

Case Report

Foreign Body in Vagina: A Year-Long Retained Toothbrush Cap

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Abstract

The presence of a foreign body (corpus alienum) in the vagina is a rare condition that can occur in women of all ages. These objects may be inserted for various reasons, including medical treatment, contraception, sexual gratification, or concealment of illicit substances. Diagnosis is often delayed due to patient denial or embarrassment, which can lead to serious health complications. This report presents the case of a 21-year-old woman who experienced brown-black, foul-smelling vaginal discharge after inserting a toothbrush cap into her vagina and leaving it in place for one year. She first sought medical attention at the Obstetrics and Gynecology Clinic of UNS Hospital on August 20, 2024. She also reported amenorrhea for the past four months. Physical examination revealed that the toothbrush cap was embedded in the vaginal tissue. Surgical removal was performed under spinal anesthesia. During the procedure, hardened vaginal tissue was observed, and histopathological analysis showed suppurative chronic inflammation, granulation tissue formation, and fibrosis. This case of retained corpus alienum in the vagina serves as a valuable learning opportunity in the fields of diagnosis and therapy within urogynecology, highlighting the importance of addressing uncommon yet significant medical conditions.

Keywords: corpus alienum, vagina, secondary amenorrhea, vaginal discharge, fibrosis.

Corpus Alienum Vagina: Tutup Sikat Gigi yang Tertahan Selama Satu Tahun

Abstrak

Corpus alienum di dalam vagina merupakan kondisi yang jarang terjadi, namun dapat ditemukan pada perempuan berbagai usia. Benda tersebut dapat dimasukkan karena berbagai alasan, seperti pengobatan medis, kontrasepsi, kepuasan seksual, atau bahkan untuk menyembunyikan zat terlarang. Diagnosis sering kali tertunda akibat penyangkalan atau rasa malu dari pasien, yang dapat menyebabkan komplikasi kesehatan serius. Laporan ini menyajikan kasus seorang perempuan berusia 21 tahun yang mengalami keputihan berwarna coklat kehitaman dan berbau tidak sedap setelah memasukkan tutup sikat gigi ke dalam vagina dan membiarkannya selama satu tahun. Pasien pertama kali datang ke Klinik Obstetri dan Ginekologi RS UNS pada tanggal 20 Agustus 2024. Pasien tidak mengalami menstruasi selama empat bulan terakhir. Pemeriksaan fisik menunjukkan tutup sikat gigi tertanam dalam jaringan vagina. Prosedur ekstraksi dilakukan dengan anestesi spinal. Selama prosedur, ditemukan jaringan vagina yang mengeras. Pemeriksaan patologi anatomi menunjukkan adanya peradangan kronis supuratif, pembentukan jaringan granulasi, dan fibrosis. Kasus corpus alienum yang tertahan di vagina merupakan kasus yang tidak umum sehingga dapat menjadi sumber pembelajaran dalam diagnosis dan tata laksana bidang uroginekologi.

Kata kunci: corpus alienum, vagina, amenorea sekunder, discharge vagina, fibrosis.

Introduction

Vaginal corpus alienum or foreign body cases are uncommon but can be found in women of all ages. Corpus alienum is inserted into the vagina for various purposes, including treatment, contraception, stimulating sexual gratification, violence, and concealment of illegal drugs.¹⁻³ The diagnosis of vaginal corpus alienum is often delayed for a long time, due to denial and embarrassment.⁴ Meanwhile, corpus alienum retained in the vagina for a long time can cause complications such as odorous discharge, fistula, genital tract obstruction, and ascending infection.^{2,5} In this case report, we report a case of vaginal corpus alienum in the form of a toothbrush cap left behind for 1 year accompanied by secondary amenorrhea.

Case Description

A 21-year-old woman presented to the Obstetrics and Gynecology Clinic of UNS Hospital on August 20th, 2024 with complaints of vaginal odor for the last two months. Brown-black

discharge, red spots, and itching in the pubic area were denied.

The patient admitted to having inserted a toothbrush cap into her vagina a year ago, but when she went to remove it, the cap remained in her vagina. The patient did not explain the reason for her action. The patient then attempted to remove the toothbrush cap with scissors using a vanity glass facing her vagina, but only a quarter of the toothbrush cap was successfully removed. The patient admitted that she was afraid to see a doctor for fear that her parents would find out.

The patient did not complain of any genital or abdominal pain, and there were no problems with urination or defecation. The patient admitted that she had not menstruated for the past four months. Previously, the patient had menstruated since the age of 12, with an irregular cycle. Each time the patient menstruates, it lasts 3-5 days, totaling approximately three pads daily. The patient had never been married and denied a history of sexual intercourse.



