

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20180151>

Original Research Article

Outcome of intrauterine adhesion management at a Nigerian tertiary hospital: a five-year review

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Received: 09 December 2017

Accepted: 08 January 2018

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ABSTRACT

Background: Intrauterine adhesion is a cause of menstrual abnormalities and infertility, which are leading complaints in gynaecological practice in Nigeria. Determining the aetiology and management option would help reduce this problem. The objective of this study was to determine the aetiology, mode of presentation, management option and outcome of intrauterine adhesions

Methods: A retrospective analysis of intrauterine adhesions at the University of Abuja Teaching Hospital over a five-year period from 2012 to 2016 was carried out. The case notes of the patients were retrieved from the records department and information extracted from these case notes using a questionnaire included the age, level of education, marital status, parity, complaints, predisposing factors, method of diagnosis, treatment method and outcome. Additional information was obtained from the theatre registered. The least follow up period was one year.

Results: There were 82 patients diagnosed with Intrauterine Adhesion over the study period giving an incidence of 1.6%. Fifty-nine case notes were available for analysis. The case note retrieval rate was 72%. Majority of the patients were between the age range of 30-34 years (21, 35.6%). Those with tertiary level of education constituted the majority (34, 57%). Nullipara constituted 54.2% (32) of the total population. Menstrual abnormalities were the most common complaint with 93.2% and this includes those with menstrual abnormalities and other complaints. The commonest predisposing factor identified was a history of dilatation and curettage or uterine evacuation (28, 47.5%). Majority of the patients had partial intrauterine adhesions (51, 86.4%). All patients were treated with adhesiolysis, Foleys catheter insertion and hormonal therapy for 3 cycles. There was not statistical significance between those who had blind adhesiolysis and hysteroscopic adhesiolysis in terms of outcome. Restoration of menstrual flow was in 25, (42.4%) while 3, (5.1%) had miscarriages and an equal no of patients had term delivery.

Conclusions: Dilatation and curettage is still a major predisposing factor in the development of intrauterine Adhesions. Blind adhesiolysis still has its place in the management of intrauterine adhesion in developing countries.

Keywords: Aetiology, Intrauterine adhesion, Management, Outcome

INTRODUCTION

Intrauterine adhesion also known as “uterine synechiae” or Asherman’s syndrome is a condition characterized by the presence of adhesion or scar tissue within the uterine cavity which prevents normal growth of the endometrium.^{1,2} It was first described in 1894 by

Heinrich Fritsch, it was only after 54years that a full description of Asherman’s syndrome was carried out by an Israeli Gynaecologist Joseph Asherman.¹

Its true incidence is unknown, but it was shown to occur in about 20% of patients being treated for infertility and 1.73% of new patients seen in Gynaecology clinic.³⁻⁶ An

incidence of 1.3%, 4.7% and 6.7% has been reported from Ilorin, Lagos and Jos.⁷⁻⁹

The condition is usually caused by trauma to the basal layer of the endometrium which is almost always related to a pregnancy event or following infection.^{10,11} Dilatation and curettage of a recently pregnant uterus is a common aetiology of IUA in developing countries as well as Puerperal sepsis, schistosomiasis and genital tuberculosis.^{1,12,13} Other aetiological factors include curettage three to four weeks postpartum, during lactation or for septic or missed abortion, caesarean section, myomectomy, pelvic inflammatory disease and diagnostic curettage or pelvic irradiation.^{1,13,14}

Common presenting features of Asherman's syndrome include menstrual irregularities, recurrent pregnancy loss and infertility.^{12,15} Other patients may have relatively normal menses in which a high index of suspicion is needed to make a diagnosis.¹³

Even though hysterosalpingography is the commonest method of diagnosis, hysteroscopy remains the mainstay of diagnosis and treatment.^{12,13} Other methods of diagnosis include saline infusion sonography, 3-D ultrasound scanning and magnetic resonance imaging.^{13,16,17}

The aim of treatment is to restore the size and shape of the uterine cavity in order to restore endometrial/ menstrual function and to make pregnancy achievable.¹¹ The treatment outcome however depends on the extent of the adhesions based on the hysterosalpingographic or hysteroscopic findings.^{11,18-20}

This study is aimed at finding out the common aetiology of this condition and if there is any difference in outcome in patients managed by blind or hysteroscopic adhesiolysis in our hospital.

The objectives of this study were to determine the predisposing factors, mode of presentation, management and outcome of intrauterine adhesions.

METHODS

A retrospective analysis of patients with intrauterine adhesions managed at the University of Abuja Teaching Hospital from 2012 to 2016 was carried out.

