

A 5-year review of intrauterine adhesions at an emerging teaching hospital in Southwestern Nigeria.

Authors:

Olofinbiyi, Babatunde Ajayi^{1,*}, Adeniyi, Omotayo Oladele², Olofinbiyi, Rebecca Oluwafunke³.

¹Department of Obstetrics and Gynaecology, Faculty of Clinical Sciences, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria.

²Bayly Family Practice and Walk in Clinic, Bayly Street, Toronto, Canada.

³Department of Nursing Science, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria.

*Corresponding Author:

Olofinbiyi, Babatunde Ajayi

Department of Obstetrics and Gynaecology, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria

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ABSTRACT:

Background: Intrauterine adhesions (IUAs) (Asherman's syndrome) are closely linked with menstrual irregularities, sub-fertility and recurrent miscarriages. The care of the condition relies heavily on hysterosalpingography and, more recently, hysteroscopy. **Objective:** To review intrauterine adhesions at an emerging teaching hospital over a 5-year period. **Material and Methods:** At the gynaecology unit of the Obstetrics and Gynaecology Department of Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, a 5-year retrospective, descriptive research was conducted between 1st of January 2014 to 31st of December 2019. Version 20 of the Statistical Packages for Social Sciences (SPSS) software was used to process the data. In order to analyse the data, descriptive statistics was used; continuous variables were summarized with mean and standard deviation, while discrete variables were summarized with numbers and percentages. **Results:** About 2.7% of the study participants had intrauterine adhesions. The most frequent aetiological factor was dilatation and curettage (84.2%); followed by Caesarean section (5.5%). Secondary amenorrhoea (43.2%) was the most prevalent presenting symptom. **Conclusion:** Dilatation and curettage (D&C) was the commonest aetiological factor for intrauterine adhesions in the study. The goal of prevention is lowering the prevalence of unintended pregnancy and unsafe abortion, the cornerstone of which is embracing contraception in all the subsets of age groups in the reproductive age spectrum. Additionally, there is a pressing need to make hysteroscopy widely available and to keep impacting the skills of handling hysteroscopy, manual vacuum aspiration techniques and medical termination of pregnancy across the country.

Keywords: Intrauterine adhesions, teaching hospital, southwest Nigeria

INTRODUCTION:

Asherman's syndrome (AS), also known as intrauterine adhesions (IUAs), could be a major factor in sub-fertility, monthly irregularities and miscarriages (Geidam and Malgwi, 2022; Sanjaghsaz *et al.*, 2022). The condition refers to partial or complete obliteration of the uterine cavity by adhesions with resulting menstrual abnormalities, sub-fertility or recurrent pregnancy losses (Geidam and Malgwi, 2022). The majority of instances follow endometrial damage from surgical operations such as overzealous curettage, myomectomy and other forms of intrauterine surgery (Salazar, Isaacson and Morris, 2017). Additionally, it can occur after an infestation like schistosomiasis, pelvic inflammatory disease and genital tuberculosis (Krolikowski, Janowski and Larsen, 1995; Smikle, Yarrarapu and Khetarpal, 2017). The prevalence of the condition varies according to the levels of unplanned pregnancy, unsafe abortion and means of diagnosis

(Geidam and Malgwi, 2022). In Abuja, Lagos, and Uyo respectively, there has been a reported prevalence of 1.6%, 29.2% and 4.2% (Ajayi *et al.*, 2017; Njoku *et al.*, 2017; Opadiran *et al.*, 2018). The endometrial trauma produced in intrauterine adhesions will result in the partial or complete loss of the basalis layer of the endometrium, causing filmy or thick bands of fibrous connective tissues to form, ultimately obliterating the uterine cavity completely or partially thus culminating in sub-fertility, secondary amenorrhoea, oligomenorrhoea or hypomenorrhoea (Dreisler and Kjer, 2019; Xue *et al.*, 2022). In the event of pregnancy, potential clinical presentation may include lower abdomen discomfort, repeated miscarriages and a morbidly adherent placenta with postpartum haemorrhage (Takai *et al.*, 2015). For people that present with regular menstrual flow, a high index of suspicion is required for diagnosis (Vancaillie and Garad, 2013)

