

Threatened Abortion in a Tertiary Hospital in Nigeria: A 5-Year Experience

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ABSTRACT

Background: Threatened abortion usually precedes early pregnancy loss. Affected pregnancy may progress or result in eventual miscarriage. Understanding the risk factors and their management will continue to improve its outcome.

Materials and Methods: Records of patients managed for threatened abortion at the OAUTHC, Ile-Ife over a period of 5 years from January 2009 to December 2013 were retrieved. Information about the sociodemographic characteristics, clinical presentation and outcome were collected and analysed using IBM, Armonk, NY, USA-SPSS version 20.

Results: One hundred and eight records out of 118 patients admitted for threatened abortion over the period under review were retrieved. There were 2060 gynaecological ward admissions over the period. Threatened abortion accounted for 5.7% of all gynaecological ward admissions. The mean age of women admitted was 29.53 ± 4.47 years and majority (68.5%) had tertiary education. Seventy-five per cent were booked for antenatal care, 53.7% were nulliparous and 42.6% had previous first or second-trimester miscarriage(s). Sixty-two per cent were in the first trimester and the mean gestational age was 12.55 weeks \pm 4.78. Malaria fever was the single most common risk factor (47.2%), urinary tract infection and other risk factors were identified in 28.7% and 24.1% had no identifiable risk factor. Half of the patients carried their pregnancy to term, whereas 25.9% had a complete miscarriage and the rest were lost to follow-up. Among those who proceeded to term, 74.1% were booked and 42% were unbooked patients (*P* value of 0.027).

Conclusion: Threatened abortion remains a common complication in early pregnancy. It halves the chances of pregnancy continuation to term. In our environment, malaria fever was the most common risk factor and booking for antenatal care conferred better pregnancy outcome.

Key words: Miscarriage, pregnancy loss, threatened abortion

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INTRODUCTION

Threatened abortion refers to any form of vaginal bleeding in the first half of pregnancy, in the absence of cervical dilatation or passage of the products of conception; whether or not this bleeding is associated with uterine contractions.¹ It complicates 20–25% of all pregnancies.¹ Threatened abortion or miscarriage is a clinical entity where the process of miscarriage has started but has not progressed to a state from which recovery is impossible.^{1,3} The diagnosis is frequently made clinically by a history of vaginal bleeding on a background of a closed cervix. Once the cervix begins to dilate, abortion is said to be

inevitable.¹⁻⁴ A definitive diagnosis of threatened miscarriage is usually made following an ultrasound scan that confirms fetal heart activity in an intrauterine pregnancy.^{4,5}

A threatened miscarriage is a cause of stress and anxiety for the expectant parents about the outcome of the pregnancy. The available studies on the outcome of threatened pregnancies are limited perhaps due to the relatively small number of pregnancies complicated by threatened miscarriage.⁶ First trimester vaginal bleeding has been associated with worse pregnancy outcome.⁷⁻⁹

All spontaneous abortions are preceded by threatened abortion. The associated risk factors are variable. It is estimated that

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15% of recognisable pregnancies, and indeed, 50% of all spontaneous abortions are due to chromosomal abnormalities.¹⁰ Apart from this, several maternal factors which may be local or systemic also contribute largely to spontaneous miscarriage. However, when the maternal conditions are modifiable by medical management and are diagnosed and treated early, the course of threatened abortion may be reversed and the pregnancy carried to the age of viability.

Malaria has been identified as a major risk factor for abortion in malaria endemic regions, accounting for sizeable proportions of maternal and under-5 morbidity and mortality.¹¹ Malaria induces febrile illness on one hand which might trigger abortion process, and on the other hand, the *Plasmodium falciparum* which is the predominant species in our subregion has high affinity for the placenta bed where it triggers an inflammatory process that might also predispose to threatened abortion.¹²

This study was therefore aimed at determining the incidence of threatened abortion, the associated risk factors and the eventual outcome of the pregnancies in patients attending the gynaecology unit of the Obafemi Awolowo University Teaching Hospitals Complex in Ile-Ife, Nigeria.

MATERIALS AND METHODS

In this study, the medical records of 108 out of all the 118 patients admitted for threatened abortion into the gynaecology ward of the hospital between January 2009 and December 2013 were retrieved. The relevant information about the sociodemographic details, clinical features, management and outcome of treatment were extracted from the case records of the patients. The data obtained were entered and analysed using IBM, Armonk, NY, USA-SPSS version 20.

