

Anesthetic management of an emergency caesarian delivery in a 61 year 8 month old Primigravid patient with 33+ wks pregnancy (IVF, twin) with Diabetes Mellitus with Hypertension with Hypothyroidism and Mild aortic stenosis

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Abstract:

Physiologic changes of pregnancy uniquely influence anesthesia for caesarian delivery. Aging is also an universal and progressive physiological phenomenon clinically characterized by degenerative changes in both the structure and the functional capacity of organs and tissues. For an anesthesiologist the case becomes more challenging when the patient has multiple comorbidities such as Diabetes Mellitus, Hypertension, Hypothyroidism and Mild Aortic stenosis. We report an emergency caesarian delivery in the case of a 61 year 8 month old woman who was diagnosed as 33+wks Pregnancy (IVF, TWIN) with DM (Insulin) with Hypothyroidism on medication with Hypertension on medication with Mild aortic stenosis. Emergency caesarian delivery of this patient was necessary due to oligohydramnios with labor pain and fetal distress. The delivery was successfully performed under SAB and patient recovered without any complication.

Keywords: Cesarean section, Regional anesthesia, Pregnancy.

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Introduction:

Administration of anaesthesia for obstetric and non-obstetric surgery during pregnancy has always been a challenge to the attending anaesthesiologists. Data from developing nations is lacking, but statistics from the developed world reveals that 1-2% of all obstetric patients present for emergency non-obstetric surgery once in their lifetime. Numerous diseases and their complications during pregnancy can cause hospitalization of a pregnant female,¹ which may require surgical intervention. The risk of surgery is not much different from the general population, but anaesthetic management is extremely challenging during this period. Safety of both the

mother and the foetus *in utero* is the prime objective while delivering anaesthesia services during these emergency surgical procedures². In spite of new advancements in clinical arena and technology, anaesthesiologists have to face numerous challenging tasks in delivering safe anaesthesia services. Besides socio-cultural barriers, clinical challenges, which include advanced maternal age, obesity, comorbidities, including diabetes, severe anaemia, cardiac diseases, etc., all produce a huge uphill task for anaesthesiologists.³

Complete knowledge of various physiological aspects related to pregnancy and the

pharmacological profile of various drugs is mandatory to conduct safe anaesthesia. Both regional and general anaesthesia (GA) are associated with potential complications, some of which may be rare but can be fatal or permanently disabling.⁴ The precautions during surgical procedures revolve around prevention of four 'H,' that is, hypotension, hypoxemia, hypovolaemia and hypothermia. Keeping in mind the altered physiology of the mother and giving due consideration to the functional integrity of uterine blood flow

Case Report:

A patient Primi, 61 year 8 month old with 33+ wks pregnancy (IVF, twin) with Diabetes Mellitus with Hypertension with Hypothyroidism and Mild aortic stenosis came for regular anti natal checkup gynaecology and obstetrics department of square hospital. She had complain of a painful swelling on her back, which was diagnosed as an infected carbuncle for which she was referred to general surgery department, she was later admitted and operated (incision and drainage) by the surgery department (date) few days after that presented with the complains of less fetal movement and labor pain. Obstetricians visited the patient and they decided for emergency caesarian section. On pre anaesthetic checkup, patients vitals were Blood pressure: 140/80 mmHg, Pulse: 90, Temperature: 98.4 CVS: S1, S2 audible, Lungs: Clear, Airway examination: Mallampati 2. On

Investigations: CBC: Hb%: 10.6 gm/dl, WBC: 12.7, Platelet: 165, ECG: Within Normal Limit, ECHOCARDIOGRAPHY: Ejection Fraction 55%, Concentric LVH, Dilated Left Atrium, Moderate degenerative mitral regurgitation, AV 1.8 cm. Patient took food two hours back, so there was chance of aspiration, so high risk consent was taken. And arrangement of ICU bed was done. One unit PRBC was kept ready by grouping and cross matching with donor. Non Particulate antacid and Metoclopramide was given.

