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Case Report

Septic abortion in incomplete abortion case report and literature review

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ABSTRACT

In the last 10 to 15 years, nearly 12% of all pregnancies ended in abortion in the first trimester (12 weeks of gestation), and recent data show that 80% of first trimester abortions occur before 10 weeks of gestation. Septic abortionis the result of an unsafe abortion. According to the World Health Organization (WHO), septic abortion occurs due to the termination of an unwanted pregnancy by an unfit person or the handlingof an abortion in an environment that does not meet medical standards, or both. We report the case of a 21-year-old woman with G3P2002 with septic abortion + observation of decreased consciousness + acute kidney injury + electrolyte imbalance + transaminitis. The patient was brought by her family to the emergency department of Wangaya Hospital Denpasar with the main complaint of decreased consciousness, fever and weakness. The patient was diagnosed with incomplete abortion at 6 weeks gestation by an obstetrician but thepatient did not seek medical treatment to evacuate the remaining tissue. The patientwas dilated and curetted with oxytocin protection and antibiotics meropenem and levofloxacin. Postoperatively the patient was admitted to the intensive care unit for general improvement and continued electrolyte correction. after 2 days of treatment the patient experienced a decline in condition and was later declared dead. Treatment of septic abortion begins with rapid and accurate recognition of infection of the placenta and remaining conceptions, genital and blood cultures, administration of fluids and antibiotics, and immediate evacuation of infected products of conception.

Keywords: Sepsis abortion, Fetal death in utero, Bleeding in pregnancy

INTRODUCTION

Abortion is the threat or expulsion of conception before the fetus can live outside the ability of the womb, and as a limitation is used pregnancy less than 20 weeks or fetal weight less than 500 grams.[1]

Abortion is often still misunderstood by women, men or health workers. For example, women may believe that abortion is rare and that abortion can occur when a pregnant woman lifts heavy weights or due to the use of contraceptives before pregnancy. This stigma can make women and their partners feel guilty when an abortion occurs and prevent them from seeking help or appropriate management.[2]

In the last 10 to 15 years, nearly 12% of all pregnancies ended in abortion in the first trimester (12 weeks of gestation), and recent data show that 80% of first trimester abortions occur before 10 weeks of gestation. Events include intrauterine pregnancy with an empty gestational sac, embryo without cardiac activity, or gestational tropoblastic disease with placental degeneration.[1,2]

Septic abortion is the result of unsafe abortion conditions. According to the World Health Organization (WHO), septic abortion occurs due to the termination of an unwanted pregnancy by someone who does not have adequate skills or handling of the abortion in an environment that does not meet medical standards, or both. WHO estimates that 13% of maternal deaths worldwide result from complications of unsafe abortion and 95% of these unsafe abortions occur in developing countries.[3]

CASE REPORT

A 21-year-old woman was brought by her family to the emergency department of Wangaya Denpasar Hospital on 26 December 2022 at 06.08 WITA with the main complaint of decreased consciousness, fever accompanied by weakness after 8 days previously diagnosed with incomplete abortion at 6 weeks of gestation by an obstetrician but she did not seek medical treatment for evacuation of the remaining conception tissue due to financial reasons. Vital signs when the patient came to delirium consciousness, GCS E3V3M5, blood pressure 110/70 mmHg, with pulse 88 beats per minute, respiratory rate 20 beats per minute with body temperature. 38.7 °C. Obstetric examination found that the fundus uteri was not palpable, vaginal inspection found fluxus (+). Laboratory examination revealed hemoglobin 13.4 g/dl, white blood cell (WBC) 9,170/ul, platelets 116,000/ul, plasma urea 150 mg/dl, creatinine 3.4 mg/dl, sodium 126 mmol/L, potassium 2.2 mmol/l, chloride 88 mmol/l, HBsAg negative, C-reactive protein (CRP) 55 mg/l, anti HCV rapid negative, positive pregnancy test. On transvaginal ultrasound appeared AF uterus size 3.81×5.02 cm, ET 0.8, appeared intrauterine hypohyperechoic picture accompanied by free fluid in cavum douglass. The patient was diagnosed with G3P2002 with septic abortion + observation of decreased consciousness + acute kidney injury + electrolyte imbalance + transaminitis, the patient was planned for cito dilatation and curettageafter being given oxytocin 20 IU drip in 500 cc RL at 28 tpm, antibiotic with ceftriaxone 1 gram per 12 hours I.V and metronidazole 500 mg per 8 hours I.V. Other therapy while in the IRD was electrolyte correction with KCL 25 meq in D5% 500 cc at a rate of 10 tpm and NaCl 0.3% at a rate of 18 tpm, the patient was also given paracetamol 1 gram per 8 hours I.V, the patient was then admitted to the ICU.

