PENETRATION OF THE BLADDER WALL BY AN INTRAUTERINE CONTRACEPTIVE DEVICE

MESANE DUVARINA RAHIM IÇI ARAÇ PENETRASYONU

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SUMMARY: Uterine perforation is a known and relatively common complication of the insertion of intrauterine devices (IUDs). In this paper we present a case of penetration of the urinary bladder wall by an IUD following perforation of the uterine wall.

Key Words: *Intrauterine Contraceptive Device, Perforation, Bladder.*

ÖZET: Rahim içi araç (RİA) uygulaması esnasında uterin perforasyon bilinen ve kısmen sık görülen bir komplikasyondur. Bu yazıda RİA'nın uterus duvarını perfore ettikten sonra mesane duvarına penetrasyonunu bir vaka olarak sunmaktayız.

Anahtar Kelimeler: *Rahim İçi Araç, Perforasyon, Mesane.*

INTRODUCTION

The intrauterine contraceptive device (IUD) is the most widely used reversible method of contraception in Turkey and worldwide because of its contraceptive and cost effectiveness (1). Current evidence strongly suggests that the copper bearing IUD mainly prevents pregnancy by stimulating a sterile inflammatory response. The inflammatory response in the uterine cavity is toxic to the sperm and may be toxic to the ovum (2). The most common complications of IUD are excessive uterine bleeding, pelvic pain and pelvic inflammatory disease. Rarely an intrauterine device perforates the uterine wall during insertion.

The incidence of uterine perforation with an IUD ranges from 1/1000 to 3/1000 (3). In 80% of perforations, the IUD is freely located in the peritoneal cavity (4). Uterine perforation by an IUD may lead to injury to the adjacent viscera, i.e. rectum, sigmoid colon, and appendix (5-7).

In our case of uterine perforation by the IUD, the interval between the insertion and the beginning of the symptoms was six years. Our patient's main complaints were pelvic pain and dysuria.

CASE REPORT

A 33-year-old female, gravida 2, parity 2, complaining of intermittent pelvic pain was referred to our outpatient clinic. She had had two deliveries by cesarean section, in 1994 and 1997, and following her last C/S an IUD had been inserted in the 12th postpartum week. Following the insertion of the IUD, the patient reported that she had intermittent pelvic pain and occasional dysuria and hematuria. On physical examination, there was rebound tenderness in the lower abdominal quadrants. The bimanual pelvic examination revealed no abnormal findings. The strings of the IUD were not seen protruding through the cervix. Therefore, migration of the IUD to the abdominal cavity was suspected.

Microscopic examination of the urine revealed pyuria and hematuria. Hematological and biochemical parameters were normal. When the pelvis was examined by ultrasonography, the IUD could not be located in the uterine cavity and there was an echogenic mass protruding from the bladder wall. This echogenic mass was thought to be the missing IUD penetrating into the bladder wall. An X-ray examination of the pelvis revealed a 2 cm radiopaque mass around one of the short arms of the IUD (Fig. 1).

With the presumptive diagnosis of missing IUD penetrating into the urinary bladder, the patient was operated on. During laparotomy, the strings of the IUD were seen on the bladder dome and the missing IUD was removed by a partial cystectomy. There was a calculus formation 2 cm in diameter on one of the shorter arms of the IUD and the vertical arm had a calculus formation 1 cm in diameter (Fig. 2).

Fig. 1: X-ray examination of the pelvis revealed a 2 cm in diameter radioopaque formation.

The bladder was repaired and an indwelling catheter was left for 7 days postoperatively.

DISCUSSION

The IUD is the most widely used reversible method of contraception in the world (1). In properly selected patients, intrauterine devices are very reliable contraceptives.

