ORIGINAL ARTICLE

An experience of laparotomies due to utrine perforation by IUCD, at Surgical Unit II, PMCH Nawabshah

Farkhanda Jabeen Dahri , Muhammad Sharif Awan, Abdul Razaque Qazi, Ahsan Leghari, Noor Muhammad Khaskheli

Abstract:

Objective: To assess the number of Laparotomies performed due to complete perforation of uterus by Intrauterine Contraceptive Device (IUCD)

To study the various avoidable factors responsible for perforation of uterus by IUCD.

Study Design: Prospective descriptive study.

Setting and duration: Surgical Unit II and Gynecological department of Peoples Medical College & Hospital Nawabshah from January 2000 to December 2010.

Methodology: 18 patients were included in our study, referred from surgical OPD and causality or from gynaecology and obstetrics department. Performa was filled containing information about the, age, parity, time and place of insertion, type of IUCD used and inserter's skill. After investigations complete perforation of uterus was diagnosed and exploratory laparotomies were performed.

Results: Out of 18 patients in sixteen patients IUCD was inserted by LHV and Dais and in two patients by doctors at primary health centers. In 10 patients IUCD was inserted during puerperal period, 4 patients in post abortion, 2 patients in postmenstrual, and in two patients during lactation. On laparotomy among the recovered IUCDs 12 were Copper T 5 Lippi's Loop, and one was multiload. The recent advanced type of IUCDs were not found in any case. IUCD was found in rectosigmoid junction in 2 cases, urinary bladder in two cases and omentum 5 cases, 3 in ileum two were causing intestinal obstruction,, 2 in pelvis, one in adnexa and in two in subhepatic spaced which is not commonly seen in other studies.

Conclusion: IUCD should be inserted by skilled person and avoided during puerperal post abortion and lactation period. If perforation is diagnosed IUCD should be removed by any means to avoid complications.

Keywords: Intrauterine device, Uterine perforation, Laparotomy

PMC Hospital, Nawabshah
FJ Dahri
MS Awan
AR Qazi
A Leghari
NM Khaskheli

Correspondence:
Dr Farkhanda Jabeen Dahri
Assistant Professor Sugery
Fairy Medicar, Court Road
Nawabshah
Email ; surgeonfarkhanda@yahoo.com
Cell No 03003275340

Introduction:

The practice of placing foreign bodies into the uterus of human as well as animals as a means to prevent unwanted pregnancy may have originated thousands of years ago. It is rumored that nomadic people placed smooth stones into the uteri of their female camels to prevent conception during extended travels.[1] Now a days IUCD provides safe highly effective reversible long contraception tool almost hundred million world wide. However there are number of complications due to IUCD eg Pelvic Inflammatory Disease (PID)[2], Complete and partial perforation of uterus, actinomycosis, excessive irregular bleeding, vaginal discharge, severe suprapubic pain, septic abortion, pelvic abscess[3-8].

Incidence of IUCD perforation is 0.87/1000.In case of IUCD perforation the accepted treatment for displaced IUCD is surgical removal, because of putative risk of adhesions and damage to intestine, Urinary Bladder and other organs.[3] The IUCD may migrate to Urinary bladder leading to stone formation[9, 10], or may lead to intestinal closed loop obstruction, as reported even after 31 years of uterine perforation.[11]

To differentiate between perforated IUCD, three anatomical compartments are postulated, number 1 Uterine cavity, 2 Myomatrium, and 3 Peritoneal cavity.[4] Completely perforated and less often partially perforated IUCD may intrude upon neighboring viscera, particularly the intestinal tract requiring lapartomy. In complete perforation the IUCD is found mostly in omentum, rectosigmoid junction, peritoneum, Urinary bladder, appendix, small bowel, adenexa, iliac vein. The majority of authors recommend removal of copper containing devices, because of potential for inflammatory reaction that can cause bowel obstruction and perforation. Laparotomy is superseded due to adhesion formation.[5]

It is suggested that all devices translocated into the abdomen be removed to avoid potential complications. Laparotomy is the method of choice to remove medicated devices as they cause dense adhesions often associated with bowel loop obstruction. Risk factors considered to be associated with translocation include postpartum insertion, inserter skill, insertion technique and the status and configuration of cervix and uterus.[6]

There appear to be an increased risk of translocation in lactating women, during labour, during early puerperium because of hypoestrogenemia and thinning of uterine wall so there are more chances of perforation hence it should be avoided.[7,12]

Methodology:

This is a prospective descriptive study conducted at surgical Unit-II with coolabration of Gyne Obst department of Peoples Medical College & Hospital Nawabshah from January 2001 to December 2010.

18 patients were included in our study, they referred from surgical OPD, causality and gyne obst department. After admission patient's performa was filled containing information about the, age, parity, time of insertion of IUCD (puerperium, post abortion, and lactation) type of IUCD used, place of insertion and inserter skill (LHV, Dais, doctor) and history of follow-ups after insertion of IUCDs, duration of IUCD,s with the presenting complaints. Examination of the patients per abdominal and per vaginal were carried out specially for the lost strings. Among the eighteen patients five were referred from gynae ward due to absent strings on PV and failed attempts at removal of IUCD by curettage or by retrieval hook

All the patients were investigated by Plain X-Ray abdomen, abdominal ultrasound and/or vaginal ultrasound and CT scan in two patients, complete perforation of uterus was diagnosed and exploratory laparotomy was decided to prevent future complications. All patients were anxious for displaced device and were willing for removal of IUCD by any means; even if the IUCD was found incidentally on X-Ray abdomen done for other reasons. Therefore we decided to go for lapartomy in all the patients.