Figure 1. Vulvar Inspection; Clear Plastic Discharge at the Vaginal Introitus

The patient was found *compos mentis* with a blood pressure of 125/78 mmHg, a body temperature of 36.5°C, a pulse of 89 beats per minute, a respiratory rate of 20 beats per minute, and a blood oxygen saturation of 99%. The patient's body mass index (BMI) was 34.4 kg/m².

Head-to-toe examination findings were within normal limits, with relatively dense hair growth on the hands and legs. Inspection revealed clear plastic discharge at the vaginal introitus, non-intact hymen, and visible discharge and blood. The speculum examination is challenging due to

the clear plastic that secures the vagina both anteriorly and posteriorly (Figure 1). On vaginal palpation, a toothbrush cap attached to the anterior and posterior vaginal wall was palpated, and the corpus uteri and adnexa were within normal limits. Attempted extraction of the corpus alienum was performed with Fenster clamps but failed, and bleeding occurred as the corpus alienum was firmly attached to the vaginal tissue.

Routine blood tests showed a leukocytosis of $18,250/\text{mm}^3$ with neutrophilia (73.1%); other parameters were within normal limits. Abdominal ultrasound examination revealed a normal-sized and shaped uterus of 8.4×4.4 cm and a right ovary with >12 follicles, with the largest diameter of 1.3 cm, forming a cartwheel-like appearance (Figure 2).

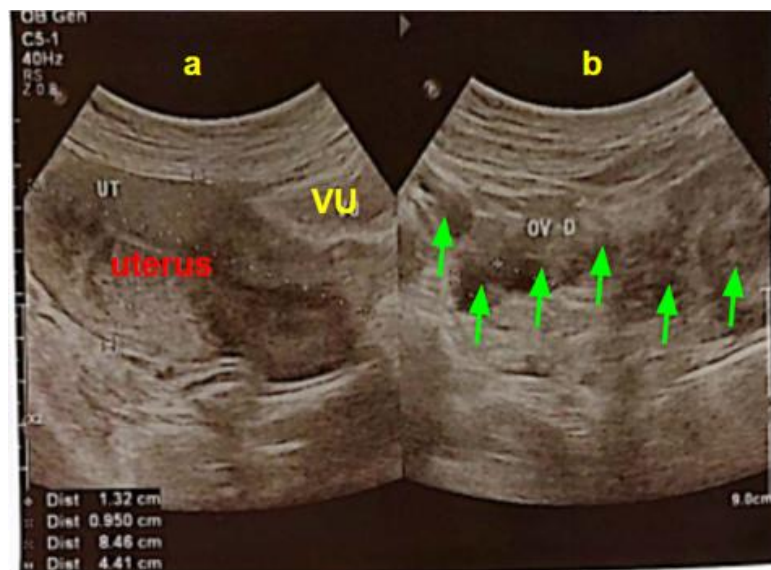


Figure 2. Abdominal Ultrasound Examination Findings
a. Uterus Anteverted, Homogenous Myometrium and Vesica Urinaria;
b. Multiple Follicle of Ovary (Green Arrows); Cartwheel Like Appearance

The patient was then diagnosed with vaginal corpus alienum and secondary amenorrhea due to polycystic ovary syndrome. Extraction of the corpus alienum was performed in the operating room under spinal anesthesia. A Sims speculum was placed and vaginal exploration was performed, revealing a toothbrush cap plastic corpus alienum attached to the posterior and anterior walls of the vagina below the urethra. The corpus alienum and hardened vaginal tissue were excised, and pus was seen on the anterior wall of the vagina. The anterior and posterior walls of the vagina were sutured with PGA 2.0 and tampons were placed.

The patient received intravenous antibiotics and analgesics. The tampon roll was removed on the next day's visit, and the patient was discharged after 2 days of postoperative care.

The patient came to the Obstetrics and Gynecology Clinic of UNS Hospital 12 days postoperatively for follow-up, and it was found that the condition of the sutures and postoperative wounds had improved. A P test was then performed on the patient by administering progesterone for five days. At the one-month follow-up, the patient reported that her period had returned.

