

Case Study And Analysis

Maternal Postpartum Complications

Case study

There are three modes of pregnancies including vaginal, emergency caesarean and elective caesarean. High risk of maternal postpartum complications have been reported by previous researchers. Some of the complications are maternal death, thromboembolic event, non-elective hysterectomy, clinical complication, surgical injury, clinical and surgical wound infection, endometritis, and haemorrhage (Berens, 2018). Wound infection and endometritis, were significantly prevalent after caesarean delivery when compared to vaginal delivery. Emergency caesarean deliveries are probable to end up in serious morbidity, that in turn leads to the risk of maternal death. In comparison to singleton pregnancies, twin pregnancies report endometritis and haemorrhage (Stach et al., 2014). Also, emergency caesarean deliveries are reported to present with various infectious complications including surgical wound, clinical and endometritis. The present study describes a case study where a 30 year old woman named Stella, undergoes vaginal delivery of twins and she was readmitted to hospital due to postpartum complication of haemorrhage.

Stella, 30 year old woman lives in the city of Adelaide, Australia along with her husband named Bobby. She is civil engineer and works in water department, Adelaide which is only 3 km from her house and Bobby is a mechanical engineer and works in a well reputed organization. Both of their parents resides in New Zealand which is far from Adelaide.

One year after marriage, she got pregnant and they were happy. However, their happiness did not stay for a longer time as it got aborted. Since then, they were longing for a child. She did not conceive for a long time for around 5 years. It was in the mid of December that she got pregnant and they were happy. They took so many precautions to avoid any kind of complications. Stella made sure that her food intake was proper and healthy. She was very careful throughout her pregnancy time. In her seventh month, the couples came to know from

the doctor that Stella is carrying 2 babies which added sweetness to their happiness. After this, they were much more careful and they took a room for rent near the hospital premises so that they can reach the hospital in case of any emergency. Finally, her due date came and she was admitted to hospital expecting that may she deliver the babies on that day itself. However, she did not feel any pain on that day which made them think they require a caesarean delivery. Two days after admission to the hospital, she started experiencing pain which increased with time and she was taken to delivery room. After 8 hours of pain and struggle, she delivered two babies of which one was boy and other one was girl. The couples were very happy as they were expecting a child for 5 long years.

During the time of delivery of twins, her health conditions were normal and delivered healthy babies without much complications. She did not receive epidural anaesthesia and did not have much blood loss after delivery. She was discharged from the hospital after the first week of delivery as did not have much complications. The only problem what she faced was to manage both the new born babies because her family is not staying along with her. She and her husband stays in a different location which is very far from her parents resides. However, after three weeks she observed vaginal bleeding which increased within two days after the onset. Hence, she suspected some complications and was rushed to emergency department in the hospital. She received 5 units within 48 h time indicating huge blood loss. Hence, the doctors gave the blood sample for analysis of various blood related factors. The following details presented in the table were determined from the results.

Factors	Observed value	Normal value
Fibrinogen	222 mg/dL	177-466 mg/dL
Prothrombin time	14 sec	11-17 sec
Activated partial Thromboplastin time	42 sec	25-37 sec
Platelets	125 k/ μ L	161-347 k/ μ L

Haemoglobin	4.5 g/dL	13.7-17.5 g/dL
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Primary postpartum haemorrhage (PPH) can be described as the loss of 500 ml of blood or more from the genital tract usually in the initial 24 h after delivery of the baby. The prevalence of PPH is observed to be around 6% but the percentage can change according to delivery setting and geographic region. Some of the morbidities related to PPH are liver or renal failure, hysterectomy, blood transfusion, disseminated intravascular coagulation and anaemia. However, only 1/3rd of PPH cases are known to possess identifiable riskfactors. Some of the risk factors that are identifiable are prolonged labour,use of an epidural, augmentation of labour, induction oflabour, anaemia, coagulation abnormalities,placenta abnormalities like accrete or praevia, overdistended uterus and nulliparity. In contrary to this, high multiparity is not a risk factor. No risk factors have identified to foresee whether a women respond to treatment by uterotonics or not. Even though, PPH is common in all geographic regions, most of the maternal deaths occurs in developing countries when compared to developed countries. This difference among the nations is due to poor quality of care as a result of unavailability of trained personnel, poor access to quality uterotonic drugs and poor management of timely interventions at the time of emergency (Sheldon et al.,2014).Secondary PPH can be described as abnormal bleeding observed in 24 h to six weeks postpartum, irrespective of the volume of blood. Secondary post-partum is also termed as prolonged heavy lochia, prolonged postpartum haemorrhage and delayed post-partum haemorrhage. It is witnessed as a chief post-natal issue among emergency room physician, community midwife and general practitioner.

Case study analysis

Introduction

It is important to understand the reason for haemorrhage that occurred 3 weeks after delivery in Stella. This will help in assisting the nurse to undertake care in the hospital settings. Stella is experiencing secondary postpartum haemorrhage. She had a clinical history suggesting von Willebrand disease (VWD). Erik von Willebrand in 1926 described VWD as a hereditary bleeding disorder. It is caused due to the deficiency of von Willebrand factor (VWF). It is a blood glycoprotein, that performs two functions including facilitating platelet adhesion and aggregation along with serving as the carrier of coagulation factor 8 (FVIII). There are 3 main types of VWD: type 1, type 2 and type 3. Among them, type 1 is caused due to partial deficiency of VWF and is the most common type accounting for 80% of the reported cases. Type 2 is divided into four subtypes depending on the impairments in VWF function. They are 2A, 2B, 2M and 2N and are responsible for 15-20% of the cases. Type 3 is due to complete absence of VWF accounting for only 1% of the cases and appear to be rarest among all the types.

