

POJ Gynaecology & Obstetrics Research

Case Report

Dengue Fever Haemorrhage in Pregnancy

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Received Date: June 23, 2017 **Accepted Date:** July 05, 2017 **Published Date:** July 17, 2017

Citation: Huynh nguyen Khanh Trang, Hoang Thi Diem Tuyet (2017). Dengue Fever Haemorrhage in Pregnancy. POJ Gyn Obst Res 1(1): 1-4.

Abstract

Dengue fever is considered as one of the most common diseases in Vietnam, previously dengue fever rarely happened in adults, but currently it has become more common in adults and especially more dangerous for pregnant women due to its complications. Prognosis depends on the extent of disease, gestational age, placental circulatory failure during labor and bleeding after birth or after surgery. Most cases of Dengue fever in pregnancy is managed by conservative treatment, the complications are rare and include: blood clotting disorders, respiratory distress, mother-child transmission. Mortality rates is up to 10-20% when dengue haemorrhagic fever or dengue shock syndrome occurs. Prevention is the most useful in the community, however dengue fever vaccine is just in testing phase of clinical trial. One case of Dengue fever haemorrhage happened in Hung vuong hospital, Ho Chi Minh city, Vietnam reported. 26- year old woman with gestation of 37 weeks had serious Dengue fever haemorrhage. The Obstetricians and midwives followed up carefully and decided appropriate management such as platelets transfusion, vaginal delivery... saved both mother and child. Both of them discharged in the happiness of their family as well as hospital staffs after 10 days of treatment.

Keywords: Dengue fever, Dengue hemorrhagic fever, Dengue Shock Syndrome, Severe thrombocytopenia

Introduction

According to WHO, Dengue fever happen in more than 100 countries in tropical and para- tropical areas. Every year, there are nearly 50 million new cases of Dengue fever. Dengue fever is a viral disease spread by *Aedes aegypti* mosquito. It is more common in children but with increasing rate of adult dengue fever victims, the number of infected pregnant women has also increased [1].

In Vietnam, Dengue fever occurs complicatedly and tends to increase overtime. It is always potentially large outbreak. Each year there are about 100,000 new cases and over 100 deaths. Dengue fever used to be a common disease in children under 15 years ago, but now Dengue fever has happened in all ages, the trend of this disease in adult has been increasing and especially become more dangerous when it happens in pregnant women [2]. The pregnant women with dengue fever tends to have fetal distress especially in delivery. At that time, the obstetricians are very confused to decide whether vaginal delivery or cesarean section because vaginal delivery can result in lower Apgar score of the baby, and cesarean section can result in mother serious haemorrhage. Carefully following-up and giving appropriate interventions is really needed in those cases.

Case Report

Patient name: L.T.N.L, 26 years old, PARA= 0000, Address: 12 district, Ho Chi Minh city, Vietnam. Administration at 10:15 AM on 23rd November 2016. Her last menstruation: 27th January 2016. Ultrasound result on 1st April 2016: one living

pregnancy in the uterus with 8 weeks of pregnancy age. Her prenatal care has been followed up at the private sector. She also had 2 shot of VAT vaccines. 3 days before administration, she got cough and low fever without any vaginal blood or discharge or lower abdominal pain. She still has regular life activities. No special disease or family histories are recorded. Administration on 23rd November, 2016. Vital sign: Pulse: 113/ minute, BP: 100/60 mmHg, RR: 20/minute, Temperature: 38°C. Weight: 58 Kg. Heart and lung: normal. Fundal height: 30 cm, fetus heart beat: 144/minute. Vaginal exam: less vaginal discharge, nitrazine test: negative. Cervical dilation: closed, high head position. Pelvic exam: normal.

Blood test:
Red blood cell: 3.8 million cells /mm³, Hct= 36.3 %, Hb= 12.2 g/dL, Platelets =223.000/mm³, White blood cells =11.900 cells/mm³ with N 84,4%. Blood group: O, Rh (+). HBsAg (-), HIV (-), VDRL (-).
Coagulated tests: PT 11,5 sec, PT% 100%, INR 1,00, APTT 31,0 sec
Fibrinogen= 5.9 g/l. Glycemiet= 79 mg/dL. CRP= 38.7 mg/L, PCT=0.1 ng/ml.
Urine analysis: normal. ECG showing sinus tachycardia.
Ultrasound: one living fetus, head position, BPD= 88 mm, TAD= 103 mm, FML= 66 mm, AC= 318mm, placenta position: anterior wall of uterus fundus, placenta growth grade: III, amniotic fluid: normal. CTG: group II (based on ACOG 2009).

Progress:

Date	Clinical sign	Laboratory tests	Diagnosis- treatment
23rd/10/2016 10 am15 – 11pm	Continuous fever: 39°C, P = 100 – 115 / min. BP = 90/60 – 110/70 mmHg. Cough with green dis- charge and throat ache	WBC=11.900/mm ³ , N 84.4%. CRP= 38.7 mg/L, PCT=0.171 ng/ ml. Ultrasound: oligoam- niotic fluid CTG: group II.	Primigravida - 37 weeks of gestation. Head position- oligoamniotic fluid Upper respiratory infection. Ampicillin Sulbactam 1.5 gr X 4 VI every 6 hours; Acetaminophen when fever is over 38.5°C ; Fluid transfusion: NaClo, 9%; LR= 15 ml/kg; 2nd grade of nursing care.
24 th /10/2016	Continue fever Reduce coughing and throat ache	NS1 strip Dengue (+), IgG Dengue (-), IgM Dengue (-). WBC=7.370/mm ³ N=75.5%; RBC= 3.31, Hct=31.4%, Plaquet= 101.000/mm ³ . Coag- ulation: normal CTG II group with uncertained depress	Primigravida - 38 weeks of gestation. Head position- oligoamniotic fluid - Dengue fever Day 4 with reduced Plaquet and Throat ache with effective treatment Drink more Reduce fever Repeat blood cell count if necessary at least one per day, especially focus in platelets count Caution with serious mode of dengue fever.
25 th /10/2016	Fluctuated fever from 37 to 39°C. Daintiness Petechiae at extremi- ties	WC=4.970/mm ³ N=75.2%; RBC= 3.40; Hct=32.3%, Plaquet= 72.400/mm ³ . Coagulation: APTT= 39.1/s.	Primigravida - 38 weeks of gestation. Head position- oligoamniotic fluid - Dengue fever Day 5 with caution of shock and Throat ache with effective treatment. Ready for intervention in case failure of fetus -placenta circulation

