

Benckiser's Hemorrhage: Emergency Serious Fetal

Fatnassi R*, Turki E and Marouen N

Department of Obstetrics and Gynecology, University Hospital Ibn El Jazzar of Kairouan, Tunisia

*Corresponding Author: Fatnassi Ridha, Department of Obstetrics and Gynecology, University Hospital Ibn El Jazzar, Kairouan, Tunisia.

Received: June 05, 2017; Published: July 12, 2017

Abstract

Benckiser's hemorrhage is a serious obstetrical condition with a high fetal mortality secondary to rupture of fetal vessels. It constitutes a common complication of a vasa previa rupture leading to fetal exsanguination. Thanks to ultrasound in combination with colour Doppler, prenatal diagnosis remains possible, allowing to avoid fetal loss. We report a 30-year-old woman who presented Benckiser's hemorrhage diagnosed during delivery with fetal distress treated by emergency caesarean section. Postnatal resuscitation and transfusion were performed with good outcome. Pathophysiology, risk factors, clinical presentation, diagnosis and main treatment are discussed referring to literature.

Keywords: Fetal Hemorrhage; Velamentous Cord Insertion; Vasa Previa; Benckiser's Hemorrhage; Fetal Distress

Introduction

Benckiser's hemorrhage constitutes a rare but serious obstetrical condition following a vasa previa rupture. It often complicates velamentous insertion of the umbilical cord and usually associated to risk factors such as a low-lying placenta. The estimated incidence of vasa previa is approximately 1 in 5000 to 1 in 6000 pregnancies. Fetal prognosis remains poor with a high fetal mortality rate especially when antenatal diagnosis is missing. In fact, despite the progress of neonatal resuscitation, mortality rate is maintained at more than 50% [1,2]. We describe a new case of Benckiser's hemorrhage incidentally discovered during delivery when membranes were ruptured.

Case Report

A 30-year-old female gravida 2 para 1 without previous medical history was referred to our Department at 39 weeks of gestation in the first stage of labor. The pregnancy had been controlled four times and ultrasonography showed no abnormalities except a low-lying placenta. On admission, maternal pulse was 80 pm, blood pressure was 120/80 mmHg and there was no pallor. Abdominal examination revealed uterus to be term size, relaxed with cephalic presentation. Trans-abdominal ultrasound was performed and showed an appropriate fetal growth for gestational age and a low-lying placenta. The fetal rate heart in cardiotocographic recording was 130 beats per minutes without any decelerations. An artificial rupture of the membranes was performed and showed moderate fresh vaginal bleeding. In the same time, fetal heart rate anomalies were noted including deep decelerations as shown in Figure 1. Benckiser's hemorrhage was suspected and the patient was immediately transferred to the surgery room. An emergency caesarean section was performed for suspected Benckiser's hemorrhage, with delivery of a male infant weighing 3400 g with no blood loss during delivery. The infant was markedly pale and the baby's APGAR score was 2/10 at one minute and 4/10 at five minute (PH 7.1). The evaluation of the placenta confirmed the diagnosis of a velamentous insertion of the umbilical cord with bleeding from the fetal vessel as shown in Figure 2. The neonate was admitted to paediatric department and he did well following resuscitation and a blood transfusion. Baby's hemoglobin level was 9.1 gm at birth and 14 gm after transfusion. The postoperative course of the patient was uncomplicated and she was discharged with her baby 3 days after delivery in a healthy condition.

