

Intrauterine device penetrating the jejunum

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Abstract

Intrauterine devices are nowadays one of the most common used contraception methods. Their popularity is due to many advantages such as the high level of efficiency, their easy usage the reversibility of the procedure as well as their low cost. However, even though their effectiveness is proved, they still have several disadvantages. Indeed, we observe a voluminous, irregular and painful menstruation bleeding. Sometimes, we notice inflammations that could lead to infertility, the rejection of the IUD and the pregnancy despite the presence of the device. Even so, the most dangerous but rarely observed complication still the IUD's penetration into the abdominal cavity or into the organs of the abdominal cavity through the uterus walls. In this work we are discussing the case of IUD's penetration into the jejunum lumen. The mechanism and the risks of the perforation, the diagnostics and the therapeutic advices are described below.

Keywords: IUD perforation, uterus, jejunum

Introduction

The ingestion of caustic substance can destroy more or less the digestive tract tissues with which they come//If the functional location is often poorly defined anatomically in people with brain diseases, it is because this is due to Intrauterine Device was used in the 20's of the last century as a Grafenberg ring, however the popularity was mostly gained during the XXth century 60's. During those years, the revolutionary evolution was made towards certain materials that were used for their production as well as for their evolved shape. The technic of application and removal has changed as well.

For the construction of the nowadays IUD's, the materials such as the artificial materials in addition of metals like cuprous and silver are used. The other way is the container with the levonorgestrel releasing mechanism improved the efficiency and tolerance of the IUD's - this use of levonorgestrel now is also practised as the therapeutic method.

The advantage of them that give this popularity is the high level of anti-conception efficiency, easy usage and the reversibility of the procedure as well as low cost of the method. The contraception efficiency is high - the percentage of weeny getting pregnant while having the IUS is 0.1% for the devices releasing levonorgestrel and 0,6 - 1,0% for the devices with copper - is the highest in the spectrum of all the contraception methods. Many cases of IUD usage are associated with the high level of the other somatic systems disturbances. However, next to many advantages there are some problems associated with the Intra Uterine Device presence. As those we consider - painful and irregular menstruation cycles, inflammation of the lesser pelvis and endometrium of the uterus, the sterility is because of the previous inflammations, the excretion of the device is possible to the opposite - the pregnancy, intrauterine or ectopic.

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The dangerous but not so common situation is a perforation of the wall of the uterus and relocation of the device into the abdominal cavity to the organs of the abdominal cavity. The occurrence of this case is estimated as 1-2 cases in 1000 inserted IUDs. In the English publications in years 1970 - 2009 was described 179 cases concerning penetration the of the IUD into the abdomen. In the many facilities working with the problem was performed as an „investigation” where in 10 years of using the IUD with levonorgestrel was observed 701 cases of uterus penetration of which 8,5% happened during application process. In the sources we used we observe a description of the IUD placement changed from uterus to the colon, rectum, urinary bladder, the white ligament of the uterus, jejunum and extra-abdominal area.

Description of a case

24 - year old patient was admitted to the Gynecology and Obstetrics Ward in Polczyn - Zdrój because of her lasting previous 3 weeks fever stable on the level of 39 Celsius and the pain in lower third of the abdomen. During the examination she that she had had the Intrauterine Device inserted 21 month ago – “T” shaped with copper. She was treated many times before in the hospital because of the appendix inflammations (appendicitis). The antibiotics therapy that she had undergo through brought only the short-lasting relief of pain and improvement. USG performed while the previous examinations according to the patient didn't show any abnormalities in the placement of the device - it was located in the lumen of the uterus. During the hospitalization wide spread inflammation of the lesser pelvis was discovered in an advanced stage also with lack of the strands of the device in the external uterus orifice. Intravaginal USG performed showed the device penetrating the uterus with the transverse arm on the outside of a uterus (Figure 1). In case of the current situation the penetration was

