

Does Timing of Intrauterine Device Insertion Regarding The Application Day of Menstrual Cycle Make Sense for Unintentional Expulsion? A Retrospective Study

Rahim İçi Araç Uygulanma Zamanında Menstrüel Siklus Günü Dislokasyon Riski Açısından Anlamlı mıdır? Retrospektif çalışma

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ÖZET

Amaç: Rahim İçi Araç (RİA) uygulaması, uygulamanın daha kolay ve daha az ağrılı olacağından dolayı servikal kanalın açık olacağı menstrüel periyod döneminde yapılması önerilir. Bu retrospektif çalışmada RİA uygulanma zamanının dislokasyon ile ilgisi olup olmadığını araştırmayı amaçladık.

Gereç ve Yöntemler: Bu retrospektif çalışmaya, Ankara'da bir kadın hastalıkları hastanesinin aile planlaması kliniğine RİA uygulanması için başvuran 185 hasta dahil edildi. RİA uygulanan hastalar bir ay sonra kontrole çağrılarak transvajinal ultrason ile RİA lokalizasyonları belirlendi. Alt uterin segment ve servikal kanalda gözlenen rahim içi araçlar disloke kabul edildi.

Bulgular: Çalışmaya 185 hasta dahil edildi. Hastaların yaş aralığı 17- 53 arasında idi (ortalama±SD:31.5 +8.0). 185 hastanın 45'inde (%24.3) disloke RİA, 140 hastada (%75.7) normal lokalizasyonlu RİA mevcuttu. Menstruasyonun ilk üç gününde RİA takılan 44 hastadan (totalin %23.8'i), 7 hastada (%15.9) disloke RİA; menstruasyonun 4. ve 7. günleri arasında RİA uygulanan 71 hastadan (total hasta sayısının %38.4'ü) 20 hastada (4.-7. gün insersiyonlarının %38.4'ü) disloke RİA; herhangi bir günde RİA uygulanan 31 hastadan (totalin %16.8'i) 11 hastada (%35) disloke RİA; postpartum ilk kırk gün içinde RİA uygulanan 13 hastadan (totalin %7.0'i) sadece bir hastada (postpartum ilk 40 gün içinde RİA uygulananların %7.7'si) disloke RİA; postpartum 40 günden sonra RİA uygulanan 13 hastadan (totalin %7.0'i) 3 hastada (postpartum 40. günden sonraki uygulamaların %23.1'i) disloke RİA ve D/C sonrası RİA uygulanan 13 hastadan (totalin %7.0'si) 3'ünde (%23.1) disloke RİA izlendi.

Sonuç: Dislokasyon insidansını uygulama zamanı, parite, abortus öyküsü, geçirilmiş uterin operasyonlar, kullanılan RİA çeşidi, uterin anomaliler, leiomyomlar ve uterin pozisyon gibi faktörler etkileyebilir. Menstruasyonun ilk üç günü RİA uygulandığında dislokasyon ihtimali daha düşük görünse de, RİA uygulamasının zamanlaması dislokasyon oranlarını anlamlı olarak etkilememektedir.

Anahtar Kelimeler: Rahim içi araç, dislokasyon, menstrüel siklus, zamanlama

ABSTRACT

Aim: The application time for intrauterine device (IUD) is recommended to be during menstrual period because the cervical canal would be open and the insertion would be easier with less pain. In this retrospective study we aimed to find out whether the day of insertion of IUD is related with the dislocation.

Material and Methods: In this retrospective study, 185 patients who consulted to a family planning clinic of women's hospital in Ankara for IUD insertion were observed. The patients were asked for follow-up for the coming month and they were checked by transvaginal ultrasound. IUDs located at the lower uterine segment and cervical canal were considered as dislocated IUDs.

