

The importance of perineal examination in adolescent girls presenting with abdominal pain: a case report^a

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ABSTRACT

All patients presenting with abdominal pain should be evaluated using a comprehensive approach, including perineal examination in adolescent girls. We report the diagnostic and treatment course of a 17-year-old girl with recurrent abdominal pain who had previously been hospitalized twice with a preliminary diagnosis of acute appendicitis but was not operated on due to family refusal. On admission to our clinic, laboratory findings (WBC, CRP, procalcitonin) were normal, and abdominal ultrasonography showed no appendicitis, although a 2 cm pelvic free fluid collection raised suspicion of pelvic inflammatory disease. Perineal examination revealed poor hygiene and foul-smelling, white curd-like vaginal discharge. Vaginal culture identified *Zygosaccharomyces* species, and symptoms resolved after itraconazole therapy. Uroflowmetry showed reduced flow rate and increased bladder capacity, suggesting bladder-sphincter dyssynergia. This case highlights the importance of perineal examination and careful evaluation of urinary symptoms to ensure timely diagnosis and appropriate management.

Keywords: Abdominal pain, perineal examination, vulvovaginitis

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INTRODUCTION

Abdominal pain is a common complaint in the pediatric and adolescent population and requires careful evaluation of its localization, associated findings, and underlying causes. All patients presenting with abdominal pain should be approached in a holistic manner. Therefore, appropriate and integrated interpretation of clinical and laboratory findings is essential to establish an accurate diagnosis, guide medical or surgical management, and prevent unnecessary investigations.^{1,2} In addition to the assessment and follow-up of patients with abdominal pain, nurses and physicians play a crucial role in the selection, implementation, and optimization of both pharmacological and non-pharmacological pain management interventions.²

In most cases, the cause of abdominal pain is functional gastrointestinal disorders; however, conditions such as urogenital system anomalies and lower respiratory tract infections are also among the significant etiologies of abdominal pain.¹ At this point, it should be emphasized that perineal examination should not be neglected in adolescent girls. In this case report, we aimed to evaluate the diagnostic, follow-up, and treatment process of a 17-year-old girl who presented to our clinic with abdominal pain, in order to

raise awareness and contribute to appropriate and timely interventions in clinical practice.

CASE

A 17-year-old girl with recurrent hospital admissions for abdominal pain, persisting for approximately six months, had been hospitalized approximately one month earlier in two different centers with a preliminary diagnosis of acute appendicitis; however, she was not operated on during either admission due to lack of parental consent. As her complaints persisted, she was admitted to our clinic for further evaluation and treatment.

Physical examination revealed no findings suggestive of an acute surgical abdomen. Laboratory tests showed WBC: 6.37 mc/L, CRP: <0.60 mg/L, and procalcitonin: 0.039 ng/ml, all within normal limits. Urinalysis revealed increased bacteria (14) and amorphous material (98), but no erythrocytes, leukocytes, or epithelial cells. Abdominal ultrasonography demonstrated no signs of appendicitis, but approximately 2 cm of free fluid was noted in the pelvic cavity, suggesting pelvic inflammatory disease in correlation with the clinical findings.

Review of her previous records revealed that no perineal examination had been performed during prior evaluations. Perineal examination at our clinic showed poor hygiene and abundant foul-smelling, white, curd-like vaginal discharge. The patient also reported intermittent urination. Vaginal culture yielded *Zygosaccharomyces* species. Following itraconazole treatment, the discharge resolved and hygiene improved. Itraconazole (Itraspor®; Nobel İlaç Sanayii ve Ticaret A.Ş., İstanbul, Türkiye) was administered at a dose of 200 mg once daily for three days, in accordance with the dosing regimen commonly used for vulvovaginal infections.

