**University of the Philippines - Manila**

**Philippine General Hospital**

**OBGYN 251: Integrated Clerkship II in Obstetrics and Gynecology**

Case Protocol: Gestational Diabetes Mellitus (GDM)

**Learning Objectives:**

1. To present the history and physical examination findings of a patient with GDM
2. To formulate a working impression on the given history and physical examination
3. To read and interpret laboratory and diagnostic findings
4. To discuss the importance of the laboratory tests and their proper timing during pregnancy
5. To define Gestational Diabetes Mellitus
6. To discuss the signs, symptoms, and maternal and fetal effects of GDM
7. To provide an appropriate plan of management for the patient

**General Data:**

M.V., a 30/Gravida 1 Para 0, Roman Catholic, Married, Housewife from Makati

**Chief Complaint:**

Decreased fetal movement

**Past Medical History:**

(-) Hypertension, thyroid/liver/kidney disease, cardiovascular disease, stroke, blood dyscrasias, bronchial asthma, pulmonary tuberculosis, cancer

At 18 weeks AOG, diagnosed with gestational diabetes mellitus with a 75g OGTT of

|  |  |
| --- | --- |
| FBS | 108mg/dL |
| 1st hour | 178mg/dL |
| 2nd hour | 154mg/dL |

Glucose monitoring not done. Advised with diet and exercise modification.

Medications: Ferrous sulfate 1 tablet once a day, Calcium carbonate 1 tablet twice a day, Multivitamins 1 tablet once a day

**Family Medical History:**

(+) Hypertension, diabetes mellitus: mother

(-) Pulmonary Tuberculosis, Bronchial Asthma

**Personal and Social History:**

Educational attainment: College undergraduate

Previously worked as a cashier in 2014, currently a housewife

(-) smoking, alcohol consumption, illicit drug use

**Menstrual History:**

Her menarche was when she was 14 years old. Her menses had irregular intervals of 28-35 days, lasting around 5 days, consuming 4-5 moderate to fully soaked pads per day. She does not experience dysmenorrhea during her menses.

She was sure of her last menstrual period which she claimed was last January 20, 2020

**Sexual History:**

First coitus at 20 years old with 2 non-promiscuous lifetime sexual partners

No history of sexually transmitted infection

Contraception use: none

**Obstetric History:**

Obstetric Score: G1P0, This is her first pregnancy

Age of gestation: 33 weeks and 1 day by LMP, 33 weeks and 4 days by early ultrasound

Prenatal check-up: 3 prenatal check-up done at 12 weeks AOG, 24 weeks AOG and 28 weeks AOG at the Local hospital

First ultrasound done at 7 weeks and 1 day AOG

Congenital Anomaly Scan done at 24 weeks AOG showed no gross structural abnormalities

**History of Present Illness:**

Patient was previously well until 6 hours prior to consult, she noticed decreased fetal movement. There was no associated watery or bloody discharge. There was no palpable contractions. She immediately sought consult.

**Review of Systems:**

**General**: (-) fever, weakness, weight loss, pallor

**HEENT**: (-) headache, BOV, tinnitus, otalgia, dysphagia, dysphagia, colds, nausea, vomiting

**Pulmonary**: (-) dyspnea, cough

**CVD**: (-) chest pain, palpitations, easy fatigability, orthopnea, edema

**GI**: (-) constipation, diarrhea, jaundice, hematochezia, melena

**GU**: (-) foul smelling vaginal discharge, dysuria, hematuria, urinary changes, urinary incontinence

**Neurological**: (-) numbness, seizure, paresthesia, dizziness

**Endocrine:** (-) polydipsia, polyuria, polyphagia, change in heat/cold intolerance

**Physical Examination:**

**Vital Signs:** Temperature 37.0o C, blood pressure 110/70, heart rate 82 beats per minute, 98% O2 saturation, respiratory rate 16 breaths per minute

**Height:**  155 cm **Weight:** 65 kg (pre-pregnancy); 71 kg (pregnancy) **BMI:** 27.06

**General:** Patient is awake, conversant, and not in cardiorespiratory distress

**HEENT:** Anicteric sclerae, pink palpebral conjunctivae, (-) cervical lymphadenopathy, (-) neck vein engorgement, (-) anterior neck mass

**Heart and Lungs**: Adynamic precordium, distinct heart sounds, normal rate and regular rhythm, equal chest expansion, clear breath sounds

**Abdominal:** Soft, distended, non-tender abdomen, Fundic height: 34 cm Estimated fetal weight: 2.2-2.4 kg, cephalic presentation, Fetal heart tones: 120s bpm on left lower quadrant

**Extremities:** Full, equal, pulses, pink nail beds, CRT<2s, (-) cyanosis, (-) edema

**Pelvic/Internal Exam:** Normal external genitalia, (-) masses, (-) lesions

Nulliparous vagina; cervix is closed, medium consistency, uneffaced, posterior position, head is floating, corpus is enlarged to age of gestation; (-) adnexal masses or tenderness

**Pelvimetry:** Diagonal conjugate: > 11.5, Bispinous diameter > 9.5 cm, blunt spines, parallel sidewalls, hollow sacral curvature, posterior sacral inclination, wide sacral notches, wide sacral width, pubic arch > 90 degrees, movable coccyx, bituberous diameter > 8.5 cm