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Results: One hundred and eighty five patients were included in this study. The patient's age ranged between 17 and 53 (mean±SD:31.5 ±8.0). Among 185 patients, 45 patients (24.3%) had dislocated IUD, 140 patients (75.7%) had normal localized IUD. Forty four patients (23.8% of total) had IUD insertion on first three days of menstruation. Seven of these 44 patients (15.9% of insertions in first three days of menstruation) were found to have dislocated IUDs. Thirty seven of them (84.1%) had a normal localized IUD. Seventy one patients (38.4% of total) had IUD insertion on 4 to 7th days of their menstruation. Twenty of these 71 patients (28.2% of insertions on 4th to 7th day) were found to have dislocated IUDs. Fifty one of them (71.8%) had a normal localized IUD. Thirty one patients (16.8% of total) had IUD insertion on their random day of cycle without menstruation. Eleven of these 31 patients (35.5%) had dislocated IUDs after one month while 20 (64.5%) of them had a normal localized IUD. Thirteen patients (7.0% of total) had IUD insertion postpartum before 40 days. One of 13 patients' IUDs (7.7% of insertions on postpartum before 40 days) were found to have been dislocated while 12 (92.3%) of them had a normal localized IUD. Thirteen patients (7.0% of total) had IUD insertion after postpartum 40th day. Three of 10 patients (23.1% of insertions on after postpartum 40th day) were found to have dislocated IUDs while 10 (76.9%) of them had a normal localized IUD. Thirteen patients (7.0% of total) had IUD insertion immediately after dilatation and curettage. Three of 13 patients (23.1% of insertions on after D/C) were found to have dislocated IUDs while 10 (76.9%) of them had a normal localized IUD.

Conclusion: IUD insertion is a safe, easily applicable and cost-effective contraceptive method exhibiting low failure and complication rates. Failure of IUDs is mostly associated with dislocation, malposition or expulsion. Dislocation incidence will be influenced by several factors like timing of insertion, parity, previous abortions or uterine operations, type of IUD used, uterine anomalies, leiomyomas and uterine position. Although the first three days of the menstrual cycle seem to be with the lowest probability of intrauterine device expulsion, the timing of IUD insertion does not affect the dislocation rates significantly.

Key Words: dislocation, intrauterine device, menstrual cycle, timing

Introduction

Intrauterine contraceptive device (IUD) is the second most widely used modern contraception method after oral contraceptive pills in the world and the most common modern method in Turkey (1).

It is regarded as one of the most effective birth control mechanism because of its long acting, safe and reversible mechanism. Being able to be used from adolescence to menopause; it can be performed at any day of the menstrual cycle, during postabortive or postpartum periods without interfering with lactation (2). Fertility is restored promptly on removal. All these advantages make this method preferred by millions of women in the world.

Copper bearing IUD's are currently most widely used and their efficacy varies depending on their types. T Cu 380A, which is also used in our hospital, has 10 years of protection, with failure rates of 0.8% on first year and 2.2% on 12 years (3).

Main disadvantages are the increase in menstrual bleeding, irregular bleeding, spotting and pelvic pain. Rarely infection, dislocation, expulsion and uterine perforation may occur (4). Pelvic infections are rare and occur especially in first three weeks if the application is not made properly under sterile conditions and if there is a concurrent underlying lower genital tract infection. The application time for IUD is recommended to be during menstrual period because the cervical canal would be open and the insertion would be easier with less pain. In this retrospective study we aimed to find out whether the day of insertion of IUD is related with the dislocation.

Material and Methods

In this retrospective study, 185 patients who consulted to a family planning clinic of women's hospital in Ankara for IUD insertion were observed. T Cu 380 A was used as an IUD in all cases, in which the insertions were performed by the same experienced physician to minimize the risk of dislocation because of the difference of applicator; between September 2012 and May 2013 at the same clinic (4). Patients

were not scheduled for insertion and all were chosen as walk-in patients. A pregnancy test was held for the women who were not having their cycle. IUDs were inserted with an assistance of a nurse, after bimanual examination and placement of speculum the cervix was cleaned with betadine and a tenaculum was placed on the anterior lip of the cervix and IUD insertion was attempted.

Ultrasound guidance, cervical dilatation, anesthesia or pain medication were not utilized. The patients were asked for follow-up for the coming month and they were checked by transvaginal ultrasound. The patients missing follow-up were excluded in the study. IUDs located at the lower uterine segment and cervical canal were considered as dislocated IUDs.