Results:

18 patients with age range from 25 to 40 years, were included in our study, 5 patients were referred from gynae obst department of PMCH Nawabshah, and 13 admitted through surgical OPD and emergency department. Patients from gynae department were already diagnosed as complete uterine perforation, needing lapartomy hence shifted to surgical department. In sixteen patients IUCD was inserted by LHV and Dais and in two patients by doctors at primary health centers. The patients presented within three months to three years after insertion of IUCD, with different complaints, such as, vague abdominal pain, symptoms of intestinal obstruction, dysuria, and fever with lower abdominal pain etc as shown in table 1. On enquiry there

Table 1: *Presentation of patients after IUCD perforation of uterus*

Symptoms	No. of patients (%)
Vague abdominal pain	5 (27.75%)
Failed attempts to remove	5 (27.75%)
Intestinal obstruction	3 (16.5%)
Dysuria / Cysticism	2 (11.5%)
Incidental finding on x-rays	2 (11.5%)
Fever with lower abdominal pain	1 (5.5%)

was no proper followup examination for presence of strings in uterine os, in all the patients. On laparotomy among the recovered IUCDs 12 were Copper T, 5 were Lippi's Loop, and one was multiload. The recent advanced type of IUCDs were not found in any case. In 10 patients IUCD was inserted during puerperal period, 4 patients in post abortion, 2 patients in postmenstrual, and in two patients during lactation. Laparotomy was decided in all patients after confirming the diagnosis of complete perforation of uterus. Through midline incision exploratory laparotomies were performed and IUCD was recovered from different sites in abdominal cavity as mentioned in (table No 2).

Table 2: *Location of IUCD in abdominal cavity on laparotomy*

Location	No. of patients (%)
Omentum	5 (27.5%)
Illium	3 (16.5%)
Rectosigmoid junction	2 (11.5%)
Urinary bladder	2 (11.5%)
Pelvis	2 (11.5%)
Sub Hepatic space	2 (11.5%)
Adnexa	1 (5.5%)
Utero Ilial fistula formation	1 (5.5%)

Dense adhesions were found in cases of Copper T and were very difficult to remove as compared to other devices. Resection and anastomosis was performed in two cases due to dense adhesions resulting in intestinal obstruction, In two cases ICUD was found in urinary bladder with stone formation on it and the device had fistulous tract from the uterus. Postoperative recovery of the patients was uneventful without any complications. Postoperative stay was 4 to 5 days in most of patients but two patients remained for 10 days due to resection and anastomosis of gut.

Discussion:

The role of family planning in preventing maternal deaths and improving the quality of women's life is one of the key strategies of the safe motherhood initiative. IUCD especially the copper T seems to be one of most appropriate methods of contraception in the developing countries like Pakistan, but it is associated with serious complications like bleeding, perforation and migration into adjacent organs or omentum[13]. In our study we found more cases of perforation and dense adhesions in Copper T as compared to Lippi's loop and multiload, majority of patients ie 66.6% Copper T was found where as Lippi's loop in 27.7% and Multiload in 5.5%. This is also seen in a case report in India[14]. The uterine perforation is the most serious complication associated with IUCD. The incidence of transuterine perforation and migration of IUCD into abdominal cavity has been estimated about less than 0.1% 11.1 but it varies from 0.05/1000 to 13/1000.[15,16,17] This depends upon type of device placed, skill of operator, position of the uterus, frequency of follow-ups.[18,19] Our study shows that most of IUCD's were placed by lady health visitors, dais, and less skilled doctors at primary health care centers. The patients with displaced contraceptive device may present with pregnancy, or lost strings or may remain asymptomatic for years,[20] while 85% of reported cases do not cause any major complication at diagnosis but 15% presents with serious complications with IUCD and ending partially or completely into urinary bladder, appendix, small bowel, colon, rectum[14], recto-uterine fistula, rectal fistula, actinomycosis.[8] In our study IUCD was found in rectosigmoid junction in 2 cases, urinary bladder in two cases and omentum 5 cases, which is common location reported.[21,22] other sites were 3 in ileum, 2 in small intestines with obstruction, 2 in pelvis, one in adnexa and in two in subhepatic spaced which is not commonly seen in other studies. It is also seen in previous study that majority of perforated IUCD were inserted by dais and lady health visitors therefore regular follow-ups and trained personals are required.[23] Treatment of perforated IUCD is controversial issue; general consensus is that IUD should be removed to prevent infection and injury to neighboring organs, and intra-abdominal adhesion formation. Fatal complications due to sepsis, rectal fistula and intestinal obstruction have been reported.[16] Some authors have suggested leaving IUCD in place if the patient is asymptomatic as there may be some risk in performing lapartomy or laparoscopy; however it is up to

the clinical judgment of the surgeons to decide on the preferred treatment strategy.[3] Therefore we preferred to perform lapartomy to remove IUCD for prevention of future complications. Safe and proper placement of IUCD requires careful clinical examination of uterine size shape, and position before placement, proper training is must, follow up speculum examination one month after insertion for string confirmation and proper placement permits timely intervention if perforation has occurred.[1] Published guidelines exist for selection of appropriate candidates for IUCD use.[24]

Conclusion:

1. Skillful insertion of IUCD is important to avoid complications, therefore published guidelines and proper training of staff is recommended.
2. Since the chances of perforation are more in puerperal and post abortion period so it should be avoided.
3. Displaced or perforated IUCD should be removed as soon as possible to avoid future complications like, fistula formation, intestinal obstruction, bladder stone formation, and dense adhesions.
4. Regular follow up examination for strings is recommended.

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