

Clinical study of etiology, complications and management in patients with spontaneous abortions at a tertiary hospital

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Abstract

Background: 10-20% of all pregnancies end as spontaneous abortion. Spontaneous abortions are of different types like threatened abortion, inevitable abortion, incomplete abortion, missed abortion, complete abortion, septic abortion. Present study was aimed to assess the clinical profile of spontaneous abortion at our tertiary care center. **Material and Methods:** Present study was hospital based, observational study, conducted in pregnant women up to 20 weeks with a diagnosis of spontaneous abortion. **Results:** We included total 450 cases of spontaneous abortions; majority were from 21-25 years (36%) followed by less than 20 years (34%) and 26-30 years (14%). Mean age of the study population was 24.38±9.15 years. According to gravida status, 36% were primi, 20% were G2, 16% were G3 and 14% were G4 and G5 each. 74% of ANCs were registered and 26% were not registered. Majority of the patients had gestational age between 8-12 weeks (46%) followed by gestation of < 8 weeks (32%) and between 12-20 weeks (22%). Previous history of one abortion was present in 14% cases, two abortions was seen in 2% and three or more than three abortions was seen in 6% cases. History of surgery on cervix (check curettage, DandC SandE.) was present in 20% cases. 74% of patients complained of pain in abdomen. 56% complained PV bleeding, 14% had giddiness and 2% had vomiting. Prevalence of incomplete abortion was 44.9%, complete abortion was 31.6%, missed 15.1% and septic was 8.4%. Manual vacuum aspiration was performed (62%) followed by medical methods (30%) and DandC. Commonly observed complications was anemia in 81 cases i.e. 18%, hypovolemic shock in 27 (6%), hemorrhagic shock in 18(4%) and septicemia in 9 cases i.e. 2%. **Conclusion:** Spontaneous abortions were common in 21-25 years age group, had previous history of abortion, history of abdominal or cervical surgery.

Keywords: Spontaneous abortions, incomplete abortion, complete abortion, missed abortion manual vacuum aspiration, medical methods.

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INTRODUCTION

Pregnancy plays a unique role in transformation of women towards completeness. Pregnancy should be considered as

a unique normal psychological episode in women's life. Abortions causes a morbidities like psychological stress, hemorrhage, sepsis, recurrent abortions, secondary infertility etc. But maternal mortality is uncommon from abortion. Pregnancy for the woman and the impending expansion of self, the couple or the family is a milestone for every man and woman of reproductive age.² Undoubtedly, there is utter frustration felt by couples when there is a pregnancy loss.³ National Centre for health statistics Centre for disease control and prevention and WHO define abortion as pregnancy termination prior to 20 weeks gestations or with a fetus born weighing less than 500gm.⁴ It may be spontaneous abortion or induced abortion. About 10-20% of all pregnancies end as spontaneous abortion. Spontaneous abortions are of

different types like threatened abortion, inevitable abortion, incomplete abortion, missed abortion, complete abortion, septic abortion.⁵ Identifiable risk factors with spontaneous abortion include lower genital tract infections, smoking, alcohol ingestion, febrile illness like malaria, chronic medical disorders, increased parity, increasing paternal age previous miscarriage, increasing maternal age, anatomical abnormalities of uterus or cervix.¹¹ Present study was aimed to assess the clinical profile of spontaneous abortion at our tertiary care center.

MATERIAL AND METHODS

Present study was hospital based, observational study, conducted in department of Obstetrics and Gynaecology, at Vilasrao Deshmukh Government Medical College, Latur, India. Study duration was of 2 years (October 2019 to September 2021). Study was approved by institutional ethical committee.

RESULTS

We included total 450 cases of spontaneous abortions; majority were from 21-25 years (36%) followed by less than 20 years (34%) and 26-30 years (14%). Mean age of the study population was 24.38±9.15 years. According to gravida status, 36% were primi, 20% were G2, 16% were G3 and 14% were G4 and G5 each.

