

Case Report

# Orgasmic coitus triggered stillbirth via placental abruption: A case report

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## Summary

Sexual activity during healthy pregnancy is safe. There are little data on how coital activity affects outcome of the high-risk pregnancies. Hereby we report a case demonstrating that orgasmic coitus triggered placental abruption resulting in preterm stillbirth.

A 38-year-old 8-para, 12-gravida woman lived unmarriedly with a constant partner in low socioeconomic conditions. Her previous pregnancies included 7 deliveries without complication, two early miscarriages and two pregnancy terminations. Her present pregnancy was complicated with gestational hypertension successfully treated with nifedipine. She had coitus 2 to 4 times a month, mostly without orgasm. The last coitus which happened in side-by-side position was accompanied by orgasm which continued in uterine hypertonicity and massive vaginal bleeding at 29 weeks gestation. Two hours subsequently, on admission to hospital, placental abruption and fetal demise were diagnosed. At the emergency cesarean section, a dead female infant weighing 1,510 g was born. Fetal pathology was not discovered. Placental histopathology showed retroplacental hematoma, intervillous and decidual hemorrhages, focal distal villous hypoplasia and avascular villuses. Patient's recovery rapidly occurred after intensive care.

Placental abruption complicates 0.4% - 1.0% of deliveries. It is known that most cases of abruption cannot be predicted and prevented. Our report suggests that orgasmic coitus may be a trigger for placental abruption in those women who have gestational hypertension and multiple risks for placental abruption. We infer from the above case that sexual intercourse is advised to avoid during pregnancy of such women in order to prevent placental abruption.

## Introduction

Premature separation of the placenta, i. e. placental abruption is a severe condition complicating 0.4% to 1.0% of deliveries [1,2]. It is one of the ischemic placental diseases [3]. There are many chronic clinical conditions and epidemiological factors that increase the risk of placental abruption [1,2,4]. Most cases of placental abruption, however, cannot be predicted [1,5]. Sexual activity in pregnancy is regarded safe [6-8]. In contrast to this, we hereby report a case demonstrating that orgasmic coitus triggered placental abruption resulting in stillbirth.

## Case History

A 38-year-old Caucasian woman (8-para, 12-gravida, body

mass index 30.1) was brought into hospital by ambulance after developing severe vaginal bleeding at 29 weeks gestation. Her last antenatal appointment was 5 weeks preceding admission when ultrasound examination showed eutrophic fetus. No anemia and diabetes were shown during the antenatal period but she had gestational hypertension successfully treated with nifedipine (2 x 20 mg, Cordaflex, EGIS). Patient lived unmarriedly with a constant partner in low socioeconomic conditions. Her past medical history revealed no illness. Her previous 7 pregnancies and deliveries including one twin pregnancy were without complications. In addition, she had two pregnancy terminations and her two pregnancies ended in first trimester miscarriage.

On admission, patient had massive uterine bleeding with

a tachycardia of 110 b.p.m. and blood pressure of 110/70 mmHg. Her temperature was normal. Physical examination revealed uterine hypertonicity and tenderness, regular labor pains with uterine mouth dilated to 5 cm, and with intact fetal membranes. The fetus was in breech presentation. Ultrasonography showed an eutrophic fetus without fetal heart activity, normally implanted placenta and retroplacental hematoma measuring 4 x 5 cm. Urgent laboratory tests showed that she had hemoglobin of 9.6 g/dl, hematocrit of 27%, platelet of  $140 \times 10^9/l$ , total white cell count of  $19.6 \times 10^9/l$ , INR of 2.0, D-dimer > 38.85 mg/l and C-reactive protein of 5.0 mg/l. Liver and kidney function tests were within normal limits. Placental abruption and fetal demise were diagnosed. At the emergency cesarean section, a dead female infant weighing 1,510 g was born. Patient received crystalloid infusion, 6 units of packed red cells and 3 units of fresh frozen plasma then her recovery occurred rapidly and uneventfully. Fetal pathology was normal. Placental histopathology confirmed retroplacental hematoma. Adjacent to it intervillous and decidual hemorrhages were found, furthermore, focal distal villus hypoplasia and avascular villuses were seen. Villous infarctions, increased syncytiotrophoblast knotting or pigmented histiocytes were not shown.