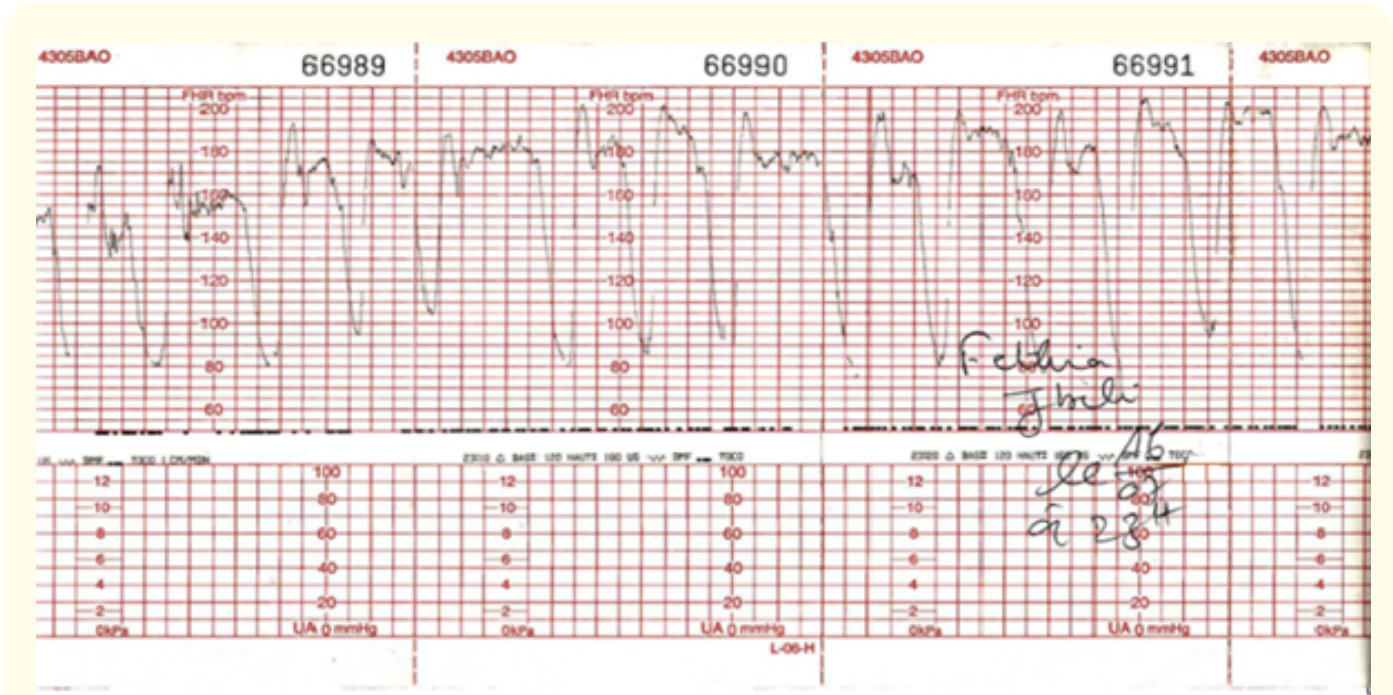


Figure 1: Cardiotocographic recording showing deep decelerations.