Table 1: Age group and gravida status distribution

| | Frequency | Percent |
|--------------------|-----------|---------|
| Age group in years | | |
| < 20 | 153 | 34.0 |
| 21-25 | 162 | 36.0 |
| 26-30 | 63 | 14.0 |
| 31-35 | 54 | 12.0 |
| 36-40 | 18 | 4.0 |
| Gravida status | Frequency | Percent |
| Primi | 162 | 36.0 |
| G 2 | 90 | 20.0 |
| G 3 | 72 | 16.0 |
| G 4 | 63 | 14.0 |
| G 5 | 63 | 14.0 |

74% of ANCs were registered and 26% were not registered. Majority of the patients had gestational age between 8-12 weeks (46%) followed by gestation of < 8 weeks (32%) and between 12-20 weeks (22%). Previous history of one abortion was present in 14% cases, two abortions was seen in 2% and three or more than three abortions was seen in 6% cases. Prevalence of anemia in our study was 14%, prevalence of PIH was 8% and GDM was 4%. Prevalence of hypothyroidism was 6%. In our study, history of surgery on cervix (check curettage, DandC SandE.) was present in 20% cases.

Table 2: General characteristics

| Characteristic | Frequency | Percent |
|-------------------------------------|-----------|---------|
| ANC registration | | |
| Registered | 333 | 74.0 |
| Not registered | 117 | 26.0 |
| Gestational age in weeks | | |
| < 8 | 144 | 32.0 |
| 8 to 12 | 207 | 46.0 |
| 12 to 20 | 99 | 22.0 |
| past history of number of abortions | | |

Inclusion criteria: All pregnant women up to 20 weeks with a diagnosis of spontaneous abortions such as threatened abortion, inevitable abortion, incomplete abortion, missed abortion, complete abortions and septic abortion, willing to participate in the study after consent.

Exclusion criteria: Pregnant women willing for MTP, All pregnant women other than spontaneous abortions

Study explained to cases and after the written consent, participation was confirmed. General information, history taking, general/systemic/pelvic examination findings, ultrasonography obstetrics findings were noted. Routine investigations (CBC, Urine examination, Blood group, HIV, VDRL, HbsAg, TSH, Fasting BSL) were done in all patients. As per above findings, Expectant/ Medical/Surgical management was provided and complications/outcome noted. Data was collected and compiled using Microsoft Excel, analysed using SPSS 23.0 version. Statistical analysis was done using descriptive statistics.

| | | |
|-----------------------------------|-----|------|
| One abortion | 63 | 14.0 |
| Two abortions | 9 | 2.0 |
| ≥3 abortions | 27 | 6.0 |
| No H/o abortions | 351 | 78.0 |
| Comorbid conditions | | |
| Anemia | 63 | 14.0 |
| PIH | 36 | 8.0 |
| GDM | 18 | 4.0 |
| Hypothyroidism | 27 | 6.0 |
| Past history of surgery on cervix | 90 | 20.0 |

74% of patients complained of pain in abdomen. 56% complained PV bleeding, 14% had giddiness and 2% had vomiting. Clinical signs revealed PV bleeding in 52% cases, abdominal tenderness in 14% and brownish discharge in 16% cases.

Table 3: Clinical features

| Clinical features | Frequency | Percent |
|----------------------|-----------|---------|
| Complaints | | |
| Pain in abdomen | 333 | 74.0 |
| PV bleeding | 252 | 56.0 |
| Giddiness | 63 | 14.0 |
| Vomiting | 9 | 2.0 |
| Clinical signs | | |
| Bleeding P/V | 234 | 52.0 |
| Abdominal tenderness | 63 | 14.0 |
| Brownish discharge | 72 | 16.0 |
| No signs | 144 | 32.0 |

Prevalence of incomplete abortion in our study was 44.9%, complete abortion was 31.6%, missed 15.1% and septic was 8.4%. In majority of the cases of abortion, manual vacuum aspiration was performed i.e. 279 (62%) followed by medical methods in 135 (30%) cases and DandC in 18 (4 %).

Table 4: Type of abortion and management

| | Frequency | Percent |
|--------------------------|-----------|---------|
| Type of abortion | | |
| Incomplete | 202 | 44.9 |
| Complete | 142 | 31.6 |
| Missed | 68 | 15.1 |
| Septic | 38 | 8.4 |
| Management | | |
| Medical methods | 135 | 30.0 |
| MVA | 279 | 62.0 |
| DandC | 18 | 4.0 |
| No intervention required | 18 | 4.0 |

Commonly observed complications was anemia in 81 cases i.e. 18%, hypovolemic shock in 27 (6%), hemorrhagic shock in 18(4%) and septicemia in 9 cases i.e. 2%. No death was observed in our study.