**Laboratory and Diagnostic Findings:**

***CBG on admission= 175mg/dL 3 hrs postprandial***

|  |  |
| --- | --- |
| **75gOGTT (18 weeks AOG)** | |
| FBS | 108mg/dL |
| 1st hour | 178mg/dL |
| 2nd hour | 154mg/dL |

|  |  |
| --- | --- |
| Test | Result |
| VDRL/RPR | Non-reactive |
| HbsAg | Non-reactive |

**9/6/20**

|  |  |
| --- | --- |
| Color | Yellow |
| Transparency | Hazy |
| Bilirubin | Negative |
| Urobilinogen | Normal |
| Ketone | Negative |
| Ascorbic acid | Negative |
| Glucose | Normal |
| Albumin | Negative |
| Blood | +1 |
| pH | 6.5 |
| Nitrite | Negative |
| Leucocytes | +1 |
| Specific Gravity | 1.017 |
| RBC | 5 |
| WBC | 1 |
| Epithelial cells | 0 |
| Bacteria | 3 |
| Mucus thread | 4 |

**9/6/20**

|  |  |
| --- | --- |
| **CBC (2/12/2020)** | **Result** |
| WBC | 10.20 |
| RBC | 4.30 |
| Hemoglobin | 130 |
| Hematocrit | 0.39 |
| MCV | 88.3 |
| MCH | 28.8 |
| MCHC | 326 |
| RDW | 15.8 |
| MPV | 8.4 |
| Platelet count | 300 |
| Neutrophil | 0.66 |
| Lymphocyte | 0.21 |
| Monocyte | 0.08 |
| Eosinophil | 0.01 |
| Basophil | 0.00 |

9/6/20 Biometry/Biophysical Profile/Doppler Studies

|  |  |  |  |
| --- | --- | --- | --- |
| Presentation: | Cephalic | Number of fetus: | Singleton |
| BIOMETRY | | | |
| Fetal heart activity | 137 beats per minute | | |
| Biparietal Diameter | 8.3 cm | 33 4/7 |  |
| Occipito-frontal Diameter | 10.9 cm |  |  |
| Cephalic Index | 77% |  |  |
| Head Circumference | 30.6 cm | 34 | weeks |
| Femoral Length | 6.2 cm | 32 | weeks |
| Abdominal Circumference | 30.5 cm | 34 3/7 | weeks |
| Estimated Fetal Weight | 2,238 grams | 10-90th percentile: 1,250-2,000 grams  LGA | |
| Placental Location and Grade | Anterior, high-lying, Grade II | | |
| Cervical Length | 3.9 cm, no funnelling | | |
| BIOPHYSICAL PROFILE | | Score: | 8/8 |
| Fetal Tone | 1 | | 2 |
| Fetal Movement | 3 | | 2 |
| Fetal Breathing | 1 | | 2 |
| Amniotic Fluid Index | 6.9 cm | 5.9 cm | 2 |
| **29.1 cm** | 8.8 cm | 7.5 cm |  |
| Intrapartal monitoring | Baseline fetal heart rate | 140-145 bpm | Reactive |
| Variability | Moderate |
| Acceleration | Present |
| Deceleration | Absent |
| Contraction | Absent |
|  |  |
| DOPPLER STUDIES | | | |
| Umbilical artery S/D | 2.39 | 2.00-4.20 |  |
| Umbilical artery PI | 0.80 | 0.71-1.28 |  |
| Umbilical artery RI | 0.58 | 0.474-0.715 |  |
| Right uterine artery S/D | 1.88 | 1.37-2.65 |  |
| Left uterine artery S/D | 1.68 |  |
| Right uterine RI | 0.47 | 0.150-0.581 |  |
| Left uterine RI | 0.40 |  |
| MCA PI | 1.84 | | |
| CP Ratio | 2.30 | >1.0 |  |

**IMPRESSION:**

Single live intrauterine pregnancy, in cephalic presentation, with good cardiac and somatic activities

33 4/7 weeks by composite sonar aging

Placenta is anterior, high-lying, grade II

Biophysical profile score is 8/8 with POLYHYDRAMNIOS

Intrapartal monitoring shows a CATEGORY 1 TRACE

Sonographic estimated fetal weight is ABOVE THE 90TH PERCENTILE FOR GESTATIONAL AGE

Doppler studies show normal values for the umbilical artery and both uterine arteries

**Guide Questions:**

1. What are the pertinent points in the history and physical examination of the patient that led to the primary working impression?
2. Are there other points in the history and physical examination that you want to elicit?
3. Are there any significant laboratory/diagnostic test results? What is/are their significance? What other laboratory/diagnostic tests would you order for the patient?
4. What is Gestational Diabetes Mellitus? Differentiate it from Overt Diabetes Mellitus. How are these diagnosed?
5. What are the signs and symptoms that you should look out for in a patient with GDM?
6. What are the maternal and fetal effects of GDM?
7. What complications should you watch out for during labor?
8. What is the complete diagnosis? How will you manage this patient? How will you monitor her response?