Uroflowmetry performed on the first day of hospitalization showed decreased urine flow rate and an increased bladder capacity compared with age norms (Figure 1). These findings indicated impaired voiding with low maximum and average flow rates, suggesting a functional voiding disturbance. A repeat test on the third day demonstrated normalization of bladder capacity, though urine flow rate and pattern showed minimal improvement (Figure 2). Despite improvement in bladder capacity, the persistence of low flow rates and an irregular flow pattern supported the suspicion of bladder-sphincter dyssynergia. Voiding cystourethrography was planned to evaluate bladder function and possible vesicoureteral reflux; however, the procedure could not be performed due to urine leakage around the catheter after insertion. Similarly, urodynamic testing was not completed because of poor patient cooperation and urine leakage around the urodynamic catheter. Considering the uroflowmetry findings together with the inability to perform urodynamic evaluation, bladder dysfunction with bladder-sphincter dyssynergia was suspected. Accordingly, the patient was instructed on double voiding and toilet training. Follow-up examinations revealed normal perineal findings and complete regression of pelvic fluid on ultrasonography. As uroflowmetry showed no significant improvement, propiverine hydrochloride 5 mg (Mictonorm®; Apogepha Arzneimittel GmbH, Dresden, Germany) daily was initiated. At the one-month follow-up, the patient reported reduced symptoms; bladder capacity was partially normalized, although urine flow rate remained suboptimal. Cystoscopy was recommended, but the patient declined further invasive evaluation.

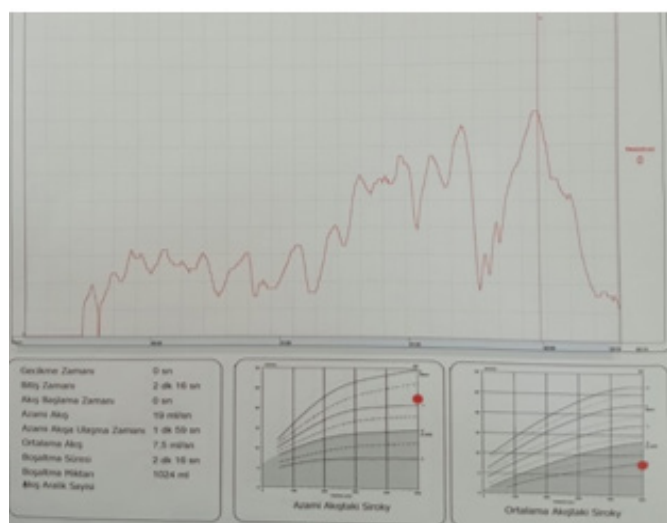


Figure 1. Initial uroflowmetry result

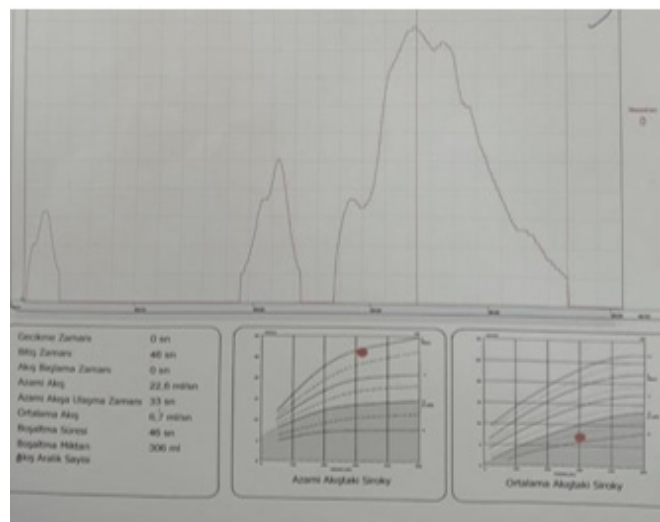


Figure 2. Follow-up uroflowmetry result

Written informed consent was obtained from the patient and her legal guardian for the publication of this case report.