Results

One hundred and eighty five patients were included in this study. The patient's age ranged between 17 and 53 (mean age was 31.5±8.0). Between 185 patients, 45 patients (24.3%) had dislocated IUD, 140 patients (75.7%) had normal localized IUD. ($p=0.24$) (OR= 1,80. 95%CI; 1.09-2.96). Fifty of the patients had given only one birth which was 27% of total. One hundred and thirty five of the patients had given more than one birth which was 73%. Between the 50 patients who had given only one birth 18 of them (36%) had dislocated IUD at the time of control after one month and the other 32 patients (64%) had normal localized IUD. One hundred and thirty five of 185 patients had given more than one birth. Twenty seven of these patients (20%) had dislocated IUDs at control, 108 patients (80%) had a normal localized IUD. Forty four patients (23.8% of total) had IUD insertion on first three days of menstruation. Seven of 44 patients (15.9% of insertions in first three days of menstruation) were found to have dislocated IUDs. Thirty seven of them (84.1%) had a normal localized IUD. Seventy one patients (38.4% of total) had IUD insertion on 4 to 7th days of their menstruation. Twenty of these 71 patients (28.2% of insertions on 4th to 7th day) were found to have dislocated IUDs. Fifty one of them (71.8%) had a normal localized IUD. Thirty one patients (16.8% of total) had IUD insertion on their random day of cycle without menstruation. Eleven of 31 patients (5.9%) had dislocated IUDs after one month while 20 (64.5%) of them

had a normal localized IUD. Thirteen patients (7.0% of total) had IUD insertion postpartum before 40 days. One of 13 patients' IUDs (7.7% of insertions on postpartum before 40 days) were found to have been dislocated while 12 (92.3%) of them had a normal localized IUD. Thirteen patients (7.0% of total) had IUD insertion after postpartum 40th day. Three of 10 patients (23.1% of insertions on after postpartum 40th day) were found to have dislocated IUDs while 10 (76.9%) of them had a normal localized IUD.

Thirteen patients (7.0% of total) had IUD insertion immediately after dilatation and curettage. Three of 10 patients (23.1% of insertions on after D/C) were found to have dislocated IUDs while 10 (76.9%) of them had a normal localized IUD ($p=0.27$).

Discussion

IUD is a safe, easy and cost-effective contraceptive method, which doesn't need a close follow up and daily or monthly action. With failure rates of 0.8% -2.2% it is considered to be one of the most effective methods with fewer complications (5-7). Failure of IUDs is mostly associated with dislocation, malposition or expulsion. Dislocated IUD's should be suspected if a patient with IUD has an unexplained lower abdominal pain. Usually if an IUD string is visible through vagina, it is considered to be at normal localization, which can also be diagnosed with an ultrasound. Dislocation incidence will be influenced by several factors like timing of insertion, parity, previous abortions or uterine operations, type of IUD used, uterine anomalies, leiomyomas and uterine position (8-10).

In our study we compared the IUD dislocation rates with the timing of the insertion; days of menstrual period, days of cycle without menstruation, before and after 40 days of postpartum period and insertion immediately after dilatation and curettage. We also compared dislocation rates with number of parity and previous D/C history.

There was not a significant statistical difference when a subgroup analysis were done between the dislocation rates due to IUD insertion days compared to having previous D/C history.

The timing of IUD insertion did not have significant difference between dislocation rates ($p=0.27$.)

IUDs of women who had given more than one birth was found less likely to be dislocated compared to woman who had given only one birth ($p=0.02$) (OR=1.80(95% CI;1.09-2.96).

Because of the study was retrospective, we had lack of data of body mass index of the patients, whether they had uterine anomalies or leiomyomas. There were no short term complications such as uterine perforation or expulsion.

Although IUDs are safely used within nulliparous woman, we did not have any nullipar patients in this study.

Conclusion

IUD is a widely used contraceptive method and if it is applied by educated midwife nurses or physicians, complications are expected to be minimal (7). Most pregnancies that occur because of device failure are associated with expelled or dislocated IUDs (8). In this study we found no difference between dislocation rates and timing of IUD insertion. Further studies are needed if body mass index and uterine leiomyomas are correlated with IUD dislocation.

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