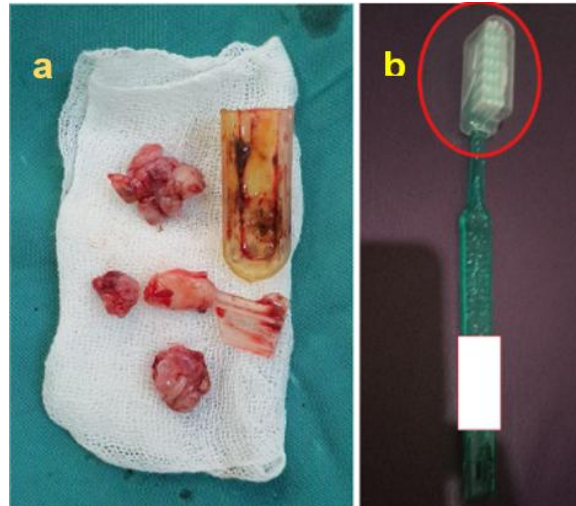


Figure 3. Post-extraction Findings
a. Corpus Alienum and Fibrous Tissue; b. Illustration of Corpus Alienum

The anterior and posterior vaginal wall tissues were sent to the anatomic pathology laboratory for further examination. Macroscopic examination showed shiny white spongy tissue fragments weighing 4.5 grams, totaling 4.5cc. The largest tissue measured 2 x 1.5 x 1 cm, and the smallest was 1 cm in diameter (Figure 3).

Microscopic examination showed a vaginal wall with partially thickened epithelium, fibrotic stroma, disseminated chronic inflammatory cells, and PMN leukocytes, partially with granulation. No signs of malignancy were found in the examination (Figure 4).



Figure 4. Inspecto on Day 12 Postoperative. Vaginal Wall with Partially Thickened Epithelium

Discussion

Corpus alienum is a foreign body that should not be in the body. It's usually found in the eyes, nose, or other hollow organs, including the vagina. Corpus alienum in the vagina can occur due to intentional or unintentional actions.⁵ Cases of corpus alienum or foreign bodies in the vagina are cases that can be found in women of various ages. Almost all foreign bodies found in the vagina are inserted with the woman's knowledge.^{1,2}

In this case, the patient presented with a history of inserting a toothbrush cap into her vagina for 1 year. The patient had tried to remove the toothbrush cap using scissors with the help of a vanity mirror in front of her vagina, but only a quarter of it was successfully removed. The patient did not provide detailed answers regarding the motivation behind her actions. In general, foreign objects are inserted in the vagina for various purposes, ranging from medication, contraception, induction of abortion, sexual stimulation, and even to concealment of illicit substances. Toys, tissues, and household objects are the most common foreign bodies in pediatric cases. Tampons, condoms, menstrual cups, and items inserted to achieve sexual gratification were more common in the adult female group. Elderly patients are at higher risk for retained medical devices, such as a pessary.^{1,2}

The act of intentionally inserting a foreign body through a body orifice or skin for gratification may be associated with the presence of an underlying psychiatric diagnosis. In psychiatric terms, this act is known as polyembolocolomania and most often leads to medical or surgical emergencies due to the risk of complications. The foreign bodies are usually household items that are swallowed, inserted through an orifice, or pierced into the subcutaneous tissue. The background and motivations for polyembolocolomania have been described in several reports, including auto-erotic behavior for sexual gratification, non-pathological sexual preference, self-injurious behavior, substance intoxication, psychotic or affective disorders, mental retardation, developmental disabilities, or feigning illness. A multidisciplinary approach involving a psychiatrist is required to manage the

physical and psychological health conditions of this group of patients.⁶ In this case, no psychiatric evaluation for the patient was performed.

In the majority of cases, the diagnosis of corpal vagina is often delayed due to denial and shame. Shame and fear of accusation or bad judgment from others make diagnosis difficult, including in the motives of exploratory and consensual sexual behavior, sexual abuse, and other psychiatric disorders such as genital self-injury, which is very rare but possible.⁴ In this case, the patient did not see a doctor for fear of being found out by her parents. On the other hand, a corpus alienum retained in the vagina can irritate the mucosa and cause discharge, which, if infected, will result in a purulent and foul-smelling discharge. Patients with vaginal corpus alienum will usually present with complaints of pelvic pain, vaginal discharge, and vaginal bleeding.^{2,3}

The patient in this case came in complaining of an odorous discharge from her vagina for the last 2 months. The discharge was brown-black in color. Body temperature examination found the patient's body temperature within normal limits, and the results of complete blood examination before surgery showed leukocytosis of 18,250/mm³ with neutrophilia (73.1%). Neutrophilia indicates an inflammatory process, mainly due to bacterial infection. Neutrophilia with low-grade signs of inflammation indicates chronic inflammation.⁷ Further vaginal inflammation can lead to vaginal ulceration and fistula to other nearby structures such as the urethra and rectum, resulting in urinary and fecal incontinence. Ascending infection can result in endometritis, salpingitis, and peritonitis.^{2,3}

Chronic infection due to corpus alienum in the vagina can lead to the formation of tissue fibrosis. This case reports the excision of hardened vaginal tissue along with the extraction of corpus alienum. Macroscopic examination showed shiny white rubbery tissue fragments weighing 4.5 grams, totaling 4.5cc. The largest tissue measured 2 x 1.5 x 1 cm, and the smallest was 1 cm in diameter. Microscopic examination revealed suppurative chronic inflammation with granulation and fibrosis. Fibrosis tissue that

continues to grow due to chronic inflammation can cause vaginal stenosis to total obstruction.