DISCUSSION

Abdominal pain is a common complaint in pediatric medicine and pediatric surgery clinics, and early, accurate diagnosis enables timely treatment and improved prognosis with reduced morbidity.² In pediatric patients, symptoms are often non-specific, and a complete physical examination may be challenging. Therefore, evaluation should include a detailed history and thorough physical examination, supported by laboratory tests and imaging when necessary. In adolescent girls, particular attention should be given to menstrual history, sexual activity, vaginal discharge, irregular spotting, and abnormal or painful menstrual bleeding.^{3,4}

Inflammation of the vulvar and vaginal tissues and vaginal discharge represent common gynecological problems in childhood. Vulvovaginal inflammation and discharge are common in childhood, with infection risk influenced by age-related mucosal characteristics as well as hygiene and environmental factors.^{3,5} During adolescence, rising estrogen levels promote epithelial maturation and increased resistance to infection.^{6,7}

Vulvovaginitis may result from sexually transmitted or non-sexually transmitted etiologies, and identification of the causative organism is essential for accurate diagnosis. Normal vaginal flora typically includes *Staphylococcus epidermidis*, *diphtheroids*, *lactobacilli*, and *anaerobes*, which generally do not require treatment.⁸ Commonly isolated pathogens in vulvovaginitis include *Streptococcus pyogenes*, *Staphylococcus aureus*, *Escherichia coli*, *Proteus mirabilis*, and *Gardnerella vaginalis*.⁸

In our case, detailed history-taking and physical examination of the adolescent girl presenting with abdominal pain revealed a foul-smelling, white, curd-like vaginal discharge. This characteristic discharge was considered an important clinical finding to be taken into account in the differential diagnosis of vulvovaginal infections. Vaginal culture yielded *Zygosaccharomyces* species, a member of the



Saccharomycetaceae family, known primarily as a spoilage yeast with notable environmental resistance. Although not classically considered pathogenic, its tolerance to extreme environmental conditions suggests that it may have potential clinical relevance as an opportunistic or colonizing organism.⁹ Although no vulvovaginitis cases directly linked to *Zygosaccharomyces* species have been reported, infections caused by other members of the *Saccharomycetaceae* family have been described, indicating that pathogenic involvement cannot be completely excluded despite its rarity.^{8,10,11} In our case, detailed history revealed that the patient lived in a rural area and that her family was engaged in agriculture and livestock farming. During physical examination, inadequate adherence to genital hygiene practices was noted. These environmental and hygienic factors may have facilitated colonization or opportunistic overgrowth by the identified yeast species. To date, no infections directly attributed to *Zygosaccharomyces* species have been reported in the literature. However, considering that this organism belongs to the *Saccharomycetaceae* family, previously reported cases have most commonly been treated with antifungal agents such as amphotericin B and fluconazole.¹² In the present case, antifungal therapy with itraconazole was selected although formal antifungal susceptibility testing was not performed, based on susceptibility patterns reported in the literature for *Saccharomycetaceae* species and the antifungal susceptibility profile provided in the culture report, and the observed clinical improvement following treatment suggests—but does not confirm—a possible pathogenic role.

CONCLUSION

As a result, perineal examination with careful assessment of urinary function and menstrual history is crucial in children presenting with abdominal pain. This case underscores the importance of considering gynecological causes in the differential diagnosis within a multidisciplinary approach. Further well-designed studies are needed to better define vaginal microflora and optimize treatment strategies in symptomatic patients.

ETHICAL DECLARATIONS

Informed Consent

Informed consent was obtained from the legal guardians of the pediatric patient described in this report. Where developmentally appropriate, assent was also sought from the child.

Peer Review Process

This report underwent external peer review.

Conflict of Interest

The authors declare no conflicts of interest.

Financial Disclosure

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Author Contributions

Concept: RS, SUT, AŞ; Design: RS, SUT; Control: AŞ; Resources: RS, SUT; Materials: RS, SUT, AŞ; Data Collection and/or Processing: RS, AŞ, SUT; Analysis and/or

Interpretation: RS, SUT, AŞ; Literature Review: RS, SUT, AŞ; Writing the Article: RS, SUT, AŞ; Critical Review: AŞ.

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