In the operation theatre Patients Heart Rate: 70 b/min, Blood pressure 177/80 mmhg, Spo2: 100% in room air. A 18g cannulae was inserted in the left hand. During operation following monitoring was done, Blood pressure, pulse rate, ECG, Urine output. Sub Arachnoid block was given in sitting position, IN the L4-L5 space in the midline, with

25 g quincke needle. 0.5% Bupivacaine Heavy 2.3ml and .25mcg fentanyl was given. Choice of fluid was Hartman solution. Then patient was put in supine positions and a wedge was given under the right buttock. Then we gave two litre oxygen per minute through nasal prongs. After giving the subarachnoid block, assessment was done for the anesthesia and block was adequate. Surgery was started at pm. First baby was born at 3.50 pm, second baby was born 3.51 pm. Then 100 IU Carbetocin was given through I/V route for uterine contractions. Then first baby cried after birth, however the second baby needed CPR. Both babies were shifted to nicu for management due to low birth weight and prematurity.

Around the end of the surgery, the patient started to get restless and she complained of thirst. Then we did RBS and found it to be 2.5 mmol/l. Then we gave 25% 50 ml glucose. After giving glucose we again did RBS after 10 minutes it was found to be 13.5 mmol/l. Then operation was completed and patient was shifted to postoperative ward. In postoperative ward she was monitored overnight. Postoperative period was uneventful. The next morning the patient was shifted to cabin.

Discussion:

IVF: In vitro fertilisation (IVF) is a process of fertilisation where an egg is combined with sperm outside the body, in vitro ("in glass"). The process involves monitoring and stimulating a woman's ovulatory process, removing an ovum or ova (egg or eggs) from the woman's ovaries and letting sperm fertilise them in a liquid in a laboratory. After the fertilised egg (zygote) undergoes embryo culture for 2–6 days, it is implanted in the same or another woman's uterus, with the intention of establishing a successful pregnancy. Major risk of IVF includes Multiple births: The major complication of IVF is the risk of multiple births.⁵ This is directly related to the practice of transferring multiple embryos at embryo transfer. Spread of infectious disease:⁶ By sperm washing, the risk that a chronic disease in the male providing the sperm would infect the female or offspring can be brought to negligible levels. Ectopic pregnancy may also occur if a fertilised egg develops outside the uterus, usually in the fallopian tubes and requires immediate destruction of the fetus Birth defects: A review in

2013 came to the result that infants resulting from IVF (with or without ICSD) have a relative risk of birth defects.⁷ Studies show that there is an increased risk of venous thrombosis or pulmonary embolism during the first trimester of IVF. Also an elderly patient has many comorbidities which poses as a challenge to the treating anaesthesiologist. This patient had Hypertension for last 20 years, thus subsequently she developed cardiomegaly. For her hypertension she was taking Tab Methyldopa, Tab Labeta. Also Diabetes Mellitus for last 15 years. She takes insulin Inj. Novorapid 24+22+26, Inj Levemir 0+0+26 subcutaneously to control her blood sugar. The patient was also hypothyroid for last 10 years and she takes Tab Thyrox(150mcg). All these comorbidity poses a challenge to the anaesthesiologist. We tried to optimize these conditions as much as possible. We took measures such as consultation with senior consultant of anaesthesia. We arranged 1 unit PRBC. We withheld the midday dose of insulin. Counseling of the patient's Husband and family was done regarding the risk. And also arrangement of an ICU bed was done.

After thorough preoperative evaluation and optimization of the patient. Surgery was done under Sub Arachnoid block in L4 -L5 space in sitting position. The perioperative period was relatively uneventful. There was no event of hypoglycemia which was promptly managed with vigilant monitor and proper treatment.

Conclusion:

Surgery in an elderly patient poses challenge to the anaesthesiologist. When the patient has multiple comorbidities this situation is further aggravated. LUCS in an elderly patient of 61

years 8 months is the record in Bangladesh of LUCS in highest maternal age, which was managed uneventfully due to presence of all the latest monitoring techniques and presence of skilled anaesthesiologist.

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