Intraoperative tissue residue was found to be 20 cc; tissue samples were then sent for anatomical pathology examination. Postoperative therapy with head up 45°, simple mask oxygen 8 liters per minute, omeprazole 1×40 mg I.V, NAC 1×1 vial I.V, antibiotics with meropenem loading dose 2 grams I.V followed by 1 gram per 8 hours I.V, levofloxacin 750 mg per 24 hours I.V, liquid diet 6×150 cc via NGT, electrolyte correction continued with KCL 75 meq/1500 cc RL per 24 hours. Postoperative blood gas analysis results found pH 7.36, P CO_2 37 mmHg, PO_2 243 mmHg, $cHCO_3$ 21 mmol/l, ABE -5 mmol /l, SBC 22 mmol/l, SO_2 100%. On 27 December 2022 the patient experienced a decline in condition with a higher fever and aweak general condition, GCS consciousness E3V3M5, vital signs blood pressure 110/85 mmHg, pulse 122 times per minute, temperature 40.4° C, respiratory rate 26 times per minute. At 3:40 pm, the patient's condition decreased further with GCS E1V1M1, blood pressure 88/42 mmHg, pulse 155 beats per minute, intubation wasperformed by an anesthesiologist and inotropic administration with dobutamine andnorepinephrine. The patient experienced asystole at 20:00 WITA on 27 December 2022, resuscitation was carried out for 30 minutes and administered adrenaline 1 mg every 4 minutes, negative response. The patient was declared dead in front of the family at 20.35 WITA and the family accepted sincerely.

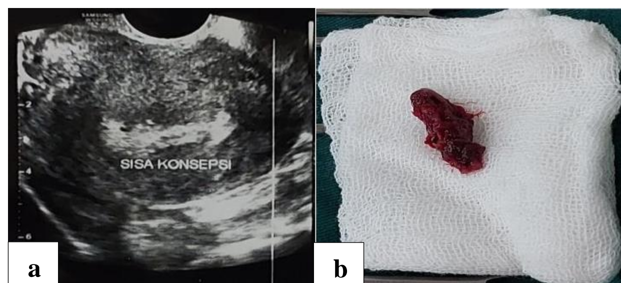

Figure 1: (a) Ultrasound image of intrauterine hypohyperechoic, and (b) post curettage conception remains.

DISCUSSION

Septic abortion is infection of the placenta and fetus (conception outcome) of a previable pregnancy. The infection is centered in the placenta and there is a risk of spread to the uterus, causing pelvic infection or becoming a systemic infection causing septicemia and potential damage to distant vital organs. Septic abortion can quickly become a dangerous and even lethal infection when infected tissue remains in the uterus, especially when toxin-producing bacteria enter the uterus.[1]

In this case, it was known that the patient had a fever accompanied by decreased consciousness since 3 days before admission to the hospital, where 5 days before the onset of symptoms the patient was diagnosed with incomplete abortion by an obstetrician and gynecologist but the patient refused to undergo curettage and further management according to the doctor's advice. Retention of the remaining conception in the patient's uterus was confirmed by ultrasound findings on 26 December 2022. In the condition of delayed curettage and the presence of residual conception in the uterus, infection of the uterus and parametrium can occur which can develop into septicemia.