One of the complications of the IUD is uterine perforation and very rarely the penetration of the IUD into the bladder. The incidence of uterine perforation is closely related

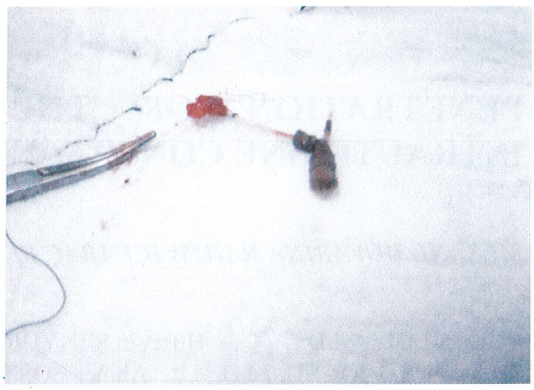

Fig. 2: The IUD removed; the right arm and the vertical arm covered by calculus formation.

to the timing and technique of insertion, the type of IUD used, the skill of the physician and the anatomy of the cervix and uterus (4,8). The true incidence of perforation is most likely higher because of the frequently asymptomatic nature of the perforation (9). Dietrick et al. reported 18 cases of IUD migrating to the urinary bladder in 1992 (10) and we spotted 27 new case reports in Index Medicus after 1992. Migration of the IUD into the urinary bladder is usually symptomatic, causing suprapubic pain, irritative voiding symptoms, hematuria and menouria (3,11). These devices can encrust with deposits forming calculus. The means and timing of IUD migration are not known (12). However, a long symptom-free interval after insertion does not necessarily indicate that the migration was slow (12). The interval between insertion and the beginning of symptoms varies from 6 months to 16 years (10). In our case, this interval was 6 years. At the time of perforation, the patient might not necessarily show any symptoms. Most perforations occur at or soon after insertion, especially when insertion is associated with pain (13,14). IUD carrying women should check the strings of the IUD regularly at the end of their menstrual periods. If they should fail to feel the strings of the IUD, ultrasonographic and/or X-ray examinations must be performed to locate the missing IUD. Intrauterine devices penetrating into the myometrium and visceral organs should be removed. In women carrying IUDs, repetitive dysuria and hematuria symptoms should alert the

physician to the possibility of bladder perforation by the IUD.

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REFERENCES

1. Mauldin WP, Segal SJ. IUD use throughout the world: past, present and future. In: Bardin CW, Michell DR Jr, eds. Proceedings from the fourth international conference on IUDs. Boston: Butterworth-Heinemann, 1994: 1-10.
2. Sivin I. IUD are contraceptives, not abortifacients: a comment on research and belief. Stud Fam Plann 1989; 20: 355-359.
3. El-Diasty AT, Shakeir AA, El-Gharib MS, Sherif LS, Shamau MA. Bladder stone: a complication of intravesical migration of Lippes loop. Scand J Urol Nephrol 1993; 27: 279-280.
4. Zahin D, Stern SW, Rosenblatt R. Complete and partial uterine perforation and embedding following insertion of intrauterine device. Obstet Gynecol Surg 1981; 36: 335-353.
5. Sepulveda WH. Perforation of the rectum by copper-T intrauterine contraceptive device; a case report. Eur J Obstet Gynecol Reprod Biol 1990; 35: 275-278.
6. Hays D, Edelstein JA, Ahmad MM. Perforation of the sigmoid colon by an intrauterine contraceptive device. Contraception 1986; 34: 413-416.
7. McWhinney NA, Jarret R. Uterine perforation by a copper T intrauterine contraception device with subsequent penetration of the appendix. Case report. Br J Obstet Gynecol 1983; 90: 774-776.
8. Lu H, Chen W, Shen W. Vesicle calculus caused by migrant intrauterine device. Am J Roentgenol 1999; 173: 504-505.
9. Atakan İH, Kaplan M, Ertürk E. Intravesical migration of intrauterine device resulting in stone formation. Case report. Urology 2002; 60: 911iii-911v.
10. Dietric DD, Issa MM, Kabalin JN, Basset JB. Intravesical migration of intrauterine device. J Urol 1992; 147: 132-134.
11. Schwartzwald D, Mooppan UMM, Tancer ML, Gomez Leon G, Kim H. Vesicouterine fistula with menouria: a complication from an intrauterine contraceptive device. J Urol 1986; 136: 1066-1067.
12. Mahmutyazıcıoğlu K, Özdemir H, Özkan P. Migration of an intrauterine contraceptive device to the urinary bladder: sonographic findings. Case report. J Clin Ultrasound 2002; 30: 496-498.
13. Heartwell SF, Schlesselman S. Risk of uterine perforation among users of intrauterine devices. Obstet Gynecol 1983; 61: 31-36.
14. Heinonen PK, Merikari M, Paavonen J. Uterine perforation by copper intrauterine device. Eur J Obstet Gynecol Reprod Biol 1984; 17: 257-261.