In a personal interview following surgery, patient denied intimate partner violence, recent abdominal trauma, vaginal bleeding in the first half of pregnancy, drug abuse, alcohol use and smoking. She told us that she had sexual intercourse during pregnancy 2 to 4 times a month and achieved orgasm only 3 times out of 10 occasions. The last coitus was carried out in side-by-side position in the morning, two hours prior to admission and her orgasm turned to permanent low abdominal pain then vaginal bleeding appeared. Thereafter she experienced periodic uterine contractions.

## Discussion

In the above report, the time proximity between the coitus and placental abruption suggests, similarly to a previous case report [9], that coitus may be a trigger for placental abruption. Data from a large study including 56,568 pregnancies demonstrated that the frequency of antepartum uterine bleeding including placental abruption was higher in women who reported recent coitus compared with those who had no recent coitus [10]. An other study found that among women who had coitus within the 48 hours preceding delivery, placental abruption more often happened than among those who reported no coitus [11]. These studies are in accordance with the above case report.

In addition, our case report has shown that placental abruption triggered by orgasmic coitus occurred in a woman who had multiple risk factors of placental abruption such as high multiparity, low socioeconomic condition, single marital status, advanced maternal age and gestational hypertension. These factors may individually represent risk for placental abruption [1,2,12].

Etiopathogenesis of placental abruption is not well understood. It is characterized by both chronic pathophysiologic features such as uteroplacental underperfusion, chronic fetal hypoxemia [13] or placental ischemia [3], and acute processes such as physical exertion [14], acute inflammation [5], elevated outdoor temperatures in warm seasons [15] and sexual intercourse [9-11].

It is known that sexual activity in late pregnancy can evoke increased pelvic congestion which slowly relieves and may last about 60 minutes following orgasm [16]. In contrast to that coitus does not increase the incidence of preterm and term deliveries [6-8], it has been demonstrated that orgasm in late pregnancy may be accompanied by uterine contractions during which decelerations of fetal heart rate appear and within 15 minutes after the last orgasm, the rhythmic contractions cease [17,18]. Consequently, pelvic congestion and uterine contractions working together can acutely impair the uteroplacental perfusion during and following the orgasmic episodes, and thus orgasm may result in placental abruption in those women whose uteroplacental perfusion has already been damaged by chronic processes [5]. The chronic placental disease was proven in our patient as well. Pathomechanism of placental abruption, above outlined is consistent with the findings that pregnant women of advanced maternal age have a higher risk for uterine bleeding following coitus [10], and advanced maternal age is correlated with the imbalance in angiogenic growth mediators and oxidative stress biomarkers [19]. Since the blood pressure during sexual activity increases [20], it may be a contributory mechanism for the abruption, particularly in pregnant women with hypertension.

In women with placental abruption vaginal delivery is usually preferred if the fetus has died [4]. In our patient, however, the uterine hemorrhage was so brisk and massive that prompt delivery became necessary in order to stop bleeding quickly. That is why emergency cesarean delivery was chosen.

Our case report has shown that orgasmic coitus triggered placental abruption which resulted in preterm stillbirth in a pluripara woman with gestational hypertension, and the abruption was linked to placental disease.

## Conclusion

It has been concluded that orgasmic coitus may trigger severe placental abruption in women with high risks for placental disease. This knowledge is counselled to apply during the antenatal care in order to prevent placental abruption and its complications, i.e. sexual intercourse is advised to avoid in such pregnancy.

## Acknowledgments

### Ethics approval

Authors state that the study protocol was approved by the Institutional Review Board before the study.



## Informed consent

Authors confirm that the patient in case report gave written informed consent before the study began.

## Author contributions

MZ conceptualized the study design, drafted and revised the manuscript. MV prepared data for the work and revised the manuscript. HP revised the manuscript. BP and DH carried out pathologic evaluation. AP conducted the study, drafted, wrote and revised the manuscript. All authors approved the final manuscript and agreed to be accountable for all aspects of the work.

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