

Missing IUD String: Prevalence, Diagnosis and Retrieval in Nnewi, Nigeria

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Abstract

Background: Displacement of intrauterine contraceptive devices (IUD) is an important complication of this method of family planning and various factors contribute to the risk. We aim in this study to document the prevalence, risk factors, diagnostic methods and treatment of displaced IUD and possible ways of reducing the risk of displacement.

Method: A retrospective review of all cases of displaced IUD between 1st January 1995 and December 31st 2004 at Nnamdi Azikiwe University Teaching Hospital and Life specialist hospital limited Nnewi was carried out.

Result: The prevalence of displaced IUD was 3.6%. 60.0% of the displacement occurred in women aged 40years and above; 80% in social class III and above; 60% occurred in grandmultiparous women; 60% of the displaced IUD were inserted more than 6weeks postpartum. 53.3% of the displacements occurred more than 30months post insertion. 86.7% of the displacement were into the uterine cavity and into the uterine wall and 66.7% were successfully retrieved by retrieval hook while 66.7% of the clients feared using any other form of contraception following the displacement and retrieval.

Conclusion: There is the need to further reduce the incidence of IUD displacement by proper insertion technique, retraining of service providers, proper selection of cases and modifications of the IUD.

Key words: Missing IUD, Copper T, Prevalence, Diagnosis, Retrieval.

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Introduction

Intrauterine contraceptive device (IUD) is the commonest long term form of contraception used in our environment¹. It is however, associated with few complications which include displacement, intermenstrual bleeding, menorrhagia, pelvic pain, infection and failure leading to pregnancy with the IUD insitu.

IUD could be levonorgestrel impregnated or inert (e.g. Lippes loop). The later is associated with highest risk of displacement; the LNG impregnated is associated with ectopic pregnancy.

Displaced IUD could be any of the followings expulsion, retraction of the tail into the uterine cavity, penetration into the uterine wall, or migration to the cervical canal or transmigration to the peritoneal cavity²⁻³. There are also reported cases of migration to the rectum/anus, ileum or the bladder⁴⁻⁶.

Displacement with uterine perforation presents almost immediately after insertion and may be due to difficult insertion, inexperience, retroverted uterus, atrophic uterus and immediate post partum uterus etc. Expulsion following insertion almost immediately after a term pregnancy is common; however there are current modifications in the IUD to reduce this risk. Also intraoperative insertion with embedding of the device in the fundus is associated with reduced risk. IUD may however, be inserted immediately after a 1st trimester miscarriage with reduced risk.

The presentation of missing IUD strings can be symptomatic or asymptomatic and simple speculum examination of the vagina will clinch the diagnosis, while investigations like, ultrasonography, hysterosalpingogram and plain abdominal X-ray with a maker in the uterine cavity will locate the position of the IUD^{3,7-10}. Hysteroscopy is best used for diagnosis and retrieval of intrauterine displaced IUD^{11,12}.

Conventional methods of removal include use of Retrieval hook, Spencer well's forceps and sponge holding forceps with or without cervical dilatation⁹. To reduce pain during the removal in a non pregnant undilated cervical os, the cervix can be prepared with lamical¹³. Dilatation & Currettage, laparoscopy or laparotomy could also be performed for IUD removal^{10,11,14}. When displaced into the uterine cavity with co-existing pregnancy, the IUD can be left insitu or carefully removed to avoid interference with the ongoing pregnancy¹².

The removal of IUD can be achieved with or without anaesthesia. Paracervical block may suffice but where uterine perforation is suspected general anaesthesia, may be used.

The incidence of this condition is variably reported to be 2-8%^{1,11}. The objective of this study is to determine the incidence of this condition in our centre as well as the possible risk factors and the management.

Materials and Method

A retrospective review of all the intrauterine contraceptive device insertions at Family planning clinics of Nnamdi Azikiwe University Teaching Hospital Nnewi and Life Specialist Hospital Limited Nnewi from 1st January 1996 to Dec. 31st 2005 was carried out. The IUD used in all the clients was copper T 350A. Data extracted from the family planning cards, gynaecology clinic & ward registers and theatre records include Socio-demographic data, type of IUD, timing of insertion and displacement, status of service provider, method of diagnosis and retrieval methods. The data was manually analyzed with electronic calculator and presented in tables.

Results

The IUD used in all the clients was copper T 380A. Out of 489 IUD insertions, 18 (3.6%) were displaced but only 15 folders could be retrieved and used for this study. 40% of the displacements occurred in the age range of 40-44years, followed by 33.3% in the age range 30-34years and 20% occurred in those 45years and above (Table 1).

In social class V there was 40% displacement followed by 20% each in social classes 111 & 1V and the rest in classes I & II. All the women were married (100%); 60% occurred in Para 5-7 followed by 20% in Para 2-4 (Table I).

