

Analysis on two postmenopausal women with clinical symptoms resulting from completely encapsulated intrauterine device by fibrous tissue

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Summary

Objectives: To report two cases of retained intrauterine device (IUD) encapsulated by fibrous tissues. **Cases:** Two cases of postmenopausal women had a history of using IUD for over 30 years with clinical symptoms resulting from completely encapsulated intrauterine device by fibrous tissue and the IUDs were successfully removed through hysteroscopic and open surgery. **Conclusions:** IUD could be severely encapsulated by fibrous tissue. The removal is possible with a good understanding of the pathogenetic condition and a skilled operation under hysteroscopy.

Key words: Intrauterine device; Abnormal uterine bleeding; Hysteroscopy.

Introduction

In China, intrauterine device (IUD) is the most used long-acting reversible contraceptive method, with recent estimates indicating a percentage of 52.3% in the contraceptive prevalence rate [1]. In general, an IUD should be removed within 12 months, or preferably within six months of the last menses. Many women, however, ask to have their IUDs removed after one year or more after the last menses because of fear of pain or because they have forgotten it for a variety of reasons [2]. The authors report two cases of postmenopausal women who had a retained IUD for over 30 years. Written consent was obtained by both patients.

Case Report

Case 1

The 77-year-old female patient had a menopausal period of 27 years and a history of using IUD for 39 years. She was admitted due to complaint of pain in lower abdomen. With aggravation of the paroxysmal dull pain in lower abdomen, repeated medical and surgical diagnosis and treatment received no response. Ultrasonic examination detected multiple obvious echogenic spots inside myometrium and obvious IUD-like echo at local posterior wall of myometrium. Hysteroscopy found smooth, hard, yellowish-white and solid “mass” with irregular shape and multiple connections with uterine wall, while the IUD was not observed. The uterus section conducted after bilateral adnexectomy found irregular grayish-yellow hard “mess” inside the uterine cavity. Cutting out the “mess”, the circular metallic IUD was found completely en-

capsulated in an armor-shaped way with several incarcerations into deep myometrium. Postoperative pathology indicated proliferation of fibrous tissue around IUD accompanied by hyaline degeneration and calcification (Figure 1).

Case 2

The 76-year-old female patient had a menopausal period over 20 years and a history of using IUD for over 30 years. She was admitted due to postmenopausal vaginal bleeding for two days. The result of gynecological examination indicated uterine atrophy without positive findings. Ultrasonic examination detected obvious irregular echogenic spots around IUD inside the uterine cavity and fluid sonolucent area. Hysteroscopy found smooth, hard, yellowish-white and solid “mess” with irregular shape and diameter of about two cm as well as multiple connections with uterine wall. Metallic wire of the IUD was observed indistinctly at local position. Cutting out the “mess” gradually under uteroscope, the IUD encapsulated in the exposed mess was withdrawn. Postoperative pathology indicated proliferation of fibrous tissue around IUD accompanied by hyaline degeneration.

Discussion

As an essentially foreign matter for human body, IUD can induce mechanical damage, chronic inflammation of local tissue, and fibrosis lesion [3]. IUD with withdrawing difficulty in clinical practice may be incarcerated submucously or into superficial myometrium due to occasional embedding of fibrinoid tissue on the surface, however, extensive embedding of such scale, that the IUD is completely invisible, is an unusual situation [4, 5]. The suspected

