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Management of cervical dysplasia in patient with Müllerian anomaly: diagnostic and therapeutic challenges

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Summary

Purpose: The study aim was to report diagnostic and therapeutic challenges in treatment of a patient with cervical dysplasia and congenital uterine anomaly. *Case Report:* A 53-year-old women with Müllerian anomaly – uterus duplex (bicorporal septate uterus) and Y-shaped endocervical canal was referred due to repeated abnormal Pap smears. She underwent endocervical curettage of both canals and the endocervical septum biopsy which revealed presence of cervical intraepithelial neoplasia (CIN) III. Cervical conization was considered technically unfeasible because of abnormal cervical anatomy (lesions deep in the cervical canal on the cervical bifurcation where the cervical wall is the thickest). Classical open abdominal hysterectomy was performed. Patient had two almost equally-sized, symmetrical uterine bodies connected in the isthmico-cervical region, with normal left and obstructed right hemi-vagina. Postoperative histopathological findings confirmed that dysplasia was located in the region where two endocervical canals conjoined. *Conclusion:* Diagnostic and therapeutic approach to patients with uterine anomalies has to be individualized, based on anomaly type, patient's age, reproductive history, and patient's preferences.

Key words: Uterus duplex; Cervical dysplasia; Conization; Hysterectomy; Diagnosis; Therapy.

Introduction

Congenital anomalies of the female genital tract, resulting from varying degrees of Müllerian duct system lack of fusion, are fairly uncommon [1]. Their prevalence ranges from 0.2–1% in the general population and up to 10% in women with infertility problems and recurrent miscarriages. While the most frequent is the arcuate uterus, separate uterus, i.e. uterus duplex (complete or partial) is far more rare in the general population [2]. The extent of anomalies vary from existence of small septa to complete duplication of uterine body, cervix, and vagina [1]. Although Müllerian anomalies are infrequent, if exposed to risk factors, affected women are under equal risk for developing different pathological conditions of their reproductive organs [3].

Cervical intraepithelial neoplasia (CIN) is a common problem caused by human papilloma virus (HPV) infection. Other risk factors include reproductive history, sexual behavior, cigarette smoking, contraceptive choice, and immunodeficiency [3]. So far, there are only few reports of cancer treatment in patients with Müllerian duct anomalies. Data on CIN management in such patients is scarce. Protocols and systemic reviews also do not provide recommendations regarding management of dysplasia in women with congenital anomalies affecting uterine cervix [4].

The aim of presented paper was to report difficulties in diagnostics and treatment in patient with cervical dysplasia and congenital uterine anomaly and to discuss the diagnostic and therapeutic challenges of uterine or cervical pathologies in women with congenital genital tract anomalies.

Case Report

A 53-year-old woman, with uneventful reproductive history, was referred to the present Clinic due to repeated abnormal Pap smears. She had two term pregnancies with live-born children delivered vaginally and two uncomplicated first trimester abortions. She was previously diagnosed with uterus duplex (bicorporal septate uterus) and renal agenesis on the right side. The patient was also complaining of recurrent menometrorrhagia during the past year. She already had multiple cervical biopsies and endocervical curettage of both cervical canals and both uterine cavities, which did not reveal neither malignant nor premalignant changes in any of the specimens. During follow up, abnormal Pap smears were repeated, but the cervical conization for further diagnostics was thought to be technically unfeasible. This was due to enlarged uterine cervix with one external os and Y-shaped endocervical canal, with difficulties in visualization of the right part of the ectocervix. Apart from that, her colposcopical findings were unremarkable. She underwent repeated endocervical curettage of both canals and biopsy of the endocervical septum which revealed presence of H-SIL (CIN III) in only one specimen taken from the

