RESEARCH PAPER.

OUTCOME OF MISCARRIAGES, AMONG PATIENTS ADMITTED FOR POST ABORTION CARE TO BASE HOSPITAL WATHUPITIWALA, SRI LANKA.

Amarasiri Asela[1], Ganepola G.A.M.P.[2], BhagyaLochana R.P.S.S.[2], Wickramarathna W.A.I.[2], Herath H.M.L.P. [2], Jayasinghe P.P.[3]

[1] Consultant Obstrtrician and gynaecologist - Base Hospital Watupitiwala, [2]Medical Officer Gyn & Obs Base Hospital Wathupitiwala, [3]Registrar in Community Medicine Post Graduate Institute of Medicine.

Corresponding Author: Asela Amarasiri email: aselaa8@gmail.com.

ABSTRACT

Introduction

Miscarriage, is the natural death of an embryo or fetus before it is able to survive independently. 25-30% of pregnancies in Sri Lanka end up with abortions. Increased risk of developing an infection by a pregnant mother following an abortion is the most serious pathological event which can lead to maternal death. Anyhow miscarriages create a huge economical and sociocultural burden which should be addressed in a rational manner.

Objectives

To describe the pattern and incidence of outcome events following miscarriages among patients who were admitted for post abortion care to the Base Hospital Wathupitiwala, Sri Lanka.

Design, Setting and Methods

A descriptive cross sectional study was conducted for one year duration among 240 patients admitted to Base Hospital Wathupitiwala following miscarriages. Systematic random sampling technique was applied. Miscarriages due to trauma and patients who had interventional abortions were excluded. Data was collected by using an interviewer administered structured questionnaire. Data was analyzed by using statistical software for social sciences version 22.0. Ethical clearance was obtained from Faculty of Medicine Kelaniya.

Results
Age of the participants varied in a range from 19 years to 43 years (mean30.94: SD 5.53). In majority of the participants (35.5%), second pregnancy had ended up as a miscarriage. Mean gestational age at the time of miscarriage was 72.6 days (SD=19.58) and majority was between 10-15 weeks of gestation (N=109:48.4%). 30% had previous miscarriages. 76.8% of the participants who had experienced previous miscarriages had their second miscarriage before twelve weeks of gestational age. 81% presented with PV Bleeding and 54% had abdominal pain. Only 3.1% of participants (N=7) presented with signs of infection. Mean Hemoglobin level of participants was 11.89 (SD = 1.07) 61% of participants were given Misoprostol to evacuate the retaining products and only 14% underwent surgical ERPC. All participants were cured completely.

Conclusion

Considerable number of participants had experiences of recurrent miscarriages and it was common before completing the first trimester. Majority of the spontaneous miscarriages was presented with symptoms of vaginal bleeding associated with lower abdominal pain. One third had previous experiences of miscarriages. Satisfactory awareness among pregnant mothers could be observed with regard to post abortion care. Both medical and surgical interventions had a similar outcome for retaining products. Cost effectiveness of medical interventions and surgical interventions should be further analyzed in a hypothetical manner. Safety and efficacy of Misoprostol as a drug which can be used to evacuate retaining products of conception should be analyzed by using strictly rational and scientific methodology in local settings.

Key Words: Miscarriages, Misoprostol, Outcome

Introduction

Miscarriage, also known as spontaneous abortion and pregnancy loss, is the natural death of an embryo or fetus before it is able to survive independently (1).

The expected final outcome of a pregnancy is a healthy live birth. But unfortunately each and every pregnancy does not reach that goal and end up with spontaneous miscarriage. Spontaneous miscarriages occur due to various reasons such as genetically inborn errors and some maternal pathologies(2).

Pathophysiological reactions following miscarriages differ from individual to individual. There are two types of pathophysiological outcomes following a miscarriage. First type is the immediate outcome which include the signs and symptoms of the patient. Immediate outcomes are the dichotomous variables such as fever, abdominal pain and per vaginal bleeding. Secondary outcomes are the results of the treatment strategies and they include the categorical variables such as complete cure, occurrence of complications and types of the complications(2).

Several treatment strategies are used for miscarriages. During a spontaneous miscarriage natural expulsion of retaining products is observed. This is a biological phenomenon which requires different time periods. Very little number of patients recover spontaneously. When the required time

period is longer it can lead to infections and even cause maternal death. Therefore when a miscarriage is diagnosed evacuation of retaining products should be done and the outcome will depend on the treatment options. Therefore studying the patterns of outcome is needed to implement new treatment strategies. Anyhow miscarriages create a huge economical and sociocultural burden which should be addressed in a rational manner to overcome the disease burden with minimum complications (3).