RESULTS

Over the 5-year period, there were 118 pregnant women managed for threatened abortion, and during this period, there were a total of 2060 gynaecological ward admissions. Thus, the incidence of threatened abortion was 5.7% (57/1000 gynaecology admissions).

The mean age of the women was 29.53 ± 4.47 years. Table I shows the age distribution of patients that were managed for threatened abortion within the study period, with the modal group being 25–29 years age bracket. Seventy-four patients (68.5%) had tertiary education, whereas 33 (30.6%) stopped at secondary level secondary school.

Forty-six (42.6%) of the patients had a previous miscarriage and fifty-eight (53.7%) were nulliparous. Eighty-one of the patients (75%) presented with bleeding per vaginum as the main presenting complaint, whereas lower abdominal discomfort was associated with the spotting per vaginum in 27 (25%) of the women.

Malaria fever was the single most common identifiable risk factor and was found in fifty-one (47.2%) of the patients.

Other risk factors identified in 31 (28.7%) of the patients were urinary tract infection, malaria co-existing with urinary tract infection, co-existing uterine fibroids, illicit drug use, low lying placenta and trauma. Twenty-six (24.1%) of the patients had no identifiable risk factor associated with the threatened abortion [Table I]. Eighty-one of the patients (75%) had not booked for antenatal care at the time of diagnosis of the threatened abortion. As shown in Table II, eighty-three (76.9%) of the patients spent 7 days or less on admission.

Half of the patients satisfactorily carried the pregnancy beyond the age of viability following an episode of threatened abortion, as shown in Table II. Twenty-eight (25.9%) progressed to complete miscarriage either in the initial admission or on subsequent follow-up.

Table I: Age, educational status and trimester at presentation

Variables	Number of patients (%)
Age (years)	
<20	1 (0.9)
21-30	67 (62.0)
31-40	37 (34.3)
>40	3 (2.8)
Primary	1 (0.9)
Educational status	
Secondary	33 (30.6)
Tertiary	74 (68.5)
Trimester	
First	67 (62)
Second	41 (38)

Table II: Identified risk factors, duration of hospital admission and outcome

Variable	Number of patients (%)
Risk factors	
Malaria	51 (47.2)
UTI	16 (14.8)
Co-existing uterine fibroid	4 (3.7)
Malaria with UTI	7 (6.5)
Illicit drug use	2 (1.8)
Low-lying placenta	1 (0.9)
Trauma	1 (0.9)
No identifiable risk factor	26 (24.1)
Duration (days)	
≤7	83 (76.9)
8-14	21 (19.4)
15-21	3 (2.8)
≥22	1 (0.9)
Outcome	
Pregnancy carried to term	54 (50.0)
Eventual miscarriage	28 (25.9)
Lost to follow-up	26 (24.1)

UTI: Urinary tract infection

Table III: Relationship of the booking status and pregnancy outcome following threatened abortion

Booking status	Pregnancy outcome following a threatened miscarriage, n (%)			
	Term	Miscarriage	Lost to follow-up	Total
Booked	20 (74.1)	5 (18.5)	2 (7.4)	27 (100)
Unbooked	34 (42.0)	23 (28.4)	24 (29.6)	81 (100)
Total	54 (50.0)	28 (26.0)	26 (24.0)	108 (100)

Twenty (74.1%) of the booked patients carried the pregnancy beyond the age of viability following an episode of threatened abortion as against 34 (42%) in the group that did not book for antenatal care. This was statistically significant at $P = 0.027$. Furthermore, more of the patients in the unbooked group were lost to follow-up, being about 29.6% as against 7.4% among the booked patients [Table III].

DISCUSSION

The ultimate aim of all wanted pregnancies is the delivery of a healthy baby to a healthy mother. Threatened abortion is an adverse event during pregnancy that requires appropriate management to ensure that the aim of pregnancy is not defeated.