Increasing incidence of PPH in women with VWD have been reported than for women who are healthy even though VWF and FVIII rise during pregnancy. After delivery, bleeding is less probable if there exists a plasma level of 30-40% of normal levels. These are established on patient recall and medical records of intake of hemostatic drugs or estimated blood loss is not taken into account. A person suffering from VWD exhibits bleeding symptoms along with gingival bleeding, excessive bruising after injury. The most common symptom is

menorrhagia observed during the onset of menses. Women with VWD are likely to develop hemorrhagic ovarian cysts.

Peripartum bleeding with VWD is presented with 20% risk whereas 75% of women experience heavy bleeding due to moderate to severe VWD. Women experience bleeding with all types of VWD. Peripartum period is known to be the first manifestation in women with mild forms of VWD. However, peripartum bleeding is common in unrelated bleeding disorder. Hence, we cannot consider the underlying bleeding diathesis.

Nursing considerations for treatment and care

For the treatment of type 1 VWD, desmopressin is the first choice for patients with VWF levels of 10U/dL or above and factor VIII who are responsive to the mentioned drug. However, desmopressin gets ineffective VWF and factor VIII concentrates are required. Inherited bleeding disorders (IBD) are common in women and face bleeding complications during and after pregnancy. There are chances of passing genetic defect among offspring and are potentially face risk complications requiring nursing care. This requires awareness and education among the nurses regarding potential risks associated with bleeding complications. Researchers in the world have put maximum effort to spread awareness related to specific challenges incurred after delivery. For the purpose of proper care, multidisciplinary obstetric care have come into practice in the recent years with the aim of improving outcomes in women with IBD.

Role of nurses

Nurses in the multidisciplinary team have an important role to play in caring women with IBD. This is because, nurses are the first choice of contact for women who are facing complications in the hospital. Nurses who are experienced well or specialized in this area are able to handle cases who are experiencing gynaecological symptoms and ongoing

menorrhagia which are not handled by general practitioner. Moreover, nurses can also assist who are planning pregnancy or asking guidance and advice about obstetric care.

SPPH occur in rare situations and it may stop without doing anything. Hence, it is difficult to reassure the patient about it. In such cases, a patient expects intake of some antibiotics or some interventions required to stop SPPH. Nurses are the first approachable person for this purpose. Some of the initial treatments that the nurses should be aware about are explained below.

Treatments intended specifically for SPPH are surgical, pharmacological and conservative and sometimes interventional radiology is also practiced. All these rely on clinical findings observed in patient reports, standard protocols practised in hospitals, experience of the practitioner and patients' choice.

Nurses should be aware about the patient's history, family and medication history in order to determine the probable reasons for SPPH. For this purpose, nurses should communicate with the patients, their family members and friends and check the previous records of the patient. This would help the nurses to decide proper treatment and care. It is possible to consider dysfunction or depletion of clotting factors/ platelets as well as other chronic medical diseases by which SPPH can happen due to collateral or consequent morbidity. These conditions are applicable after excluding the chances of endomyometrial causes.

Nurses should take care while choosing and administering drugs as the drugs have the chances of interacting with breast milk or with other drugs which may further lead to other consequences. Hence, it is recommended to take the advice from doctors before choosing the pharmacological treatment. In conditions where the patient is not tachycardic, not anaemic and not unwell, no heavy SPPH, it is advised to reassure and make observations for some days and arrange for regular review or keep in contact with her for regular intervals. In situations where there are no abnormal findings on uterine Dopplers, no retained products on

pelvic scan while heavy bleeding than normal menstrual loss is observed, then it is recommended to give Misoprostol orally in the first week and tranexamic acid in the second week. It is mandatory for the nurses to make patients aware that such drugs are not licensed for this purpose.

Patients who are experiencing SPPH for the first time or in cases where it prolongs for six weeks can be recovered by the intake of Norethisterone or Combined Oral Contraceptive pills in condition where her level of β -hCG in serum is zero.

The use of uterotonics' is also recommended as alternatives for the treatment of SPPH. The requirement of curettage is reduced by the usage of antibiotics. However, in conditions where the uterus is firm, uterotonics do not provide any benefit. Rectal or oral misoprostol is a reasonable choice for managing SPPH but its safety should be ensured by checking its usage in primary PPH. Dosage level between 200 mcg and 1 mg is tried variously but the common side effect that is observed is mainly abdominal cramps and transient diarrhoea.

Administration of 3 mg Prostaglandin E2 via Trans-cervical intra-uterine mode have been proved significant to manage continuous vaginal bleeding that has occurred as a result of 8th day SPPH for evacuation-curettage has been performed. For managing non-traumatic PPH linked to VBD, tranexamic acid appears to be the first line of choice. Evidences of its usage has been reported in the literature for the prevention and control of obstetric haemorrhage that occurred after caesarean delivery with negligible neonatal sequelae.

Conclusion

Hence, in our case study, Stella undergoes secondary post-partum complications and was identified as VBD which requires care. It is recommended to check β -hCG levels in serum as its zero level allows Norethisterone or Combined Oral Contraceptive pills to be administered to stop the vaginal bleed persisting for more than 6 weeks.

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