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MANUAL VACUUM ASPIRATION AT 18th WEEK OF IUFD

by Ivanna Ivanna

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CASE REPORT

MANUAL VACUUM ASPIRATION AT 18th WEEK OF IUFD

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Abstract

Background: Manual Vacuum Aspiration (MVA) is an action to evacuate the uterine cavity, which starts to be conducted again at this time. Based on some cases, MVA is carried out at 14th week of gestation. It was conducted during this period as it was worried that the action of the MVA would not be able to thoroughly cleansed in a more extensive pregnancy period. Conducting the MVA during that time possibly causes sequelae in the form of bleeding and the possibility of having to repeat the action of sharp curettage. The repetition of the uterine cavity evacuation will certainly cause inconvenience for the patient.

Objective: To present a case report of a multigravida G5P2A2 with 18-week gestation using intra-uterine fetal death (IUFD) and undergoing MVA for the evacuation of the uterine cavity.

Respondent and Method: A 42-year old G5P2A2 multigravida with a diagnosis of intrauterine fetal death (IUFD) at 18th week using an Ultra Sono Graphic (USG) examination. MVA Patient was performed to evacuate the uterine cavity, which was previously given 100 µg of misoprostol orally for dilation. Upon the AVM procedure, the absence of the uterine cavity was evaluated using an ultrasound examination.

Results: MVA has been carried out on an indication of IUFD at 18th week of gestation with the result of a clean uterine cavity, minimal bleeding, post-abortion IUD (IUDPA) installed adequately, and they did not cause complaints.

Conclusion: Manual Vacuum Aspiration (MVA) is effective for the evacuation of uterine cavities at the 18th week of gestation.

Keywords: intrauterine fetal death, manual vacuum aspiration, multigravida

Introduction

Manual Vacuum Aspiration (MVA) is an act of evacuation of the uterine cavity by vacuuming instead of being scraped off with a curettage spoon. This vacuuming action is expected not to damage the endometrial layer compared to evacuation using a curettage spoon. The expected long-term effect of vacuuming is no placental adhesions for the next pregnancy. Therefore, the risk of the placenta adhesions to its

insertion, called placenta accreta, is a medical indication that increases the risk of morbidity and mortality in pregnant women.

Intrauterine fetal death (IUFD) is the condition of the death of the fetus in the womb as the fetal heart rate is no longer detected. Factors causing fetal death, in this case, can be due to maternal age over 40 years (1). IUFD conditions require immediate evacuation of the uterine cavity. The amount of gestational age of 18 weeks is measured as high as three fingers below the center and that it requires proper uterine cavity evacuation. Evacuation of the uterine cavity using MVA is indicated for the evacuation of the uterine cavity until 14 weeks' gestation (2).

This paper reports a case report about the evacuation of uterine cavities in IUFD cases at the 18th week of gestation using MVA preceded by administration of 100 µg misoprostol orally for dilation. Manual vacuum aspiration (MVA) was first described in the 1970s. MVA is an action used in the handling of incomplete abortion. This action is widely used in the United States of America (USA), Asia, Europe, and Africa (3). Not many centers conducted MVA to evacuate the uterine cavity yet; thus, the use of MVA in clinical practice has not been largely reported (4).

Manual Vacuum Aspiration (MVA) is an alternative action for the evacuation of the uterine cavity in cases of an incomplete abortion (5). An incomplete abortion is a miscarriage of the resultant conception that has not entirely come out of the uterine cavity and that it is still partly in the uterine cavity (5,6). If an abortion occurs, the incompleteness of the action can increase maternal morbidity (6). Studies comparing 400µg of sublingual misoprostol with MVA show that misoprostol is analogous to MVA as the first line in the management of incomplete abortion (6).

Some of the advantages of using MVA for the evacuation of uterine cavities are: MVA is safer and more cost-effective than sharp curettage. Moreover, manual vacuum aspiration is safe, effective, and has less pain than sharp curettage. More importantly, MVA has a lower risk of uterine perforation than sharp curettage. MVA measures can also be carried out not necessarily in the operating room but also in the clinic or emergency room (5).