Sepsis is a life-threatening organ dysfunction due to dysregulation of the body's response to infection. Infection in cases of infectious abortion occurs can be caused by the presence of residual tissue that affects inflammatory mediators including TNF-α, Interleukin 1-6, PAF, leukotrine, thromboxane A-2, kinin, thrombin, MDF, and β-endorphins. In addition, it is mentioned that there is an involvement of vascular endothelial activation and pathogenic organism structures in the uterus and surrounding areas, which can even spread throughout the body causing peritonitis, sepsis and shock.[1,2]

Since 2004, the surviving sepsis campaign (SSC) has published protocols for the initial management of patients with sepsis. Most recently, there are five

elements of sepsis care, which should be initiated within the first hour of sepsis determination. The elements are lactate measurement, blood culture before antibiotics, administration of broad-spectrum antibiotics, administration of a 30 ml/kg crystalloid fluid bolus in cases of hypotension or high serum lactate levels (hyperlactatemia) of at least 4 mmol/l, and administration of vasopressors to maintain a mean arterial pressure of at least 65 mm Hg.[5]

Complete treatment of septic abortion includes initiation of intravenous fluids for maternal stabilization, culture collection, and antibiotics followed by rapid surgical evacuation of the infected products of conception independent of fetal cardiac activity, as septic abortion, especially in the second trimester, can occur in a live fetus.[6] Blood cultures and other samples from suspected foci of infection should be obtained and examined immediately before starting antibiotic therapy as they may become uninformative within a few hours of antibiotic administration, but this should not delay the decision to administer antibiotics immediately. Intravenous administration of broad-spectrum antibiotics is recommended within one hour of suspected severe sepsis in women, with or without septic shock.[6,7]

Intravenous administration of broad-spectrum antibiotics is recommended within one hour of suspected severe sepsis in women, with or without septic shock. Empirically, broad-spectrum antimicrobials active against gram-negative bacteria, and capable of preventing exotoxin production from gram-positive bacteria, should be used according to local microbiology policy, and therapy narrowed once the causative organism has been identified. Most antibiotic regimens for serious pelvic infections include a combination of: gentamicin and clindamycin; ampicillin, gentamicin, and metronidazole; levofloxacin and metronidazole; or single agent imipenem; piperacillin-tazobactam; or ticarcillin-clavulanate may be used in cases of septic abortion. Intravenous antibiotics can be discontinued 48 hours after clinical improvement in cases without abscesses.[3,5] Intravenous immunoglobulin (IVIG) has immunomodulatory effects, and in sepsis due to staphylococci and streptococci also neutralizes the superantigen effect of exotoxins, and inhibits the production of tumor necrosis factor (TNF) and interleukins. High-dose IVIG has been used in pregnant women and is effective in exotoxic shock (i.e. toxic shock due to streptococci and staphylococci) but there is little evidence of benefit in sepsis due to gram-negative infections.[7,8]

CONCLUSION

Reported the case of a 21-year-old female patient delivered by her family to the emergency department (IRD) of Wangaya Hospital Denpasar with the main complaint of decreased consciousness, fever accompanied by weakness after 8 days previously diagnosed with incomplete abortion. Based on family interview, physical examination and support, the patient was diagnosed with septic abortion. Treatment of septic abortion begins with rapid and accurate recognition of infection of both the placenta and the remaining conception, genital and blood cultures, administration of fluids and antibiotics, and immediate evacuation of the infected products of conception. Clinicians need to be aware of the development of signs of severe infection which requires careful monitoring of clinical signs on an hourly basis.

It is necessary to identify other factors such as decreased immunity or comorbid factors that can aggravate the outcome of patients with septic abortion. We recommend all pregnant women with abortion to get standardized care and evacuation of the remaining conception if necessary to prevent septic abortion and other complications that can occur such as bleeding, infection and infertility.

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