In Sri Lanka 25-30% of pregnancies end up with abortions(4). It is a considerable state as a country which provides a well-established free health care system to its whole population. Inward treatment and investigation procedures are necessary to prevent the complications following miscarriages. It is essential to make sure that all the dead products of conception are removed from the uterus. Post abortion reactions and recovery differ from one patient to another(5). It will depend on patients' immunity, nutrition, genetic conditions and other socioeconomic factors (2). So a methodical and scientific analysis is necessary as there is very limited data available regarding pathophysiology of the post abortion period. Main intention of this study is to conduct a descriptive analysis of outcome of miscarriages and outcome following treatment for miscarriages.

Methodology

A descriptive cross sectional study was conducted at the Gynaecology Unit - Base Hospital, Wathupitiwala for a period of one year duration. Patients who were admitted and treated following a miscarriage were included. Patients who had miscarriages due to trauma, interventional abortions and patients with immunosuppressive disorders were excluded from the study. 225 participants were selected according to the established selection criteria by applying the systematic random sampling technique. Sample size was calculated according to the Lwanga and Lemeshow formula(6). According to the data gathered from previous studies, the anticipated population proportion for outcome events following miscarriages was taken as 0.18(7) and expected precision was 0.05. An interviewer administered structured questionnaire was used as the study instrument and the questionnaire consisted of three parts. Those were, sociodemographic data, information on outcome events of miscarriages and information on patient management following miscarriages. Data collection tool was developed following an extensive literature review and several discussions with the experts in the relevant subject stream. Data tool was not validated prior to the study. During the time of hospital stay, participants were explained about the study and the data collection procedure. Detail information sheet was given to the participant at that time and informed consent form was signed at that time. Data collection was done at two stages; first step was done during the hospital stay and the latter part at the Gynaecology clinic, two weeks after being discharged from the hospital. All included participants were analysed. None of the study participants had withdrawn from the study during the follow up period.

Statistical analysis

Collected data were entered in to previously design printed sheets. Then Data were entered into Excel 2010 data sheet and, they were analysed by SPSS 23:0 statistical software. Data collection and entering process was done by the

investigators only. No third parties were involved for the whole process. Chi-square test was used to describe categorical variables and 95% confidence interval was taken for statistical significance.

Data entered in the BHT and clinic books were collected. No personally identifiable data was collected. There were no physical interventions done on participants. Data collection was done by the investigators through a friendly conversation in the routine hospital setting. Ethical clearance was obtained from Ethics Review Committee Faculty of Medicine Ragama.

Results

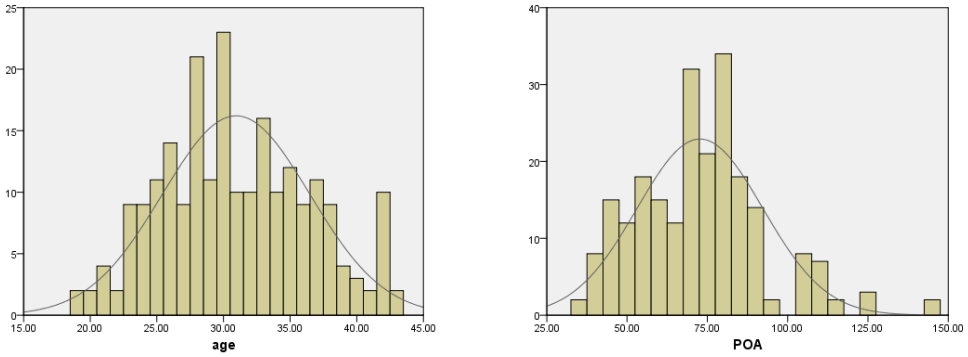

Figure 1. Distribution of age and period of amenorrhea of participants

Age of participants ranged between 19 years to 43 years. Mean age was 30.9 years (SD=5.53years) and it represented the normal Gaussian distribution (Median=30.9: Mode 30.0). Period of amenorrhoea (POA) of the participants ranged between 35 days to 143 days. Mean Period of amenorrhoea was 72.68 days and SD=19.5 days. Median was very close to the mean value but mode showed slight deviation. (Median 72: mode 81). However it showed approximately a normal distribution (Figure 1).

Table 2. Distribution of immediate outcomes of the participants

		Number	Frequency	X^2(p value)
PV Bleeding	Yes	185	82.2	93.4(<.001)
	No	40	17.8	
Abdominal pain	Yes	117	52	.36(.549)
	No	108	48	
Fever	Yes	7	3.1	197.8(<.001)
	No	218	96.9	

Majority of the participants was presented with vaginal bleeding (N=185:82.2%). And as a clinical symptom vaginal bleeding was significantly different from other clinical symptoms. Table 2). Majority of the miscarriages had occurred during their second pregnancy (N=80:35.6%). Haemoglobin value of the participants varied from 8.5 g/dl to 14.4g/dl and it showed a positive correlation with the age of the participant. Haemoglobin

level of the participants with a longer period of amenorrhea showed a negative correlation.