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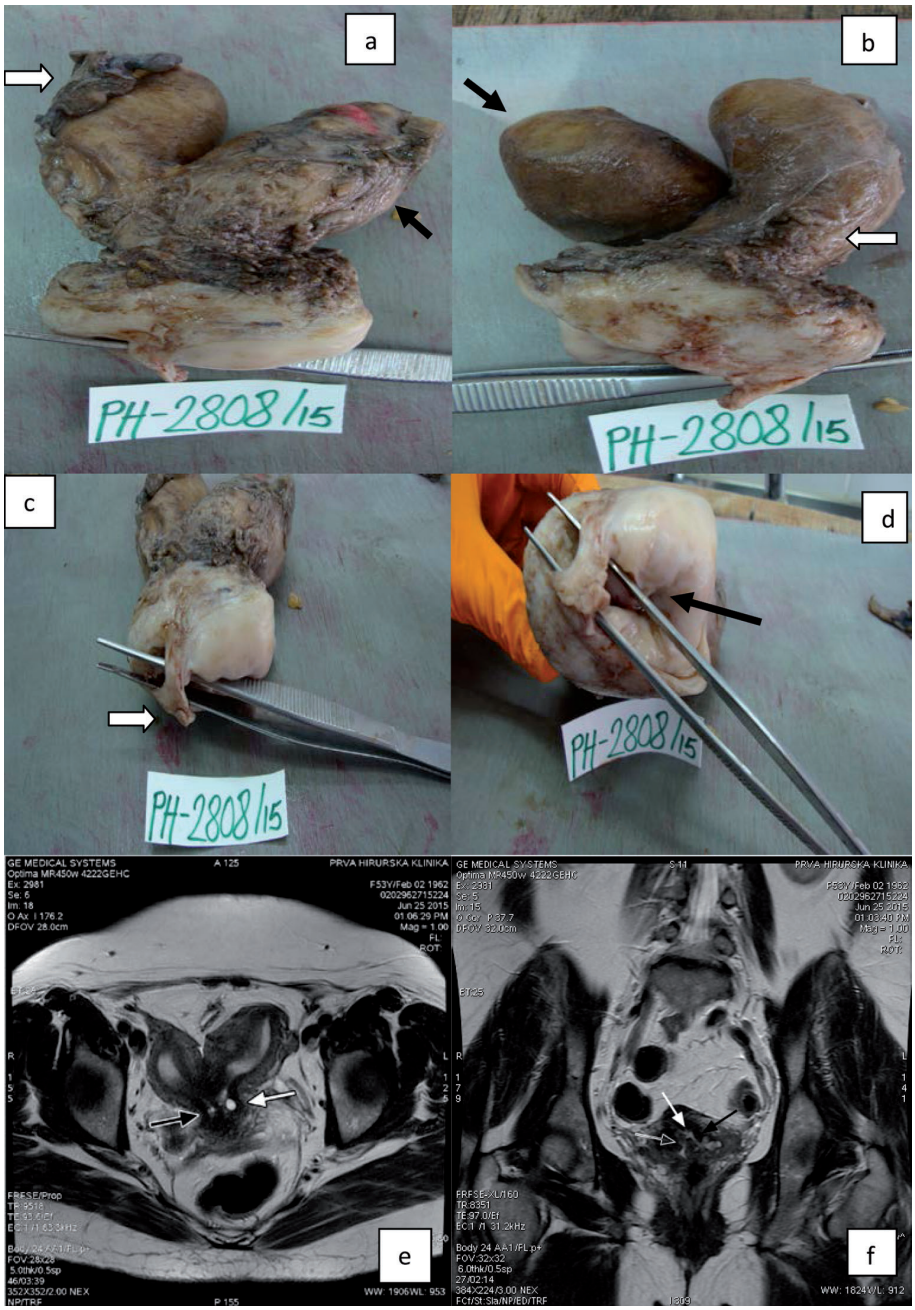

Figure 1. — Operative findings of the extracted uterus and preoperative MRI. a) anterior side (black arrow–right uterus; white arrow–left uterus); b) posterior side (black arrow–right uterus; white arrow: left uterus); c) cervical septum (white arrow); d) common cervical os (black arrow); e) axial T2-weighted MRI (black arrow–right cervical canal; white arrow–left cervical canal); f) coronal T2-weighted MRI (black arrow–left cervical canal; white arrow–common external cervical os; opened arrow–right cervical canal).

septum. MRI confirmed previously diagnosed Müllerian anomaly, unilateral renal agenesis, and revealed the presence of obstructed right hemi-vagina (Figure 1).

The patient requested definitive treatment for menometrorrhagia together with dysplasia, opting for hysterectomy. Therefore, classical open abdominal hysterectomy was performed. During the operation, it was revealed that the patient had two almost equally-sized, symmetrical uterine bodies connected in the isthmico-cervical region, and an asymmetric double vagina (besides the functional left vagina of normal length and width, there was another vagina on the right, obstructed and narrow, approximately five cm long and 1.5 cm wide). Adnexa and other visible abdominal organs had regular morphology.