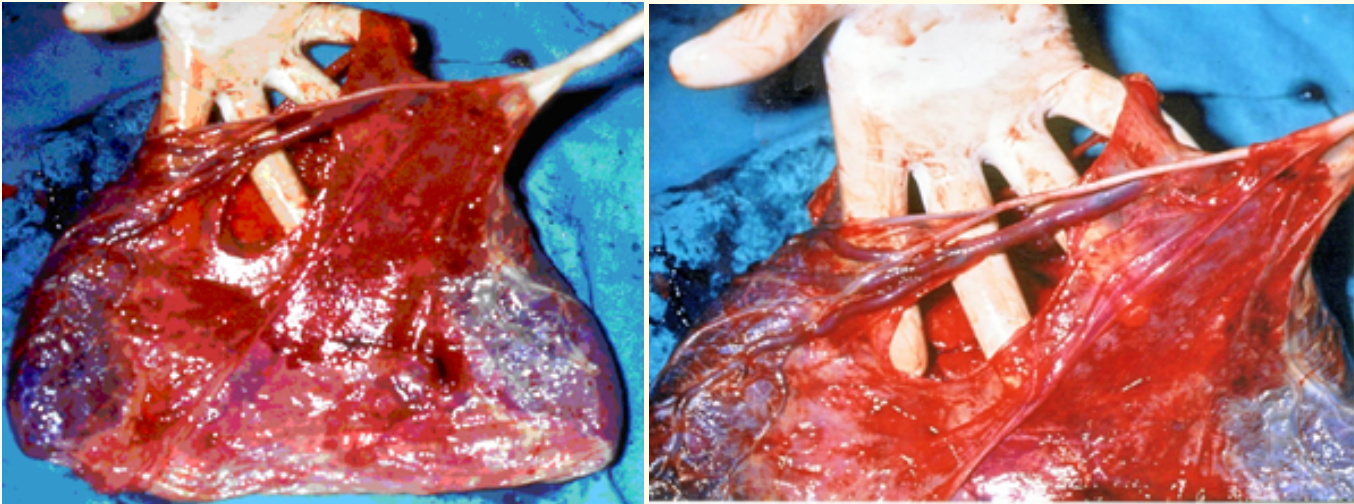


Figure 2 (a, b): Macroscopic view of the placenta showing velamentous insertion of the umbilical cord with vessel laceration.

Discussion

Benckiser's hemorrhage is associated with high mortality secondary to rupture of fetal vessels leading mainly to rapid fetal exsanguination. The disease is more common in twin pregnancy and is usually associated to various risk factors including bilobed or succenterate placenta, aberrant vessels, velamentous insertion of the cord and low-lying placenta [3]. In addition, in the presence of a velamentous insertion of the umbilical cord and aberrant vessels, the incidence of vasa previa has been reported to be 1 in 50 [4,5]. On the other hand, in vitro fertilization is considered as a significant risk factor which is associated with vasa previa in 1 in 202 [3-6]. Therefore, a concerted effort to identify vasa previa remains indispensable in patients with any of these risk factors. In our case, only low-lying placenta was noted as a risk factor which was diagnosed during pregnancy.

Velamentous insertion of the umbilical cord indicates attachment of the vessels into the fetal membranes covering the internal os of the cervix. As a result, the fetus is exposed to potential risks of compressional asphyxia or bleeding that may occur during pregnancy or labor [1,6]. The severity of this insertion resides in the occurrence of fetal hemorrhage by vascular laceration during the spontaneous or artificial rupture of the membranes as in our case. This hemorrhage may lead to fetal death due to exsanguination and complicates one case for 50 velamentous insertion [7,8].

Clinical signs of Benckiser's hemorrhage may include a painless vaginal bleeding occurring at the time the membranes rupture, an acute and immediate fetal distress leading rapidly to fetal death by exsanguination in utero and a good maternal condition. Clinical diagnosis can be identified by palpation of the vessels by digital vaginal examination. However, this diagnosis may be missed because of the clinical polymorphism of this disease. In fact, fetal haemorrhage may be delayed compared to rupture of membranes and occurs only late during delivery. It may also be absent or stopped by compression of the vascular laceration by fetal presentation or thrombosis [3].

Velamentous cord insertion can be confirmed antenatally by transvaginal ultrasound in up to 99 % of ultrasound examination performed between 18 and 20 weeks of gestation [9,10]. Ultrasound diagnostic criteria include the visualization of a linear sonolucent area other the internal os of the cervix without Warthon's jelly. Transvaginal ultrasound with color and pulsed Doppler is a validated and preferred diagnostic tool in case of suspected velamentous insertion. It allows to demonstrated blood flow through umbilical vessels and Doppler waveforms are typical of umbilical cord Doppler flow waveforms. The combined use of transvaginal and transabdominal ultrasound is an excellent approach to evaluate placental type and situation, and the cord insertion. It allows an exact localization of uterine vessels and may avoid an erroneous diagnosis of vasa previa. In fact, combined approach is able to diagnose velamentous insertion of the cord with a sensitivity of 100% and a specificity of 99.8% [10]. Unfortunately, in our case Doppler ultrasonography was not performed for the screening of vasa previa and to detect the cord insertion and diagnosis was done only after membranes rupture.

MRI is not widely available and has high cost. Nevertheless, it may constitute sometimes an accurate tool to diagnose vasa previa [11,12].