		<p>Creatinine 67 mmol/L Acid uric 209 mmol/L ALT 22 U/L, AST 41 U/L, Albumin=30 g/L CTG: II group with uncertained depress</p>	<p>and face to bleeding Condense platelets transfusion needed</p>
26 th /10/2016	<p>Fluctuated fever from 37 to 38°C. Not good appetite. Reduce Petechiae at extremities.</p>	<p>WC=3.360/mm³ N=71.5%; RC= 3.32 mil, Hct=31.5%, Plaquet = 30.300/mm³ (3 :50 am), Plaquet = 16.800/mm³. (8:30 am) Coagulation: APTT= 42.9/s Creatinine 58 mmol/L, Acid uric 196 mmol/L, ALT 23 U/L, AST 45 U/L. CTG: II group with uncertained depress.</p>	<p>Diagnosis: Primigravida - 38 weeks of gestation. Head position- oligoamniotic fluid - Dengue fever Day 6 with caution of shock Serious reduction of platelets Condense platelets transfusion with 2 kits at 10:30am Platelets count check after transfusion: 199.000/mm³</p>
27 th /10/2016	<p>No fever 9:30 am Delivery with ventouse, baby girl, 2950 gr, Apgar 7/8. Blood loss 250 gr.</p>	<p>8am WC=6.370/mm³ N=56.9%; RC= 3.53, Hct=33.5%, Plaquet= 19.500/mm³. 6:30pm WC=19.600/mm³ N=85.1%; RC= 2.97 triệu, Hb= 92.6 g/dL, Hct=28%, Plaquet= 64.400/mm³.</p>	<p>Follow up delivery Condense platelets transfusion with 1 kit when cervix opened completely. Platelets count check after transfusion in delivery room at 10:30 am White blood cells count =9.390/mm³ N=67.8%; Red blood cells count = 3.20, Hct=30.2%, Platelets count = 147.400/mm³. Coagulation: INR= 1; PT=13.1s, APTT= 49.5 s. Fibrinogen=3.74 g/L.</p>
28 th /10/2016 – 03 rd /11/2016	<p>Patient and her child discharge safely.</p>	<p>White blood cells count =15.670/mm³ N=68.2%; Platelets count = 264.000/mm³.</p>	

Discussion

The early diagnosis of Dengue fever is very useful because it relates strictly to prognosis and management. In Dengue fever diagnosis, people usually to

use Dengue IgM, IgG or Real time PCR in order to find out Dengue RNA. Unfortunately, Dengue IgM appears on Day 3-4 after fever, Dengue IgG appears on Day 14 after fever. Real time PCR can appear ear-

lier but it can only be found out by big and modern laboratory department. Recently, Dengue NS1 (NS1 antigen) helps a lot to diagnose early, NS1 is an unconstructed glycoprotein, synthesized in two ways: cell membrane and secretion. NS1 can be found in patient blood very soon, on Day 1 to Day 9 after fever, even before IgM, IgG synthesized. The sensitive rate of NS1: 92.4% and the specific rate: 98.4% [3].

On 16th February 2011, the Ministry of Health of Vietnam signed the decision 458/QD-BYT and published: Management of Dengue fever guideline [2]. In this guideline, there is no difference between Dengue fever and dengue fever haemorrhage. Dengue fever haemorrhage is classified into 3 levels including: Dengue fever haemorrhage, Dengue fever haemorrhage with precaution and serious Dengue fever haemorrhage. This classification has solved the limitations of old classification (based on only blood circulation). As a result, we can set up appropriate management because with the new management of Dengue fever haemorrhage classification, we have been lost less serious cases such as: serious haemorrhage, myocarditis, hepatitis.

In pregnancy, if Dengue fever haemorrhage is diagnosed, it is necessary to follow up at the hospitals [1,2]. The roles of health providers are early diagnosis, setting up suitable management. One of the most important things, failure of placenta fetus circulation can happen at any time [4]. The Obstetrician should be very careful when making decision either vaginal delivery or Caesarean section (CS) if necessary. When we choose CS, we have to face to many risks such as bleeding during and after operation especially

on the most harmful days of Dengue fever haemorrhage (Day 3,5,7 after fever) [4].

During the management of Dengue fever haemorrhage, severe thrombocytopenia requiring prompt resuscitation with blood and blood products prior to and during delivery, and was a key point in successful outcome of individuals having platelet count <20,000 cells/mm³ [4]. Mother to child transmission of Dengue has not been intended enough in Vietnam.

Conclusion

Dengue fever in pregnancy occurs complicatedly and tends to increase overtime. Mosquito killing and mosquito bite prevention are fundamental and important measures in the Vietnamese community today. Conservative treatment prevails, invasive interventions need to weigh the benefits for women and their fetuses.

References

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