancy	1. Two unexplained consecutive miscarriages with a morphologically normal fetus	Meets the clinical criteria according to OAPS
	2. One or more miscarriages after 10 weeks of pregnancy	2. Three or more non-consecutive miscarriages with a morphologically normal fetus	
	3. One or more premature births before 34 weeks of pregnancy due to preeclampsia/eclampsia or placental insufficiency	3. Preeclampsia/eclampsia after 34 weeks of pregnancy or during the postpartum period	
		4. Placental abruption	
		5. Preterm birth	
		6. Premature rupture of membranes	
		7. Recurrent implantation failure with good-quality embryos in IVF	
Laboratory Criteria	1. Two positive lupus anticoagulant (LA) tests at 12-week intervals	Meets laboratory criteria as per OAPS	1. LA, aCL, or aβ2GPI tests positive only once

	2. Two positive IgG or IgM anticardiolipin antibodies (aCL) at 12-week intervals 3. Two positive IgG or IgM anti-β2-glycoprotein I antibodies (aβ2GPI) at 12-week intervals	2. Low positive IgG/IgM aCL or aβ2GPI titers 3. Persistent positivity for non-criteria aPL, including IgA-aCL and aβ2GPI 4. Resistance to Annexin A5 anticoagulant activity 5. Thrombocytopenia

Glycemic Management During Pregnancy

Optimal glycemic control is essential in the management of type 2 diabetes mellitus (T2DM) during pregnancy, with recommended targets including fasting blood glucose levels of 80–110 mg/dL and postprandial levels of 100–155 mg/dL. Insulin therapy remains the preferred modality due to its safety profile and efficacy in achieving tight glycemic control. A transition from oral antidiabetic agents to insulin is generally advised upon confirmation of pregnancy. During pregnancy, maintaining specific targets for both blood pressure and glucose is critical to reducing maternal and fetal complications. Additionally, the use of glucocorticoids-commonly administered for fetal lung maturation-requires vigilant monitoring, as these agents can precipitate significant hyperglycemia via multiple metabolic pathways. In such cases, insulin remains the treatment of choice for managing steroid-induced hyperglycemia and ensuring metabolic stability.[10]

In the current case, the patient was already on basal and bolus insulin therapy prior to hospitalization. Upon admission, the patient experienced hyperglycemia and received intensive glycemic management using both basal-bolus insulin and critical care drip insulin in preparation for preoperative control. Once the infection began to resolve, the patient's blood glucose levels stabilized, and therapy was transitioned back to the basal-bolus regimen.

Microbiology & Antibiotic Stewardship

Empirical intravenous ceftriaxone and metronidazole were administered upon hospital admission. Surgical debridement and biopsy were performed, followed by pus culture and sensitivity testing. The culture revealed gram-positive cocci identified as *Staphylococcus aureus*. Based on the culture results and the antibiotic sensitivity profile, ceftriaxone was continued, and oral clindamycin was added to broaden antimicrobial coverage. The choice of ceftriaxone and clindamycin was also guided by consideration of the patient's pregnancy status and the identified pathogen's susceptibility.[20,21]

Multidisciplinary Management of Infection and Preterm Labor Risk in Pregnancy

In this case, a multidisciplinary approach involving obstetrics, internal medicine, and surgery was essential to manage a pregnant patient with infection and risk of preterm labor. Intravenous dexamethasone was administered to promote fetal lung maturation, while tocolytics oral nifedipine and isoxsuprine were used to suppress uterine contractions. The patient, with pre-existing type 2 diabetes mellitus, experienced hyperglycemia during hospitalization and was managed with basal-bolus insulin and

intravenous insulin infusion for preoperative glycemic control, then transitioned back to subcutaneous insulin as the infection resolved. Empirical antibiotics (ceftriaxone and metronidazole) were initiated and later adjusted based on culture results showing *Staphylococcus aureus*, with ceftriaxone continued and clindamycin added. Surgical debridement was timed after stabilization with corticosteroids and tocolytics. This case highlights the clinical challenge of balancing infection control, fetal protection, and metabolic stability, requiring coordinated decision-making and continuous fetal monitoring throughout the perioperative period.

4. Conclusion

Multidisciplinary, infection-first management combined with tight glycemic control enabled stabilization of a 31-week pregnancy complicated by threatened preterm labor (IPL) and a right maxillary abscess. The patient had a history of G4P2A1, two previous cesarean sections, bad obstetrical history, and a live singleton fetus in breech presentation. The underlying cause of the patient's adverse obstetric history could not be fully elucidated; however, comorbid diabetes mellitus and possible undiagnosed thrombophilic or immunological factors may have contributed. Management of IPL included administration of tocolytics to suppress uterine contractions and corticosteroids to promote fetal lung maturity. The maxillary abscess was addressed with antibiotics, surgical debridement, and biopsy, while diabetes was managed with insulin therapy.

Ethical Approval

This case report was approved by the Institutional Review Board of Dr. Mohammad Hoesin General Hospital, Palembang, Indonesia (Approval No. 1639/UN9.1.4.1/PPDS/2025), dated September 17, 2025.