The operation and postoperative course were uneventful. Both vaginas were sutured and closed. Postoperative histopathological findings confirmed that dysplasia (focal H-SIL) was located in the region where two endocervical canals conjoined. There were no other pathologies.

Discussion

Although uterine anomalies are infrequent, gynecologists must keep in mind the anatomical challenges that may be encountered from these anomalies in everyday clinical work [3]. The uterus is formed at around 8–16 weeks of fetal life

from the development of the two paired paramesonephric ducts, called Müllerian ducts. Therefore, abnormalities originating from mesonephric mal-development can affect the urinary tract as well as reproductive organs [1]. This was true for the present patient as well.

Evaluation of patients with known uterine anomalies has to be even more careful. According to literature data, up to 60% of women with unilateral renal agenesis also have some genital anomalies indicating that the detection of a congenital renal abnormality should alert the physician to look for associated genital anomalies and vice-versa [5]. Hysterosalpingography, ultrasonography, and MRI are the usual methods that are applied for the preoperative diagnosis of Müllerian anomalies. Although hysterosalpingography offers better image of cervix and fallopian tubes, MRI gives additional information, especially about the anomalies of uterine corpus [6]. The present patient underwent both ultrasonographic and MRI scans. MRI was superior in depicting all present anomalies. Patients with uterus duplex who have bleeding abnormalities require curettage or hysteroscopy with endometrial biopsy of both uterine cavities for diagnostic purposes. Women with cervix duplex require colposcopic examination as well as a separate Pap smear of each cervix [3].

Biopsy proven pathology in one uterine cavity or in one cervix is an indication for close surveillance for development of similar condition in the contralateral side [3]. In cases where there is no vaginal septum, a similar exposure of both cervices to sexually associated risk factors for development of dysplasia can be expected. Therefore, in most cases, dysplasia or even cervical carcinomas coexist in both cervices of uterus didelphys [7]. Nevertheless, there were cases described in literature with different histopathological findings in two cervices or cavities of women with uterus didelphys [3, 8].

Diagnostics and timely treatment of preneoplastic high-grade lesions (CIN II and III) can prevent the development of invasive cervical cancer [9]. Current guidelines recommend treatment of all high-grade lesions since their risk of progression is approximately 30% [10]. Although about 20–30% CIN III and 50–60% CIN II lesions would undergo spontaneous regression if left untreated, so far there are no reliable biomarkers for discriminating regressive from progressive lesions [9]. The appropriate treatment is based on eradication of CIN II/III lesions while maintaining minimal morbidity and preserving future fertility of young women. Conservative excision methods are therefore the treatment of choice [11, 12]. However, in the case of uterine anomalies, surgical approach sometimes has to be altered and adapted to the individual situation. Major congenital uterine anomalies present a management dilemma in women who require surgery. The surgeon must have experience with anomalies and be prepared for atypical situations. There have been cases that patient underwent bilateral loop excision procedures that revealed carcinoma in one cervix and dysplasia in the other cervix [13]. Moreover, authors reported successful performance of two separate cold-knife conizations in the case of didelphic uterus. Angle haemostatic sutures were applied in a three o'clock position of the left cervix and to a nine o'clock position of the right cervix. The septum in between was held at the midposition by a suture to help stabilize each cervix during procedure. The cone bed on each side was sutured and adequate hemostasis accomplished. Histopathology reported CIN III at the squamo-columnar junction of both cervices with complete excision of both lesions [14]. Nevertheless, either open abdominal or laparoscopic hysterectomies may be considered as a potential treatment option in women whom fertility potential is no longer an issue. Accurate preoperative assessment of the upper urinary tract is considered essential as it was performed in the present case using MRI [6, 15].

In the case of the present patient the CIN lesion was found on the bifurcation of cervices deep in the cervical canal. Furthermore, following MRI examination, the patient was diagnosed with anomaly of the vagina, which was previously undiagnosed, although the patient had two uneventful endocervical curettages. Therefore, simple LEEP or even classical knife conization were not possible to perform. On the other hand, the fact that fertility-sparing surgery was not necessary, made it easier for the authors to decide that the best therapy for presented patient was hysterectomy.

Conclusion

Genital tract anomalies, although rare, present with both diagnostic and therapeutic difficulties. In cases with cervical dysplasia, thorough examination of each patient with individualized approach based on the level of anomaly is crucial optimal treatment.

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