Table 3. Distribution of treatment interventions among participants

		Number (N)	Percentage (%)	X^2 (p)
Medical interventions	yes	135	60	9.0(.003)
	no	90	40	
Surgical interventions	yes	31	13.8	118.0(<.001)
	no	194	86.2	
Total		**225**	**100**	

Majority of the participants underwent medical interventions to evacuate the retaining products of conception following miscarriage (N=135:60%).16.2 % (N=59) of participants were treated conservatively and spontaneously removed the retaining products without any intervention (Table 3). Majority of the study participants were subjected to medical interventions and significantly less number of participants had undergone surgical interventions. Expulsion of all the retaining products of all participants was observed. Complicating secondary outcomes were not detected.

Discussion

Age and gestational age distribution of the study sample are similar to the Gaussian distribution curve. So it can be assumed that the study sample is satisfactorily representing the study population. 30% of the study population had experienced previous miscarriages. In other words once there was a miscarriage there is a tendency to occur recurrent miscarriages. This observation needs further more studies and evaluation. 88.2% patients were admitted with per vaginal bleeding and 52% got admitted with abdominal pain. Although there is a high possibility of having a miscarriage when presented with abdominal pain and per vaginal bleeding, 13.3% of the participants did not have both symptoms but carried a non-viable fetus. Therefore it is justifiable to conduct further more studies on prevalence, causes and associated factors of blighted ovum.

Study participants were subjected to three types of treatment strategies. All the participants were totally cured with complete evacuation of retaining products. Surgical interventions required anesthetizing the patient which consumed considerable amount of resources. But medical interventions were simple and did not need hospitalization of the patient. Therefore a hypothesis is developed that instead of surgical evacuation, medical expulsion of retaining products can be more effective and efficient. This hypothesis should be specifically studied in detail considering all the confounding factors.

There is significant contamination of the operation theatre when performing surgical evacuation of an abortion. Maintaining the sterility of the operation theatre is a mandatory requirement and as a result it will require additional resources and effort. Also surgical evacuation requires general anaesthesia

and patient will have to tolerate side effects of anaesthesia as well. If evacuation of retained products can be done by medical interventions, saving operation theatre resources and reduction of bed occupancy rate in gynaecology wards could be achieved (8). Anyhow, with achieving success of this outpatient medical intervention a tendency to misuse this procedure could emerge especially in a country where illegal abortions are frequently reported(3)

Conclusion/Recommendations

Considerable number of participants had past experiences of recurrent miscarriages and it was common before completing the first trimester. Majority of the spontaneous miscarriages was presented with symptoms of vaginal bleeding associated with lower abdominal pain. Satisfactory awareness among pregnant mothers was observed with regard to post abortion care. Both medical and surgical interventions had a similar outcome for retaining products. Cost effectiveness of medical interventions and surgical interventions should be further analysed in a hypothetical manner. Safety and efficacy of Misoprostol as a drug which can be used to evacuate retaining products of conception should be analysed by using strictly rational and scientific methodology in a local setting.

REFERENCES

1. Manual D, Dc W, Public A. Genaecology by Ten Teachers. Vol. 49. 2009. 605668 p.
2. Lippincott Williams & Wilkins. The Johns Hopkins Manual of Gynecology and Obstetrics. 4th ed. 2012. 438–439 p.
3. Kumar R. Abortion in Sri Lanka: The Double Standard. Am J Public Health [Internet]. 2013 Mar 17;103(3):400–4. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3673519/
4. Ministry of Health Sri Lanka. Anual Health Bulleting 2015. 2015.
5. Perera BH, De Silva AP, Perera H. A case control study on the effect of threatened miscarriage on selected pregnancy outcomes. Sri Lanka J Obstet Gynaecol [Internet]. 2010;31(1):34–8. Available from: /articles/10.4038/sljog.v31i1.1736/
6. Lwanga SK LS 1991. Sample size determination in health studies: A practical manual. Geneva.: World Health Organization; 1991.
7. Johns J, Hyett J, Jauniaux E. Obstetric outcome after threatened miscarriage with and without a hematoma on ultrasound. Obstet Gynecol. 2003 Sep;102(3):483–7.
8. Kumar R. Misoprostol and the politics of abortion in Sri Lanka. Reprod Health Matters [Internet]. 2012 Mar 1;20(40):166–74. Available from: http://dx.doi.org/10.1016/S0968-8080(12)40652-8