CASE REPORT

A 42-year old multigravida at the 18th week of gestation underwent intra-uterine fetal death (IUFD). The patient in this pregnancy was the 3rd P0A2 pregnancy from the second husband. The patient already had two healthy growing children, P2A0 with the first husband. The patient worked as a housewife, and her last educational background was a high school education. She had a history of obstetrics with the second husband as G3P0A2 with the first pregnancy abortion in 2017 and performed curettage. The second pregnancy also experienced an abortion in 2018 and was curettaged. The third pregnancy with the second husband underwent an IUFD and performed an MVA action with the previous administration of 100 µg misoprostol orally for dilation and installation of the Post-Abortion Intra-Uterine Device (PAIUD) in handling the evacuation of the uterine cavity and resting the uterus for at least the next six months.

The last menstruation period was on August 3, 2019, in the 18th week of gestation in December 2019. Complaints of bleeding have been experienced for three days before entering the hospital. On the first day of the bleeding, more blood came out. The patient then went to a midwife, and she referred to the hospital. Emergency Installation Doctor was conducted after examining the patient by providing therapies such as allylestrenol 2x1 and isoxsuprine 3x 1/2 tablet. Furthermore, the patient was discharged. Two days later, more and more bleeding occurred for two hours. Before being admitted to the hospital, the patient no longer felt fetal movements.

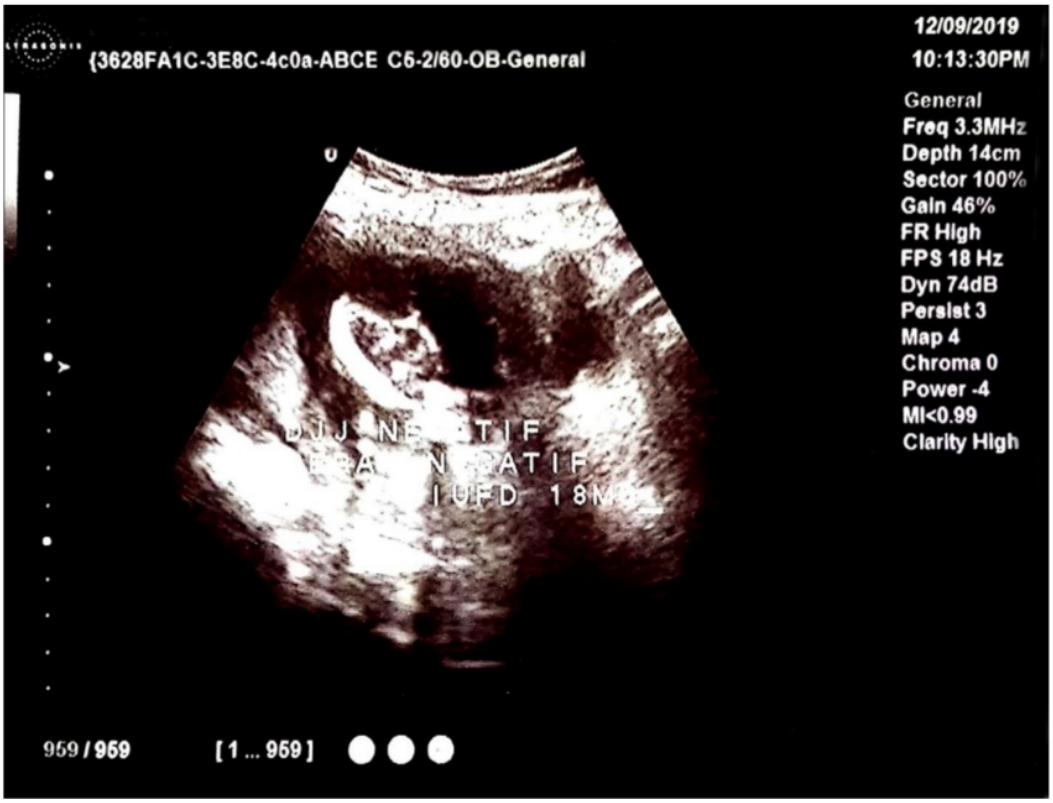

Figure 1. Ultrasound results: a single fetus, Spalding sign (+), FHR (-), diagnosed with IUFD.