The patient's complaint was accompanied by the absence of menstruation for approximately 4 months. The patient started menstruating at 12, but her cycles were irregular. She was diagnosed with secondary amenorrhea. Secondary amenorrhea can be caused by abnormalities of the menstrual tract, such as iatrogenic endometrial suppression, endometrial damage, and cervical stenosis. In this patient, the suspicion of possible anatomical abnormalities was ruled out.^{8,9}

Secondary amenorrhea due to endocrine disorders can still be considered given the patient's history of irregular menstrual cycles, body mass index classified as grade 2 obesity (BMI 34.4 kg/m²), and dense hand and leg hair growth.^{7,8} Abdominal ultrasound revealed ovarian follicles that formed the image of a cogwheel. Chronic local and systemic inflammation, such as obesity and PCOS, has the potential to interfere with normal folliculogenesis and ovulation processes, thereby affecting the length of the menstrual cycle.¹⁰

Women who experience secondary amenorrhea should have their pregnancy confirmed before any other testing is done. If it is confirmed that she is not pregnant, the P test can be continued by administering 5-10 mg/day of progesterone for 5 days. In this case, the patient had menstruation after the P test, which showed sufficient endogenous estrogen levels to stimulate endometrial growth, no endometrial abnormalities, and no menstrual blood channel obstruction.⁸

Early diagnosis of vaginal corpus alienum is important to prevent complications, but denial and embarrassment are often barriers to detection and diagnosis. Therefore, sensitive education and counseling by health care professionals, without excessive accusation and judgment, is important to encourage patients to be more open in providing information about their medical history. Cases of foreign body insertion into the vagina require multidisciplinary care, including emergency physicians, obstetrician-gynecologists, and mental health specialists to

manage the patient's physical and psychological health.

Conclusion

Vaginal corpus alienum is a case that can occur in women of different ages with different motivations. In this case, the corpus alienum retained in the patient's vagina for one year had caused an infectious process resulting in malodorous discharge and fibrosis of the vaginal tissues due to chronic inflammation. The patient also had secondary amenorrhea due to polycystic ovary syndrome.

Conflict of Interest

The authors declare that the data published in the manuscript have no conflict of interest with any party.

Consent Form

The patient consented verbally and was approved by the patient's parents.

Acknowledgment

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References

1. Anderson J, Paterek E. Vaginal foreign body evaluation and treatment. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. [cited 2023 May 8]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK549794/>
2. Panda S, Das A, Das R, Sharma N, Jante V. An unusual case of retained foreign body in the vagina with vaginal fibrosis. *Cureus*. 2022;14:e20956. doi: 10.7759/cureus.20956
3. Amelia RY, Budinurdjaja P, Nizomy IR. corpus alienum (cover the perfume) in cervix pasca masturbation: a case report. *J Adv Health Med Sci*. 2019;5:1-7. doi: 10.20474/jahms-5.1-7-
4. Lo TS, Bin Jaili S, Ibrahim R, Kao CC, Uy-Patrimonio MC. Uterovaginal fistula: A complication of a vaginal foreign body. *Taiwan J Obstet Gynecol*. 2018;57:150-2. doi: 110.1016/j.tjog.2017.12.026

5. Sankhwar P, Misra D, Jaiswar SP, Deo S. Bizarre foreign objects in the genital tract: Our experience and review of literature. *Open J Obstet Gynecol*. 2014;4:427-31. doi: 10.4236/ojog.2014.47063
6. Layek AK, Majumder U, Baidya I. Polyembolokoilamania with obsessive compulsive and related disorders: A case series. *Indian J Psychiatry*. 2023;65:484-6. doi:10.4103/indianjpsychiatry.indianjpsychiatry_834_22
7. Tahir N, Zahra F. Neutrophilia. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; [cited 2023]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK570571/>
8. Nawaz G, Rogol AD, Jenkins SM. Amenorrhea. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; [cited 2024]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK547721/>
9. Lord M, Sahni M. Secondary amenorrhea. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; [cited 2022]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK431055/>
10. Harris BS, Steiner AZ, Faurot KR, Long A, Jukic AM. Systemic inflammation and menstrual cycle length in a prospective cohort study. *Am J Obstet Gynecol*. 2023;228:215.e1-17. doi: 10.1016/j.ajog.2022.10.008