

Discovery of Endometrial Cancer After Removal of An Intrauterine Device Encrusted in the Myometrium

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Abstract

In our article, we report the case of a patient with metastatic endometrial cancer whose risk factor was an intrauterine device worn for over ten years.

Keywords: Intrauterine device / Endometrial Cancer / Risk Factors/ chemotherapy.

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INTRODUCTION

The long-term reversible birth control method known as the intrauterine device (IUD). Over the years, a number of IUD kinds have been developed and marketed. Progesterone-releasing devices or inert devices composed of plastic or stainless steel were the two types of early IUDs [1].

The precise method by which IUDs prevent pregnancy is unclear and may differ depending on the kind of device, but all IUDs cause a local foreign body reaction in the uterus that is characterized by an increase in neutrophils, lymphocytes, and macrophages 6–8. It has been proposed that both pre- and post-fertilization variables are impacted by this inflammatory milieu. Furthermore, the growth of the uterine lining is suppressed by hormone-releasing devices, leading to a thin endometrium [2].

IUDs' direct implantation in the uterus and capacity to cause foreign body reactions raise the possibility of long-term effects on endometrial tissues. Two meta-analyses conducted in 2007 and 2008 looked at the connection between the usage of IUDs and the risk of endometrial carcinoma (EC) [3].

Moreover, Beining *et al.*, [1] demonstrated that longer usage durations and intervals between first and

last uses were linked to decreased EC risk. Although insightful, these meta-analyses lacked in-depth assessments of certain IUD types since only three published reports included this data [4].

Furthermore, the restricted number of studies reporting these relationships hampered the examination of quantitative indicators of IUD usage, including duration, time since last use, and ages at first and last use. Associations with features of EC tumors and possible effect modification by EC risk variables are further unresolved concerns. No new research on the connection between IUD use and EC risk has been released since the release of these meta-analyses [5].

CASE REPORT

Patient aged 59, with one child, had a caesarean 25 years ago, and uses a copper intrauterine device for contraception 10 years ago. She had her first menarche at age 10, has been menopausal for 2 years and has no family history of neoplastic pathologies. Consulted for post-menopausal metrorrhagia.

The examination did not find the thread of the intrauterine device, with a small amount of red bleeding of endo-uterine origin, with the presence of four indurated nodules on the 4 walls of the vagina.