Differential diagnosis of Benckiser's hemorrhage includes many cases of third-trimester bleeding as being placenta praevia, retro placental hematoma and uterine rupture. In contrast of Benckiser's hemorrhage, all these diseases may affect seriously maternal condition. To eliminate differential diagnosis, several tests can be performed to distinguish fetal from maternal blood. This can be done by Apt test which differentiates alkali-resistant fetal hemoglobin from adult hemoglobin. However, these tests seem to be inaccurate in all clinical situations [13].

Antenatal diagnosis of vasa previa constitutes the key to reducing fetal loss. In fact, fetal mortality rate is almost 60% in cases of undiagnosed vasa previa while newborn survival rate is about 97% in prenatally detected cases [14].

Once Benckiser's hemorrhage is identified, emergent delivery must be performed to avoid fetal death. Obstetric management is consisting of caesarean section which should be performed without delay. Immediate caesarean delivery coupled with intensive neonatal resuscitation and transfusion allows obtaining a good neonatal outcome as in our case [14].

Conclusion

Benckiser's hemorrhage is a serious obstetrical condition with a high risk of fetal mortality mainly due to acute exsanguination. It constitutes an obstetrical emergency consisting of an immediate caesarian delivery associated to a fetal resuscitation and transfusion. Benckiser's hemorrhage is often associated to several risk factors which should be screening thanks to ultrasonography. Such screening allows suspecting diagnosis and improve fetal prognosis.

Conflicts of Interest

There are no conflicts of interest to declare.

Bibliography

1. Kanda E., et al. "Prenatal diagnosis and management of vasa previa: A 6-year review". *Journal of Obstetrics and Gynaecology Research* 37.10 (2011): 1391-1396.
2. Englert Y., et al. "Morphological anomalies in the placentae of IVF pregnancies: preliminary report of a multicentric study". *Human Reproduction* 2.2 (1987): 155-157.
3. Gagnon R., et al. "SOGC CLINICAL PRACTICE GUIDELINE: guidelines for the management of vasa previa". *International Journal of Gynecology and Obstetrics* 108.1 (2010): 85-89.
4. Nishtar A and Wood PL. "Is it time to actively look for vasa previa". *Journal of Obstetrics and Gynaecology* 32.5 (2012): 413-418.
5. Hasegawa J., et al. "Prediction of risk for vasa previa at 9-13 weeks' gestation". *Journal of Obstetrics and Gynaecology Research* 37.10 (2011): 1346-1351.
6. Chmait RH., et al. "Third trimester fetoscopic laser ablation of type II vasa previa". *Journal of Maternal-Fetal and Neonatal Medicine* 23.5 (2010): 459-62.
7. Oyelese KO., et al. "Vasa previa: an avoidable obstetric tragedy". *Obstetrical and Gynecological Survey* 54.2 (1999): 138-145.
8. Datta S., et al. "Vasa Previa: An Avoidable Obstetric Tragedy". *The Journal of Obstetrics and Gynecology of India* 66.3 (2016): 185-187.
9. Sepulveda W., et al. "Prenatal detection of velamentous insertion of the umbilical cord: a prospective color Doppler ultrasound study". *Ultrasound in Obstetrics and Gynecology* 21.6 (2003): 564-569.
10. Nomiyama M., et al. "Antenatal diagnosis of velamentous umbilical cord insertion and vasa previa with color Doppler imaging". *Ultrasound in Obstetrics and Gynecology* 12.6 (1998): 426-429.
11. Oyelese Y., et al. "Magnetic resonance imaging of vasa praevia". *British Journal of Obstetrics and Gynaecology* 110.12 (2003): 1127-1128.
12. Nimmo MJ., et al. "MRI in pregnancy: the diagnosis of vasa previa by magnetic resonance imaging". *Bristol Medico-Chirurgical Journal* 103.2 (1988): 12.
13. Messer RH., et al. "Antepartum testing for vasa previa: Current standard of care". *American Journal of Obstetrics and Gynecology* 156.6 (1987): 1459-1462.
14. Oyelese Y., et al. "The impact of prenatal diagnosis on outcome". *Obstetrics and Gynecology* 103 (2004): 937-942.

Volume 5 Issue 1 July 2017

© All rights reserved by Fatnassi Ridha., et al.