Table 5: Complications

| Complications | Frequency | Percent |
|-------------------|-----------|---------|
| Anemia | 81 | 18.0 |
| Hypovolemic shock | 27 | 6.0 |
| Hemorrhagic shock | 18 | 4.0 |
| Septicemia | 9 | 2.0 |
| No complications | 315 | 70.0 |

DISCUSSION

The nonspecific symptoms of vaginal bleeding and uterine cramping associated with pregnancy loss can occur in normal, ectopic, and molar pregnancies, which can be a source of frustration for patients and clinical

confusion for care providers.⁶ Only 30% to 50% of conceptions progress past the first trimester.⁷ The vast majority of those that do not progress are lost before the woman is aware of the conception, and many pregnancies are lost before medical practitioners can detect an

embryo.⁸ Between 15% and 30% of known pregnancies end in clinically apparent miscarriage, depending upon the age and health of the pregnant woman.⁹ 80% of these spontaneous abortions happen in the first trimester.¹⁰ The most common cause of spontaneous abortion during the first trimester is chromosomal abnormalities of the embryo or fetus¹¹, accounting for at least 50% of sampled early pregnancy losses.¹⁰ Other causes include vascular disease (such as lupus), diabetes, other hormonal problems, infection, and abnormalities of the uterus. Advancing maternal age and a woman's history of previous spontaneous abortions are the two leading factors associated with a greater risk of spontaneous abortion. A spontaneous abortion can also be caused by accidental trauma; intentional trauma or stress to cause miscarriage is considered induced abortion or feticide.¹⁰ In present study, out of 450 cases majority from 21 to 26 yrs i.e. 162 (36%) followed by 63 (14%) from 26 to 30 yrs followed by 54 (12%) from 31 to 35 yrs followed by 18 (4%) was from 36-40 yrs. This was comparable to Jaya G *et al.*,¹¹ [majority from 21-25 years age group (54.7 %)] and Dhingra D *et al.*,¹² [majority from 21-25 years age group (48.89 %)] In present study, majority of cases from G2-G4 i.e. 50% followed by primigravida i.e. 36% followed by >G5 i.e. 14%. This study was comparable to Adeniran *et al.*,¹³ [majority were from 21-25 years age group (54.7 %)] and Dhingra *et al.*,¹² [majority from 21-25 years age group (24.44 %)]. In this study, majority of cases had no past history of abortion i.e.78%, This was comparable to Jaya G *et al.*,¹¹ (83.6 %) and Adeniran *et al.*,¹³ (63 %). In present study, cervical surgery includes SandE, DandC, check curettage. 20% of cases having previous H/O cervical surgery in present study. This was comparable to Jaya G *et al.*,¹¹ In study by Adeniran *et al.*,¹³ major complaints were pain in abdomen (60.9 %) and PV Bleeding (87.6 %) while Jaya *et al.*,¹³ noted that pain in abdomen (39.3 %) and PV Bleeding (27.9 %) were major complaints. In present study, 74% of patients complained pain in abdomen and 56% complained PV Bleeding. On examination, clinical signs revealed PV bleeding in 52%, abdominal tenderness in 14%, brownish vaginal discharge in 16%. Similar findings were noted by Jaya G *et al.*,¹¹ In present study, 44.9% cases were of incomplete abortion and 15.1% cases of missed abortion. In study by Adeniran *et al.*¹³ 42.1% cases were of incomplete abortion and 15.4% cases of missed abortion. MVA was most common mode of management, in study by Adeniran *et al.*,¹³ (81.9 %), and Dhingra *et al.*,¹² (82.3 %). In present study, in majority of case of abortion, manual vacuum aspiration was performed i.e. 62% followed by medical methods (30%) followed by DandC (4.0%) and no intervention required in 4.0% cases. In present study, 70.0% cases don't have any complications,

anemia in 8.0% hypovolemic shock in 10.0%, septicemia in 2.0%. Adeniran *et al.*¹³ common complications were Anemia (12.3 %), Hypovolemic shock (0.3 %) and Septicemia (2.6 %). Health facilities have a greater role in provision of post-abortion services and provide quality care, including post-abortion contraception.¹⁴ Interventions are needed to expand access to antenatal services through better equipping existing facilities, ensuring adequate and continuous supplies of manpower, drugs, equipment's and by increasing the number of trained providers. Interventions are needed to provide women with accurate information of prenatal care, antenatal services and follow-up care when needed. Research is needed to test interventions that improve knowledge and practice in providing prenatal care.

CONCLUSION

Spontaneous abortions were common in 21-25 years age group, had previous history of abortion, history of abdominal or cervical surgery. Among spontaneous abortions, incomplete abortion was most common, followed by complete abortion, missed abortion and septic abortion, managed by manual vacuum aspiration and medical methods.

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