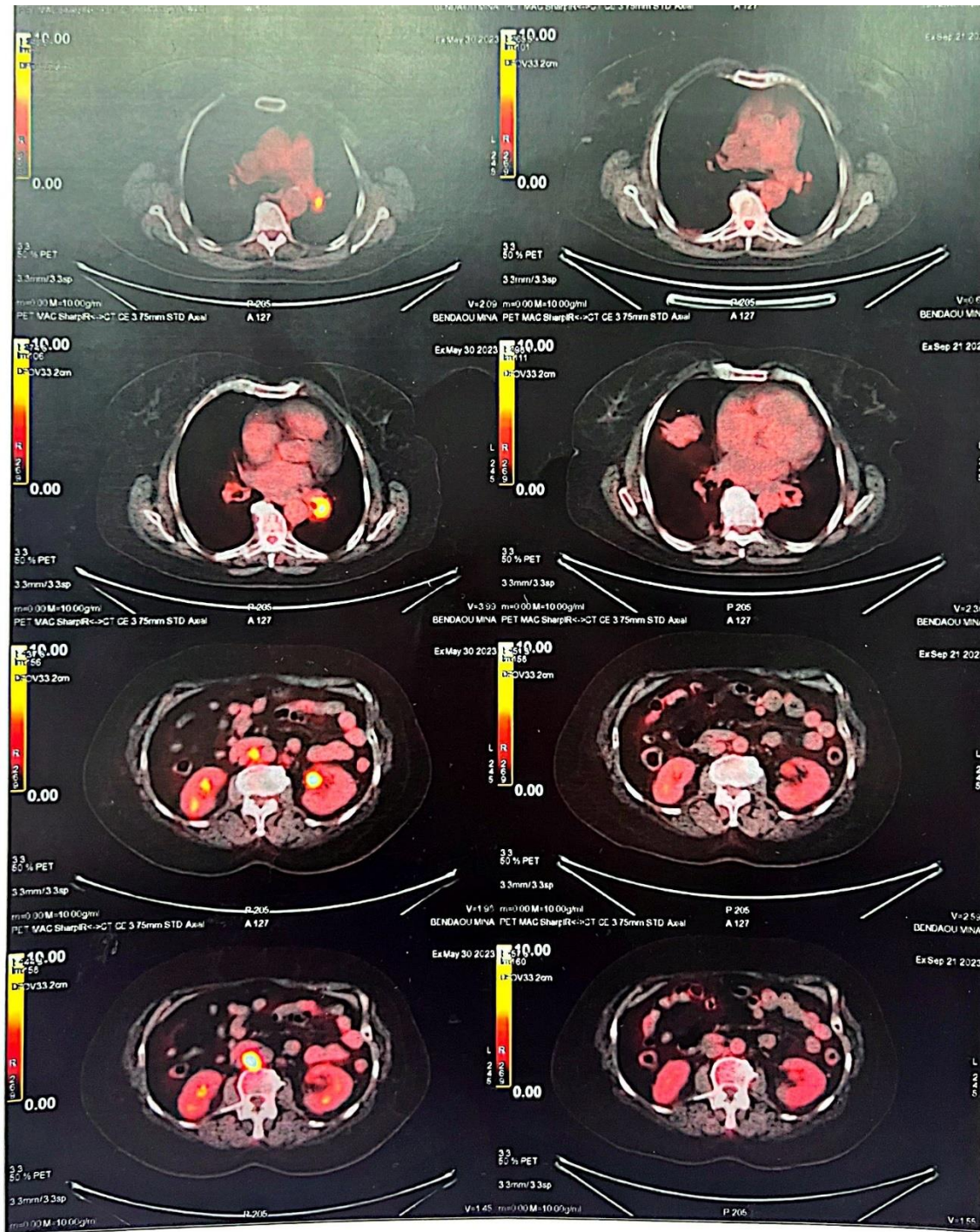
Pelvic ultrasound and MRI revealed an IUD incruised in the myometrium with a 25mm thickening of the endometrium.

Biopsy of the vaginal nodules: were in favour of a grade 3 endometroid adenocarcinoma, with positive vascular emboli.

Extension assessment by PET-SCANN: pathological hypermetabolic tumoral process of the body of the uterus measuring 36*36*73mm extended to the

cervix, in addition to pathological hypermetabolic nodules in the vagina, pathological hypermetabolic lymph node: lomboaortic, right primitive and internal iliac, obturator region.

As well as metastases elsewhere: bilateral pulmonary micronodules, oro-pharyngeal hypermetabolism and left interbronchial pathological hypermetabolic lymph nodes. Neoadjuvant chemotherapy was decided at the multidisciplinary consultation meeting.



DISCUSSION

The copper-containing IUD and the levonorgestrel intrauterine system are the two intrauterine contraceptive methods that are now offered in Morocco. With less than 1% of failures in both perfect and normal use, both approaches are incredibly effective. The T380A copper IUD is authorized for usage in the US for a maximum of ten years.

Spermicidal activity is the copper IUD's primary mode of operation. The local leukocytic reaction that the plastic IUD and copper both elicit is what causes this impact. The primary method by which the levonorgestrel-releasing IUD works is by blocking spermatozoa from passing through cervical mucous and fertilizing the ovum. Additionally, levonorgestrel's systemic absorption can prevent some women from ovulating. Each form of IUD may be removed, and once removed, the inflammatory response goes away quickly and fertility quickly returns. Spermicidal activity is the copper IUD's primary mode of operation. The local leukocytic reaction that the plastic IUD and copper both elicit is what causes this impact. The primary method by which the levonorgestrel-releasing IUD works is by blocking spermatozoa from passing through cervical mucous and fertilizing the ovum. Additionally, levonorgestrel's systemic absorption can prevent some women from ovulating. Each form of IUD may be removed, and once removed, the inflammatory response goes away quickly and fertility quickly returns [6].