The case notes of the patients were retrieved from the records Department and information extracted from these case notes using a questionnaire included the age, level of education, marital status, parity, complaints, predisposing factors, method of diagnosis, treatment method and outcome.

Additional information was obtained from the theatre registered. The outcome of treatment looked for included normalization of menses and pregnancy rate.

The data extracted was analyzed using SPSS version 20. Chi square was used for test of association. $P < 0.05$ was considered statistically significant.

RESULTS

Over the five-year period, there were 5,215 gynaecological cases that presented to the hospital. There were 82 patients diagnosed with intrauterine adhesion over the study period giving an incidence of 1.6%. Fifty-nine case notes were available for analysis. The case note retrieval rate was 72%.

Table 1: Socio-demographic characteristics of patients with intrauterine adhesion.

Age range	Frequency (n=59)	Percentage (%)
20-24	2	3.4
25-29	18	30.5
30-34	21	35.6
35-39	16	27.1
>40	2	3.4
Total	59	100.0
Marital status		
Married	50	84.7
Single	9	15.3
Total	59	100.0
Educational status		
Primary	3	5.1
Secondary	22	37.3
Tertiary	34	57.6
Total	59	100.0

There were more cases within the age range of 30-34 years (21, 35.6%) and least in women between the ages of 20-24 years and those greater than 40 years (2, 3.4%) respectively as shown on the Table 1. Majority of the women at presentation were married (50, 84.7%) and most had some tertiary level of education (34, 57.6%).

Table 2: Parity distribution.

Parity	Frequency	Percentage (%)
0	32	54.2
1	17	28.8
2	10	16.9
Total	59	100.0
Miscarriages n=59		
0	26	44.8
1	8	13.8
2	11	19.0
3 or more	13	22.4
Total	59	100.0

Table 2 shows that 32 women from the population were nulliparous women constituting 54.2%, while 26 of them

(44.8%) had no history of miscarriage at presentation, 13 (22.4%) of them had three or more miscarriages.

Menstrual abnormalities were the most common presenting complaints contributing more than 90% with hypomenorrhoea as the major menstrual abnormality. Most patients that complained of inability to conceive also suffered from associated menstrual abnormality. However, only 6.8% had presenting complaint of infertility alone (Table 3).

Table 3: Presenting complaints.

Complaints	Frequency	Percentage
Menstrual abnormalities	32	54.2
Infertility	4	6.8
Menstrual abnormalities with Infertility	23	38.9
Total	59	100.0

The most common risk factor identified as shown on Table 4 was a history of dilatation and curettage, which was present in 28 women constituting 47.5%. Caesarean section was a major risk factor for obstetric patients (12, 20.3%). Manual removal of the placenta and pelvic surgery were the least identifiable risk factors for intrauterine adhesion (1, 1.7%).

Table 4: Risk factors.

Risk factors	Frequency	Percentage
Dilatation and curettage	28	47.5
Caesarean section	12	20.3
Pelvic inflammatory disease	9	15.3
Postpartum endometritis	11	18.6
Myomectomy	6	10.2
Pelvic surgery	1	1.7
Manual removal of placenta	1	1.7
Total responses	68	115.3

Multiple responses, Total number of respondents were 59, 59 were used as denominator to obtain the frequency. The multiple responses accounts for the total percentage that is more than 100%

Table 5 shows that all the patients had HSG for diagnosis and majority of them had partial intrauterine adhesion (51, 86.4%). Of the 59 patients in this study only 8 patients had the privilege of having hysteroscopy.

Hysteroscopic grading of the intra-uterine adhesions amongst these 8 patients that had hysteroscopic adhesiolysis revealed that 4 each had mild and severe types respectively.

Table 5: Grading of adhesions and methods of adhesiolysis.

Grading of adhesion (HSG)	Frequency	Percentage
Partial adhesion	51	86.4
Total adhesion	8	13.6
Total	59	100.0
Hysteroscopic involvement of the cavity (n=8)		
1/3	4	50.0
Up to 2/3	4	50.0
Total	8	100.0
Methods of adhesiolysis		
Hysteroscopic	8	13.6
Blind	51	86.4
Total	59	100.0

Majority of patients (25, 42.4%) had restoration of normal menses following adhesiolysis, as shown in Table 6. However, following treatment, 6 women (10.2%) of the population achieved pregnancy and only 3 women (5.1%) have term birth (Tables 7).

Table 6: Menstrual outcome after 3 months following adhesiolysis.