Consent for Publication

Written informed consent was obtained from the patient for the publication of clinical details and any accompanying images.

References

1. Kabiri D. *The role of vaginal progesterone for preterm birth prevention in women with threatened labor and shortened cervix diagnosed after 24 weeks of pregnancy*. *Int J Gynecol Obstet*. 2023;161:423–31
2. Luechatananon S, Sobgthamwat M, Chaiyarach S. *Uterocervical angle and cervical length as a tool to predict preterm birth in threatened preterm labor.* *Int J Womens Health*. 2021;13:153-59
3. Bonora E, DeFonzo RA. *Springer Nature Switzerland AG. Diabetes complications, comorbidities and related disorders*, *Endocrinology*. 2020
4. Vata D, Stanciu DE, Temelie-Olinici D, Andrese-Porumb E, Tarcau BM, Grecu VB, Gheuca-Solovastru L. *Cutaneous manifestations associated with diabetes mellitus-A retrospective study*. *Diseases*. 2023;11:106
5. Nath J, Malhotra S, Rani N. *A study on bad obstetrical history-with special emphasis on etiological high-risk factors*. *International Journal of Gynaecology and Obstetrics Research*. 2022;4(1):1-3
6. Macones GA, Hankins GDV, Spong CY, Hauth J, Moore T. *The 2008 National Institute of Child Health and Human Development Workshop Report on Electronic Fetal Monitoring: Update on Definitions,*

Interpretation, and Research Guidelines. *J Obstet Gynecol Neonatal Nurs*. 2008;37(5):510–5.
7. Prats-Boluda G, Pastor-Tronch J, Garcia-Casado J, Monfort-Ortíz R, Perales Marín A, Diago V, Roca Prats A, Ye-Lin Y. *Optimization of imminent labor prediction systems in women with threatened preterm labor based on electrohysterography*. *Sensors*. 2021;21:2496
8. Chiossi G, Facchinetti F, Vergani P, et al. *Serial cervical-length measurements after first episode of threatened preterm labor improve prediction of spontaneous delivery prior to 37 weeks' gestation*. *Ultrasound Obstet Gynecol*. 2021; 57: 298–304
9. Murphy HR, Howgate C, O'Keefe J, Myers J, Morgan M, Coleman MA, Jolly M, Valabhji J, Scott EM, Knighton P, Young B, Lewis-Barned N, et al. *Characteristics and outcomes of pregnant women with type 1 or type 2 diabetes: a 5-year national population-based cohort study*. *Lancet Diabetes Endocrinol*. 2021; 9: 153–64
10. PERKENI. 2021. *Pedoman pengelolaan dan pencegahan diabetes melitus 2 dewasa di Indonesia*. Jakarta: PB. PERKENI
11. Alemán-Contreras R, Gómez-Díaz RA, Noyola-García ME, Mondragón-González R, Wacher N, Ferreira-Hermosillo A. *Utility of fasting c-peptide for the diagnostic differentiation of patients with type 1, type 2 diabetes, MODY, and LADA*. *Life*. 2024;14:550
12. More NV, Samant P, Rai S. *C-Peptide: A statutory tool in diagnosis and differentiation of types of diabetes*. *J Datta Meghe Inst Med Sci Univ*. 2021;16:524-30
13. Nayak VN, Uma K, Girish K, Murgod S, Shyamala K, Naik RB. *Pseudoepitheliomatous hyperplasia in oral Lesions: A review*. *Journal International of Oral Health*. 2015;7(9):148-152
14. Tabassum SK, Jahan P. *Microbiome Review: Ethnicity, Diet, and Lifestyle in Bad Obstetric History*. *Sch J App Med Sci*. 2024 May 12(5): 595-606
15. Sharma A, Yadav S, Yadav P. *Study of Antiphospholipid syndrome in patients with bad obstetric history: A cross sectional study*. *Int J Clin Obstet Gynaecol*. 2018; 2(2): 24-28
16. Ghembaza A, Saadoun D. *Management of antiphospholipid syndrome*. *Biomedicines*. 2020;8(11):1–17
17. Gofur NR, Gofur AR, Gofur RN, Kahdina M. *Parturition premature imminens management : A Review Article*. *IJRP.* 2022;93(1):91-6
18. Surya R, Pudyastuti S. *Persalinan Preterm*. 2019;1 Vol 46
19. Alijotas-Reig J, Esteve-Valverde E, Anunciación-Llunell A, Marques-Soares J, Pardos-Gea J, Miró-Mur F. Pathogenesis, diagnosis, and management of obstetric antiphospholipid syndrome: A comprehensive review. J Clin Med. 2022;11(3):675
20. Maharani DG, Novida H. Facial abscess due to staphylococcus aureus in a 64-year-old male patient with type 2 diabetes mellitus. Biomolecular and Heath Science Journal. 2021;04(02):122-24
21. Li Y, Zhang C, Huang X, Tang J. *Effect of Antimicrobial Exposure in Pregnancy on Adverse Pregnancy Outcomes and Admission Rate to the Neonatal Intensive Care Unit: A Multi-Center Cohort Study*. *Infect Drug Resist*. 2023 Apr 25;16:2441-2451