Due to its easy accessibility and cost-effectiveness, hysterosalpingography is the most often used technique for diagnosis and it typically reveals filling defects (Ahmadi *et al.*, 2013). Because hysteroscopy allows for a direct view of the uterus, it has revolutionized the diagnosis and treatment of IUAs (Di Guardo *et al.*, 2020). This study's objective was to conduct a 5-year audit of intrauterine adhesions at the health facility of study. Although there have been various studies on Asherman's syndrome in Nigeria, none has been done in our health institution and data on IUAs from Ekiti State, Nigeria, are also somewhat scarce. This review is now necessary in order to add to the body of information already available on IUAs in the light of the experience of a developing low resource health institution.

MATERIAL AND METHODS:

This study, which covered the period from 1st of January 2014 to 31st of December 2019, was conducted in the gynaecological department of Ekiti State University Teaching Hospital in Ado- Ekiti (a new teaching hospital that graduated its first set of medical students in 2019). Data were gathered from the Gynaecology and Obstetrics Department's Health Information Management (HIM) Unit. All IUAs instances that were reported during the research period made up the study population. The HIM staff members assisted in retrieving the case files of all patients who had been diagnosed with IUAs during the period of study. The Ekiti State University Teaching Hospital's Research and Ethics Committee granted permission for the retrieval and use of the case notes. All data were obtained from patients' files; these included history, physical findings and treatment outcomes. The

information on age, parity, predisposing variables, clinical presentation, method of diagnosis and treatment results was carefully extracted from each file. A proforma designed for the research was used to extract the required information. Version 20 of the Statistical Packages for Social Sciences (SPSS) software was used to process the data. In analysing the data, descriptive statistics was used, continuous variables were summarized with mean and standard deviation, while discrete variables were summarized with numbers and percentages.

RESULTS:

Over the course of the 5-year period, there were a total of 5,436 new gynaecological admissions and 146 cases of intrauterine adhesions were seen, giving a prevalence of 2.7%.

The sociodemographic details of the study population are shown in Table 1. The 30-34 age group had the highest frequency of IUAs (41.8%), while 40-44 age group had the lowest (6.2%). Low parity (0-1) made up the majority of the population (66.4%). The aetiological factors are displayed in Table 2. The most frequent aetiological factor was dilatation and curettage (84.2%); followed by Caesarean section (5.5%).

The menstrual patterns of the patients are shown in Tables 3 and 4. Secondary amenorrhoea (43.2%) was the most prevalent presenting symptom. Following therapy, approximately 77% of the patients experienced normal menstruation. Those with hypomenorrhoea (87.2%) and oligomenorrhoea (82.4%) had better menstrual outcomes than those with amenorrhoea (65.6%).

Table 1: Age distribution of patients with intrauterine adhesions

Age (Years)	Number of patients	Percentage (%)
20 – 24	12	08.2
25 – 29	41	28.1
30 – 34	61	41.8
35 – 39	23	15.8
40 – 44	09	6.2
Total	146	100
Parity		
0	51	34.9
1	46	31.5
2	22	15.1
3	15	10.3
4	12	08.2
Total	146	100

Table 2: Aetiological factors for intrauterine adhesions

Aetiological factors	Number of patients	Percentage (%)
Dilatation and curettage for:		
Incomplete abortion	21	14.4
Induced abortion	65	44.5
Missed abortion	18	12.3
Postpartum haemorrhage	17	11.6
Diagnostic curettage	02	01.4
Caesarean section	08	5.5
Myomectomy	06	4.1
Chronic pelvic inflammatory disease	04	2.7
Unexplained	05	3.4
Total	146	100

Table 3: Menstrual pattern of the patients at presentation

Menstrual abnormality	Number of patients	Percentage (%)
Hypomenorrhoea	53	36.3
Oligomenorrhoea	21	14.4
Secondary Amenorrhoea	63	43.2
Normal Menstruation	09	06.2
Total	146	100