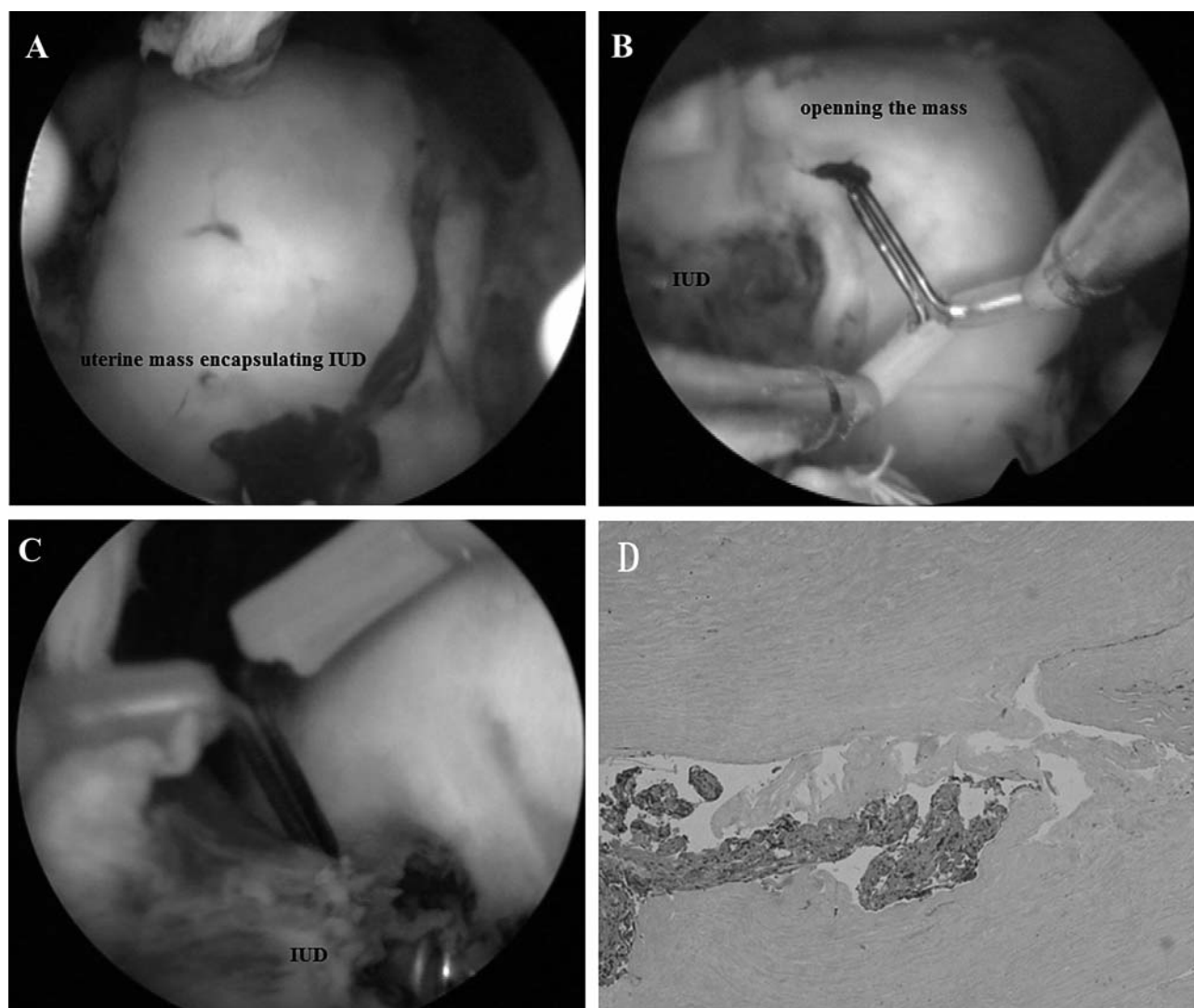


Figure 1. — This figure shows the main procedure of removal of IUD in case one. A: the white mass is the fibrous tissue with IUD in it. B and C: Cutting the mass and the IUD appears. D: hyperplasia of fibrous tissue with glassy degeneration.

causes include that the patient's IUD was metallic and circular with large area and poor deformability. During postmenopausal period, the atrophic uterus becomes smaller while the IUD becomes relatively larger, which leads to press-in and incarceration of IUD into myometrium due to contracted uterus, and results in abdominal pain and vaginal bleeding. In addition, long-term stimulation by foreign matter induces chronic inflammatory response, forms foreign body granuloma that is surrounded by collagenous fiber, and eventually the IUD becomes encapsulated by the tumor-shape-like neoplasm developed from hyaline degeneration of collagenous fiber layer upon layer.

The fibrous tissue encapsulating IUD was observed to be irregular tumor-shaped neoplasm under uteroscope. The tissue was hard with limited amount of blood vessels, yellowish-white to porcelain-white color, smooth surface, and

appearance similar to a uterine fibroid with large proportion of fibrous tissue. Due to the encapsulation, diagnosis of the IUD requires combined ultrasonic or X-ray technology. Withdrawing the IUD encapsulated by fibrous tissue under uteroscope requires certain technique because premature dissociation would result in operation difficulty. The present authors' experience of electric resection is to operate with increased power, remove the fibrous tissue without adhesion to uterine wall as well as that in the center first, namely to remove the encapsulating fibrous tissue to the largest extent with precondition of maintaining the IUD stable because a dissociated IUD would result in incision difficulty. Moreover, due to the hardness and deformation difficulty of the fibrous encapsulation, the dissociated IUD would be difficult to withdraw. Identification of the IUD in Case One was interfered due to more concomitant calcifications, which were

observed as obvious echo in ultrasound. In addition, due to a lack of awareness and multiple incarcerations nearly through serosa, hysterectomy was conducted to prevent perforation of uterus. In terms of incision for Case Two, the authors focused on withdrawing the dissociated IUD and pulled out the IUD without removing the fibrous encapsulation at central position. This operation resulted in dissociation of the IUD. Since the fibrous encapsulation was hard, smooth, and difficult to immobilize, incise, and clamp, there was a residual fiber ball with a diameter of approximately one cm left in the uterine cavity. Even though severe encapsulation of this type and serious clinical symptoms are unusual situations, some females did not have the IUD removed during postmenopausal period. It is recommended to remove the IUD within one to two years after menopause to avoid abdominal pain, bleeding, and postmenopausal intrauterine occupational disease, as well as the consequential surgical treatment.

Conclusions

The severe encapsulation by fibrous tissue cause difficulties in the retained intrauterine device removal. However, the removal is entirely possible with a good understanding of the pathogenetic condition and a skilled operation under hysteroscopy.

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