Over the 5-year period under review, threatened abortion constituted 5.7% of all gynaecology ward admissions. This incidence is slightly higher than the 4% reported in a study in Bangladesh¹³ but similar to 6.8% reported in Maiduguri, North East Nigeria.¹⁴ The higher prevalence might be because the study was carried out in a major referral centre in the region where high-risk cases are referred. The mean age of the women was 29.53 ± 4.47 years. This is comparable (third decade of life) with the mean age of 24.63 ± 4.89 years reported in a review of 70 cases of threatened abortion in Nepal¹ and $26.1 \text{ years} \pm 3.4$ in a study in India.¹⁵ Majority of women desiring pregnancy are within this age range, and abortions in women of older age group have been attributed largely to chromosomal abnormalities.¹⁰

In this series, 54 women (50%) out of a total of 108 women carried the pregnancy to the age of viability and beyond. This was significantly lower than 75.8% reported in Nepal and 63.8% pregnancy salvage rate reported in a similar study in Ilorin, Nigeria.^{1,16} The lower rate seen in our study might be due to the high proportion of patients lost to follow-up (24.1%) whose eventual pregnancy outcome could not be ascertained and also the high proportion of the unbooked women whose abortion process might have advanced before presenting for care.

While on admission, patients were advised on bed rest, whereas those with identifiable risk factors had a specific treatment for the underlying predisposing factors. There was however no correlations between duration of hospital stay and eventual pregnancy outcome. This aligns with the

findings of Giobbe *et al.* where 16% of 146 women who were on bed rest eventually miscarried compared with a fifth of these women who did not follow this option while being managed for threatened abortion.¹⁷ It however contrasts with the findings of Ben-Haroush *et al.*, where out of 230 women with threatened miscarriage, miscarriage rate in those who had bed rest was 9.9% as against 23.3% in women who continued their usual activities.¹⁸ Although the role of bed rest remains controversial, the change of environment afforded by the hospital admission may help women feel safer thus providing some degree of emotional relief and also less physical stress to the mothers.

Malaria fever was the most common identifiable risk factor for threatened abortion among pregnant women in this study. It accounted for 47.2% (51 patients) as a single entity. This corroborates the finding from Osogbo in South Western Nigeria and in Gabon on the effect of malaria in pregnancy.^{19,20} Malaria is endemic in sub-Saharan Africa, accounting for sizeable proportions of maternal and under-5 morbidity and mortality.¹¹ Malaria induces febrile illness on one hand which might trigger abortion process, and on the other hand, the *P. falciparum* which is the predominant specie in our subregion has high affinity for the placenta bed where it triggers an inflammatory process that might also predispose to threatened abortion.¹² Attention should also be paid to urinary tract infection when women present with threatened abortion as the risk was identified in 16 (14.8%) of the patients. Febrile illness might also be the mechanism that triggers the abortion process in urinary tract infection. The other less frequent risk factors such as coexisting uterine fibroids, use of illicit drugs, low-lying placenta and trauma should also be sought while assessing women presenting with threatened abortion.

Favourable pregnancy outcomes were more in the patients who were already booked before the onset of threatened abortion; 74.1% of them progressed to term as against 42.0% in the unbooked group. Early obstetric care could help in preventing some miscarriages among women.²¹ Perhaps, an explanation for this might also be that the patients who were booked early in pregnancy have a better health-seeking attitude compared with the unbooked and therefore are likely to present earlier or start receiving care earlier than their unbooked counterparts.

The high rate of eventual miscarriage (25.9%) and the high proportion of patients with no known risk factor (24.1%) may be due to the limited available resources in patient's evaluation and diagnosis, especially of the genetic disorders associated with miscarriages.

CONCLUSION

Threatened abortion is a common complication in early pregnancy. The high incidence calls for increased surveillance. The poor pregnancy outcomes in unbooked pregnant women need to be addressed. In the management of threatened abortion, it is important to identify the initiating factor which in this study was mainly malaria. Malaria was the most

common identifiable risk factor in this study and the majority of the pregnancies continued to age of viability and beyond. Appropriate preventive measures against the risk factors, prompt diagnosis and treatment of identified risk factors would go a long way in reducing the adverse outcomes of threatened abortion.

Limitations

A sizeable number of patients were lost to follow-up and their eventual pregnancy outcomes were not known. Furthermore, there were no chromosomal studies on the abortuses to determine the exact proportion of miscarriages that were related to chromosomal anomalies.

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Conflicts of interest

There are no conflicts of interest.

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