Table 4: Menstrual pattern pre-and post-treatment

Menstrual abnormality at presentation	No of patients	No of patients lost to follow up	No analysed	Menstrual Pattern after Treatment			
				Normal Menses (%)	Oligomenorrhoea (%)	Hypomenorrhoea (%)	Amenorrhoea (%)
Hypom-enorrhoea	53	06	47	41(87.2)	-	5(10.6)	1(2.1)
Oligomenorrhoea	21	04	17	14(82.4)	3(17.6)	-	-
Secondary Amenorrhoea	63	02	61	40(65.6)	6(9.8)	9(14.8)	6(9.8)
Normal Menses	09	1	08	08(100.0)	-	-	-
Total	146	13	133	103(77.4)	9(6.8)	14(10.5)	7(5.3)

DISCUSSION:

In this study, the prevalence of intrauterine adhesions among gynaecological conditions was 2.7%, which was a bit higher than what was recorded in Abuja (1.6%) (Opadiran *et al.*, 2018) and much lower than

what was gotten from Lagos (29.2%) (Ajayi *et al.*, 2017). These disparities may not be unconnected with the differences in population size and means and levels of diagnostic technologies. While the diagnostic technology used in our study was hysterosalpingography, hysteroscopy was used in the

Lagos study (Ajayi *et al.*, 2017). In our study, the highest prevalence of AS (78.1%) was recorded in women below the age of 35 years; with a similar pattern (81.1%) obtained in Borno study (Geidam and Malgwi, 2022). This finding is supporting the fact that fecundity, with its attendant challenges like unplanned pregnancy and abortion complications, is higher in the younger age group. In addition, in this study, the highest prevalence of AS was recorded among nulliparous women, this is also in consonance with the finding of Borno study; this agreement can still be explained in terms of the difference in fecundity between the younger and the older age groups (Spira, 1988). The commonest aetiological factor for AS in the study was dilatation and curettage; this finding is in congruence with the results obtained by Charles *et al* and Kwari and Idrisa in their studies (Kwari and Idrisa, 2011; Njoku *et al.*, 2017); which is also in line with the results obtained from other studies in Nigeria. This can be connected with the high rate of induced abortions in Nigeria, majority of which are carried out by inexperienced medical and non-medical personnel (Bankole *et al.*, 2015; Lamina, 2015). Dilatation and curettage (D&C) traumatizes the endometrium whereas endometrial injury causes ischemia and inflammatory responses that result in hypoxic cellular changes and the release of active chemicals that cause fibrosis (Xue *et al.*, 2022). It is interesting to find out that the majority of patients in this study were diagnosed with hysterosalpingography, a lower level of technology when compared with hysteroscopy. Since hysteroscopy is safer and more successful than D&C, it has emerged as the gold standard for treatment of AS (Di Guardo *et al.*, 2020). In contrast to the blind D&C, the adhesions can be seen immediately using the endoscopic equipment, and the instrument's magnification enables correct adhesions division to restore normal uterine calibre and free tubal ostia. Similar to other research, the most frequent presentation of the patients in our study was menstrual issues (Ajayi *et al.*, 2017; Opadiran *et al.*, 2018). Patients with AS typically present with menstrual disorders (hypomenorrhea or amenorrhea) and/or infertility (Ajayi *et al.*, 2017; Di Guardo *et al.*, 2020). AS is linked to endometrial trophic alterations and unresponsiveness, which can lead to intrauterine adhesions, thereby reducing the endometrial surface and hence the bleeding area, causing monthly issues (Dreisler and Kjer, 2019).

The strength of our study is that it would be the first study on Asherman's syndrome in the relatively new institution, thus it will form a template for further studies on the subject. The research was limited by the fact that projection of result to larger populations would not be appropriate as it was an institution-based study; in addition, our study did not look into other common complications of AS like recurrent

miscarriage and infertility. Thus conducting larger studies exploring these areas will be necessary.

CONCLUSION:

Dilatation and curettage was the commonest aetiological factor for intrauterine adhesions in the study. IUAs continues to be a significant contributor to menstrual irregularities and sub-fertility issues. The goal of prevention should be to lower the prevalence of unintended pregnancy and unsafe abortion, the cornerstone of which is embracing contraception in all the subsets of age groups in the reproductive age spectrum. Additionally, there is a pressing need to make hysteroscopy widely available and to keep impacting the skills of handling hysteroscopy, manual vacuum aspiration techniques and medical termination of pregnancy across the country.

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