It is thought that risk factors that raise estrogen exposure compared to progesterone are linked to sporadic endometrial carcinogenesis. Hormonal imbalances cause endometrial cells to undergo more mitosis, which raises the risk of mistakes in DNA replication and the eventual neoplastic transformation. Therefore, it is plausible that IUDs shield the endometrium by altering the uterine hormone receptor balance; nevertheless, contradictory results from similar sample sizes in clinical trials have supported this theory. For instance [7], receptor (ER) following the implantation of copper IUDs [8, 9].

Furthermore, there is contradictory data in the literature addressing differences in serum ovarian steroid-hormone levels between IUD users and non-users. Whether IUDs, especially inactive IUDs, reduce EC risk through hormonal processes is still unknown [10].

According to the same logic, pre-malignant endometrial cells may be eliminated as a result of the foreign body response that IUDs cause. We believe that the timing of the IUD-elicited foreign body reaction in connection to the stage of carcinogenesis is crucial to this link, even though inflammation is believed to promote carcinogenesis and has even been proposed as a hypothesis to explain etiologic variables and EC risk [7, 11].

Precancerous cells in the uterine endometrial lining may shed, which could be a common mechanism via which parity and IUD use reduce EC risk. IUDs may provide nulliparous women with more protection than parous women as they lack such a mechanism [12].

Very few studies collected detailed information on IUDs, which limited assessment of IUD type, age at first and last use, duration and time since last use [12].

The use of postmenopausal hormones and contraindications to IUD usage are two examples of other factors that could have caused residual confounding, although we were not aware of them [13].

Lastly, our discovery that recent IUD use reduces EC risk raises the possibility of monitoring bias. This might happen if IUD users engage with medical professionals more frequently than non-users do and receive treatment for premalignant diseases more frequently [11, 14].

Endometrial cancer is common in older women and is often associated with comorbidities. Its management in the event of metastatic disease and/or relapse requires a multidisciplinary approach. Recent advances in our understanding of oncogenesis and molecular classification new therapeutic perspective Chemotherapy has never been compared with hormone therapy.

It should be preferred in situations where hormone therapy is considered insufficiently effective: symptomatic and/or rapidly progressive disease, non-endometrioid carcinoma or high-grade carcinoma, or carcinoma not expressing hormone receptors. The three cytotoxics most frequently evaluated in therapeutic trials are cisplatin (and its derivative carboplatin), doxorubicin and paclitaxel [15].

There is no validated standard second-line treatment Several molecules have been tested as monotherapy or in or in combination. Only paclitaxel and doxorubicin, oxaliplatin, liposomal doxorubicin and ifosfamide have shown a response rate in excess of 10%. Neurological toxicity may be a factor limiting the resumption of paclitaxel [15].

In cases where hormone receptors are present in endometrial cancers various hormone therapies have been evaluated in patients with patients with relapsed endometrial cancer.

The expression of these receptors varies according to histology and grade, endometrioid tumours most often express estrogen or progesterone receptors. These receptors are present in 70%, 55% and 41% of grade 1, 2 or 3, respectively. In the largest meta-analysis including 39 studies, many of which were retrospective

or small prospective non-randomized trials, the response rate was around 20% with a PFS of less than 3 months.

CONCLUSION

A serious health risk that can impact women of all ages is endometrial cancer. IUD use over an extended period of time is linked to a modest increase in risk, but the overall risk is still rather low. Women who use IUDs should talk to their doctor about their medical history and be mindful of any possible endometrial cancer symptoms. The key to combating the disease is prevention, which includes leading a healthy lifestyle and early detection.

Declarations

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Consent Informed: written consent obtained from the patient.

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