Vaginal bleeding more highly occurred. Furthermore, it was decided to do an MVA emergency action, and the patient immediately was requested to stop eating and drinking. Shortly before the MVA procedure was performed, the general condition of the patient was good, with a high fundus uterine of 3 middle-lower fingers. During the implementation of the MVA, they planned to conduct the post-abortion intra-uterine device (PAIUD). After the fetus has been removed with forceps, bleeding before MVA was 200 ml, and the fetus & part of the placenta appeared. MVA action with 12 cm sonde and anteflexed uterus (AF) was conducted, and the action lasted for 10 minutes. It

obtained 50 ml of tissue residue and 50 ml of bleeding. After the MVA action was re-condensed, uterine depth was 11 cm, and Cu-T type PAIUD was continued.

The installation of a PAIUD aimed to rest the uterus post-abortion for at least six months. Within six months, tracking could be carried out to cause abortion and its treatment. The patient would also be psychologically calmer to prepare for the next pregnancy. The contraception was selected as an IUD as it is non-hormonal; thus, it did not interfere with menstruation, and the fertility of the patient returned immediately after the conduction of the IUD. Furthermore, the IUD is long-term contraception. Thus, if within six months, the patient is not ready to get pregnant again, then the contraception will still maintain the desire of family planning from the patient.

MVA Preparation

When the patient started being hospitalized on December 9, 2019, at 10:00, the patient was conducted with an RL infusion of 30 drops/minute followed by dilatation using 100 μg / oral misoprostol and was requested to stop consuming food and water. The patient was planned to conduct the uterine cavity evacuation using MVA, followed by the installation of the PAIUD at 12.00. The patient's condition, at the moment of entering the operation room, was generally good, with vital signs, such as blood pressure 130/90 mmHg, pulse frequency 82x / minute, respiratory frequency 20x / minute, and temperature 36.5^{0}C. Vaginal toucher examination showed a thick cervix, which opened 1 cm. Laboratory results were Hb 13.1 g / dL, 7.980 / mm3 of leucocyte, count 269,000 / mm3 of thrombocyte, 10 minutes of CT, and 3 minutes of BT.

Post MVA

When the patient came out of the operation room, the patient's general condition was still anesthetized, with vital signs such as blood pressure 100/70 mmHg, pulse frequency 80x / minute, respiratory frequency 20x / minute and afebrile temperature. The patient was monitored in the recovery room. During the process in the recovery room, the general condition of the patient was good, with vital signs such as blood pressure 100/60 mmHg, pulse frequency 85x / min, 20x / min of respiratory rate, temperature 36.8^{0}C, with oxygen saturation (SpO2) 99%.

The patient was monitored in the recovery room for 3 hours. During the monitoring process, the patient's general condition was good, with good vital signs, and no complaints of bleeding. Furthermore, the patient was moved to the wardroom. When the patient was moved to the ward, the patient's general condition was good, with vital signs such as blood pressure 101/62 mmHg, pulse frequency 91x / minute, with the amount of 20 ml passive bleeding.

At the next day's visit, the general condition of the patient was good, with vital signs of blood pressure 100/70 mmHg, a temperature of 36.3^{0}C, and a smooth urinating process. The patient was allowed to go home and asked for control one week later. At the time of the control, the general condition of the patient was normal, with vital signs of blood pressure 120/80 mmHg, smooth defecation (bowel movements) and urinating process, no complaints of bleeding, no complaints of pain, also no complaints against PAIUDs that were mounted. Ultrasound results showed a clean uterus with visible PAIUD in situ. Furthermore, the patient was asked to control one month later.

Figure 2. Results of the 7th day of MVA ultrasound with PAIUD in situ.