discovered followed by the inflammation of the lesser pelvis. The patient was given an intense antibiotics therapy and was prepared for the surgery of which the result was the removal of a penetrating intrauterine device. Because of the reoccurring and now present inflammation of the lesser pelvis as well with changes was discovered - the pus containing vesicles - purulent inflammation (Figure 2). The purulent inflammation caused the change of the strategy from the laparoscopy and the decision to perform laparotomy was made. After entering the abdominal cavity and release of the regrowth of the appendix and the broad ligament the intrauterine device was found in the wall of the base of the uterus. The perpendicular arm of a device was fixed in the myometrium and the transverse arm was in the lumen of a jejunum and tightly held it in constant contact with the base of the uterus. The Intrauterine Device was removed from the muscular layer of the uterus and the jejunum. The ruptured wall was repaired according to the standard methods and on the top the sutures were placed to stabilise it. There were no post-operation complications. In the further ambulatory care there were no problems observed, no inflammations and fever occurred in the lesser pelvis

Discussion

The frequency of post application of the intrauterine device complications is still in a close relation with risk factors. Those consist of the anatomical imperfections like the uterine septum, leiomyomas, immobile uterus or retroverted as well as the invulnerable, fibrotic uterine neck and narrowed uterine neck canal. Other risk factors are the improper insertion of a device, lack of the doctors' experience, patient in a lactation state and the lack of the intrauterine device. The insertion of the device called Mirena is associated with increased risk of penetration - in 2,6/1000 patients. Only few of the penetrations are observed during the application. Mostly the penetration is visible after few years. In case of the observation of lack of the strands of the device in the external orifice the further diagnostic is necessary. In this case we consider the excretion of a device or its penetration of a uterine wall.

Early diagnostic IUD outside of the uterus wall consists of intravaginal USG directly after the application - especially after hard process of application. Next control visit should be performed 6 weeks after the insertion or 4 weeks after in case of the device inserter right after the delivery. Further diagnostic methods consist of the Computer Tomography and in certain cases cystoscopy or colonoscopy. In case of the patient becoming pregnant the situation of a penetration of the IUD has to be excluded by the previously described methods of investigation. Mechanism of the partial or complete rupture of a myometrium of the uterus is caused by the exception made by the PROWADNICA or in some cases with a probe during the application. Hard to prove and explain hypothesis considers the possibility of the self-mediated penetration of the IUD through the myometrium of the previously, correctly inserted device. In the given case we have to accept the fact that the penetration of the uterine wall was done during the application process. We can confirm that because the inflammatory processes occurring in the lesser pelvis lasting from the beginning of the application - also the transverse arms of the device in the jejunum. This fact of the jejunum penetration and tight connection made between the jejunum and uterus at the base of the uterus characterizes the case as special - jejunum was immovable while the device was inserted into it. In the given sources we cannot find any other case similar to this complication of the Intrauterine Device positioning. The treatment of the patient with a penetration of the IUD is immediate surgical procedure. Chosen therapy, mostly in patients without any symptoms is laparoscopy. The efficiency of this method is estimated around 65%. In the presented case laparoscopy was excluded because of the complications associated with the purulent inflammation in the lesser pelvis, presence of abnormal growths, pus filled vesicles and the rupture of a jejunum.

Conclusion

We have to remember that next to many advantages that follow the Intrauterine Devices we observe the disadvantages as well and the complications. Correct classification of the patients, proper technique of application of the device decreases the risks of the complications of which the most dangerous is the penetration of the myometrium into the uterus surrounding. Early diagnosis using the intra-vaginal USG right after the application and after 6 weeks from the application and the self-check considering the presence of the strands of the device in the vaginal canal allows for the early recognition of a perforation and a proper reaction. Recognition of a penetration is obligating the doctor to make the proper therapeutic steps, mostly surgical to prevent the further problems that might be a life threatening to a patient.

CONFLICT OF INTEREST

There is no conflict of interest between the co-authors for this manuscript.

Figure 1



Figure 2



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