Outcome	Frequency	Percentage
Loss to follow up	8	13.6
No change	6	10.1
Restoration of normal menstrual flow	25	42.4
Partial improvement	20	33.9
Total	59	100.0

Table 7: Obstetric outcome after a year of adhesiolysis.

Obstetric outcome	Frequency	Percentage
Loss to follow up	13	22.0
None	40	67.8
Miscarriage	3	5.1
Term birth	3	5.1
Total	59	100.0

Table 8: Association between the method of adhesiolysis and menstrual outcome.

Method of adhesiolysis	No change		Partial improvement		Restoration of normal flow		X ²	P- value
	N	%	n	%	n	%		
Hysteroscopic	1	12.50	4	50.00	3	37.50	0.7	0.721
Blind	13	25.50	21	41.20	17	33.30		
Hysteroscopic involvement								
1/3	0	-	1	25.00	3	75.00	5	0.082
Up to 2/3	1	25.00	3	75.00	0	-		

Table 8 showed that there was no statistically significant difference between those who had blind adhesiolysis and those who had hysteroscopic adhesiolysis.

DISCUSSION

The incidence of intrauterine adhesion was found to be 1.6% in this study which was lower than the incidence reported in Jos (6.7%) and Lagos (4.3%) but similar to the study carried out in Ilorin (1.3%).⁷⁻⁹ Majority of the patients with intrauterine adhesion were within the ages of 25-39 years. This was similar to findings from studies carried out in other parts of Nigeria.^{6-11,13} The majority of the women were of low parity as in the studies carried out in Lagos and Federal capital Territory, Nigeria and this shows that intrauterine adhesion can be associated with infertility.^{6,20} The incidence of intrauterine adhesion was higher among women with tertiary level of education. This was in contrast with the study carried out in Lagos.⁶

The relation between intrauterine adhesions, menstrual irregularities and infertility cannot be over emphasized. It has been shown by other studies in Nigeria and reflected in this study that a good percentage of the patients presented with menstrual irregularity.^{12,20,21} Four of the patients had no menstrual irregularity and were only discovered during the course of investigation for infertility and this was similar to the study carried out in national hospital Abuja.⁶ This further emphasizes that a high index of suspicion is needed to make a diagnosis in some cases.¹³

Dilatation and curettage of a recently pregnant uterus play a major role in the development of intrauterine adhesions in several studies and also demonstrated in this study.^{6,11-13,22} This may be attributed to the high incidence of illegal abortion in our environment.^{12,23} Caesarean section was the second leading cause of intrauterine adhesion in this study. This is similar to studies done in Maiduguri, Kano and Lagos where the main indication for the caesarean section was prolonged or obstructed labour. This is likely to be on the increase as the caesarean section rates go up.^{24,25} It is said that a combination of ischemia and inflammation following surgical trauma constitute the main trigger for the development of intrauterine adhesion. However, infection is also a mitigating agent in its development.^{12,15,22}

All cases were diagnosed with hysterosalpingogram which has been the most widespread diagnostic tool historically and in similar studies elsewhere.^{12,13,22} It is cost effective and readily available in our facility but it is relatively crude and has a high rate of giving false positive results.²² Superior to this is hysteroscopy which gives real time view of the uterine cavity allowing meticulous definition of the site, extent and character of any adhesion.²² It is the gold standard in the diagnosis and treatment of intrauterine adhesion. However, a major drawback is its cost and logistics of trained personnel for the procedure.

All patients who had adhesiolysis irrespective of the method, had Foleys catheter insertion and hormonal therapy for 3 cycles in order to promote endometrial regeneration, which was similar to the approach in Maiduguri.¹² Restoration of menses was seen in 42.4% and 33.9% had partial improvement of menses which was similar to studies carried out in Maiduguri (45.5%), Abuja (47.9%) but lower than 81.4% in Benin.^{6,12,21} Multiple adhesiolysis in the patients in Benin could explain this high rate.²¹ Pregnancy rates of 10.2% was similar to the 11.3% recorded in National Hospital Abuja but lower than 27.3% achieved in Maiduguri.^{6,12} There was no statistical difference in outcome between patient who had blind or hysteroscopic adhesiolysis. This may be as a result of most of the patients having partial adhesions.

CONCLUSION

Intrauterine Adhesion is a condition with high impact on female reproduction. Dilatation and curettage is still a major predisposing factor in the development of intrauterine Adhesions in our environment. Blind adhesiolysis still has its place in its management in developing countries.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Opadiran RO, Isah AD, Agida ET, Adewole N. Fetal Outcome of intrauterine adhesion management at a Nigerian tertiary hospital: a five-year review. *Int J Reprod Contracept Obstet Gynecol* 2018;7:375-9.