Eighty percent of the displaced IUDs were inserted after 6 weeks post partum and 20% within the puerperium; 73% were inserted by Nurses followed by 20% by medical officers; 53.3% of the displacements occurred more than 30 months after insertion followed by 19-24 months (20%); 13.3% occurred less than 6months after insertion (Table II).

The commonest pattern of presentation was missing thread (60%) followed by bleeding per vaginam (26.7%).

Displacement within uterine cavity contributed to 53.3%, into the uterine wall 33.3% as shown in Table III. Speculum examination of the vagina was the diagnostic tool in all the cases of missing thread. Ultrasound was used to confirm diagnosis and localise the IUD in 80% of cases followed by plain abdominal radiography with an

uterine sound in the uterine cavity in 13.3%.

Prior to IUD use, 86.7% had not used any other form of contraception and following the displacement, 66.7% did not agree to use any other form of contraception while 13.3% agreed to use combined oral contraceptive pills and 20% were not specific. 66.7% of the retrieval was by use of retrieval hook, 26.7% by Dilatation & Curettage and 6.7% via laparoscopy. General anaesthesia was used for all the retrievals by laparoscopy or dilatation & curettage. However, in retrievals with a retrieval hook, no anaesthesia was used in 46.7%, paracervical block was used in 13.3% and general anaesthesia was used in 6.7% of the procedures.

Table I: Age and Parity distribution of the clients

Age	No.	%
20-24	0	0.0
25-29	1	6.7
30-34	5	33.3
35-39	0	0.0
40-44	6	40.0
>45	3	20.0
Total	15	100
parity		
0-1	2	13.3
2-4	3	20.0
5-7	9	60.0
8 & above	1	6.7
Total	15	100

Table II: Interval between insertion and displacement

Interval(Months)	No	%
6	2	13.3
7-12	2	13.3
13-18	0	0.0
19-24	3	20.0
25-30	0	0.0
>30	8	53.3
Total	15	100

Table III: Types of Displacement

Parameter	No	%
Expulsion	0	0
Within uterine cavity	8	53.3
Peritoneal cavity	1	6.7
Uterine wall	5	33.3
Cervical canal	1	6.7
Total	15	100

Discussion

The incidence of displaced IUD in this study is 3.6% with most of the displacement (53.33%) occurring more than 30 months following insertion. This is higher than 0.89% reported from Ilorin Nigeria⁹. The peak age of 40 years and above at which this occurs agrees with previous studies¹⁵, but while it is commoner in higher parity (Para 5 and above) from our study, other studies especially in developed countries reported highest prevalence at parity of two¹⁵. The high parity in this study is understandable because of desire for larger families in developing countries.

Displacement within the uterine cavity and wall contributed to 86.7% in this study. Ultrasound was the major mode of confirmation of diagnosis and location of the IUD in our study. This is because it's non-invasive, accurate and available as shown by other authors⁹.

Retrieval hook was more commonly used for removal of IUDs still in the uterine cavity and this was performed safely without anaesthesia in the out patient clinic. Use of different retrieval devices which can be performed in the peripheral clinic has been recommended by other authors as it avoids more complicated and unpleasant procedures for IUD extraction under general anaesthesia in women with missing IUD threads^{16,17}. Laparoscopic retrieval was successfully carried out in one client with perforation and IUD in the pelvic cavity. The pain these women had gone through following the displacement and retrieval and the fear of recurrence had discouraged majority of them from accepting any other form of modern contraception apart from natural method. Therefore efforts should be intensified to minimise this complication of IUD use to avoid the negative impact it will have on acceptance of contraception in our practice. This can also be reduced by proper education of the patients on the safety of the retrieval process and more use of laparoscopic method than laparotomy for retrieval in outright perforation.

While outward expulsion occurs very soon after insertion, upward displacement or migration of IUD occurs much

later as demonstrated in this study. While the reason for early upward migration could be due to insertion technique and skill of the service provider, the cause of late migration cannot easily be deduced but may be attributed to sexual activity since the later can cause the IUD thread to be displaced upward into the cervical canal. The second author in the course of clinical practice had attended to a patient who presented with partial transection of the cervix by IUD thread following coitus.

A very small percentage (13.3%) was retrieved under paracervical block whereas 33.3% was under general anaesthesia. While it may well be that majority of the patients would prefer not to be awake during the procedure, it may also be that most practitioners do not appreciate the use of paracervical block for minor cervical procedures.

Conclusion

There is the need to further reduce the incidence of IUD displacement by proper insertion technique, retraining of service providers, proper selection of cases and modifications of the IUD. Use of local anaesthesia during retrieval especially with retrieval hook, proper education of patients on the safety of retrieval process coupled with adoption of laparoscopic retrieval will help to reduce the fear attributable to displaced IUD.

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