The patient came to the hospital to have a medical control and was asked to wait for the menstruation period. She got her menstruation about two months after MVA. The menstruation lasted for four days, with a normal amount of blood. There were no complaints about the IUD, both in the form of pain during menstruation and pain during sexual intercourse.

Figure 3. P2A3 ultrasound results at two months after MVA with PAIUD in situ

DISCUSSION

Manual Vacuum Aspiration (MVA) is the standard measure for the evacuation of the uterine cavity in cases of miscarriage in the first trimester (3). In this case report, the evacuation of the uterine cavity with MVA was carried out at the 18th week of gestation. The uterine cavity was more significant than the 12th-14th week of gestational age; thus, there was a concern that unclean tissue would occur. In this case, the use of misoprostol was conducted to dilate first and assist in the

implementation of MVA. It was expected that the decay of the network would be smooth when it was vacuumed with MVA. By the initial administration of 100 μg misoprostol, the bleeding and tissue discharge occurred. Therefore, the diagnosis turned into an incomplete abortion. The evacuation of the uterine cavity as an incomplete abortion was carried out with MVA. One week upon the evacuation, the result showed a clean uterus with visible PAIUD in situ.

Begum S. et al. reported that MVA was recommended in Bangladesh for the management of incomplete abortion. It is influenced by a number of factors: the MVA procedure is safe, effective, faster, cheaper, costs minimal payment, shorter hospitalization, and less risk of uterine perforation. Thus, the use of MVA in incomplete abortion reduces maternal morbidity and mortality (5). In this case report, the MVA procedure used is safe, effective, and faster, which only required 10 minutes in the process, although the uterine cavity was conducted in quite a considerable period of gestation, which was in the 18th week. At the time of evaluation, the uterine cavity was clear, and PAIUD was there. The duration of hospitalization was not counted in this case report as it adjusted the rules of patients undergoing hospitalization borne by the Social Security Organizing Agency.

Blandine T. et al. reported that MVA is a valid action in the management of complications in early pregnancy, due to the minimal complications of the incidence of uterine perforation, bleeding, and the remaining tissue caused. Thus, MVA is a safe, easy-to-do, cost-effective procedure that provides benefits to both patients and health facilities. (6) In this case report, the magnitude of the 18th week of gestation also does not become an obstacle in cleaning the uterine cavity using the MVA procedure. It was revealed based on the result of the ultrasound a week after the patient returned from the hospital that the result showed a clean uterine cavity with PAIUD in situ.

Brown et al. also revealed that MVA action is a procedure that is more effective than sharp curettage. Manual Vacuum Aspiration (MVA) is believed to be cheaper with a shorter duration of hospitalization. Furthermore, MVA action results in a smaller amount of bleeding, fewer serious complications, aside from being quick and easy to work on, and minimal pain compared to sharp curettage (7).

Manual Vacuum Aspiration (MVA) can be conducted more quickly. Odland M.L et al. suggested that it also costs minimal pain and a smaller amount of bleeding. The MVA procedure, as an evacuation of the uterine cavity in the cases of incomplete abortion up to 14th week of gestation, is believed to be sufficient use of local anesthesia or analgesia. In addition, MVA can be carried out in outpatient polyclinics and places with minimal human and equipment resources as it does not require sedation and the use of electrical devices (2,8).

The World Health Organization (WHO) recommends that MVA is a safer procedure than dilation and curettage for termination of pregnancy (9). The safety of MVA procedures is also conveyed in several scientific publications that have been submitted. Moreover, in this case report, it was concluded that the MVA procedure was safe to evacuate the uterine cavity in complications of early pregnancy, even at the 18th week of gestation.

CONCLUSION

Manual Vacuum Aspiration (MVA) as a procedure for evacuation of the uterine cavity in the case of IUFD at the 18th week of gestation gives good, safe, effective, clean, and fast results in its process. The MVA procedure could be recommended as an evacuation of uterine cavities in cases of miscarriage with a gestational age of more than 14 weeks.

LETTER OF AVAILABILITY

It has been submitted to the patient and the patient's husband. They agreed to make a case report for the advancement of science and better services for patients with IUFD.

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