

Catamenial bilateral conjunctival hemorrhage associated with endometriosis: A rare case report

Elif Betül Esmer¹

¹Department of Obstetrics and Gynecology, İzzet Baysal State Hospital, Bolu, Türkiye

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ABSTRACT

Objective: To present a rare case of catamenial bilateral conjunctival hemorrhage associated with endometriosis in a patient with ovarian endometrioma and to discuss its possible hormonal pathogenesis.

Case: A 24-year-old nulliparous woman presented with a 10-year history of severe dysmenorrhea and recurrent bilateral subconjunctival hemorrhage occurring exclusively during menstruation. Ophthalmologic examinations revealed no additional pathology. Pelvic ultrasonography demonstrated a 70×55-mm homogeneous cystic lesion with low-level internal echoes in the right ovary, consistent with an endometrioma. Serum CA-125 was mildly elevated (48.5 U/mL). Orbital magnetic resonance imaging was normal. Combined oral contraceptive therapy containing drospirenone and ethinylestradiol was initiated, resulting in marked improvement in both dysmenorrhea and ocular hemorrhage.

Conclusion: Catamenial conjunctival hemorrhage is a rare but clinically relevant manifestation that may be hormonally mediated. In patients presenting with cyclic ocular bleeding, underlying endometriosis should be considered.

Keywords: endometriosis, endometrioma, conjunctival hemorrhage, menstruation, dysmenorrhea

INTRODUCTION

Endometriosis is a chronic, estrogen-dependent condition in which endometrial glands and stroma are found outside the uterine cavity. It affects approximately 10% of women of reproductive age (1). The disease mainly involves the pelvic organs, although endometriotic lesions can occasionally occur at extragenital sites (2). Ovarian endometrioma is a common manifestation of endometriosis and is

frequently associated with dysmenorrhea, chronic pelvic pain, and infertility (2). Ocular manifestations related to menstruation are uncommon and have mainly been reported as individual case reports (3). Recurrent subconjunctival hemorrhage has been described in association with the menstrual cycle, with the ocular findings appearing during menstruation and resolving afterward. In reported cases, ophthalmologic examination generally does not reveal an underlying ocular abnormality (3). The mechanism responsible for

Corresponding author: Elif Betül Esmer **E-mail:** betuloneren@gmail.com

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this cyclic bleeding is not well established. Hormonal changes during the menstrual cycle, including possible effects on vascular permeability and capillary fragility, have been suggested as one possible explanation (4).

In this report, we present a young patient with long-standing dysmenorrhea and recurrent bilateral conjunctival hemorrhage during menstruation, in whom a concomitant ovarian endometrioma, representing ovarian endometriosis, was identified, and we discuss the case in light of the current literature.

CASE REPORT

A 24-year-old nulliparous woman presented with a 10-year history of severe dysmenorrhea and recurrent bilateral ocular redness that occurred exclusively during menstruation. The patient reported that ocular symptoms appeared only during menstrual periods and resolved spontaneously after completion of the cycle (Figure 1).

Repeated ophthalmologic examinations revealed bilateral subconjunctival hemorrhage. Visual acuity, anterior segment examination, and fundus evaluation were all normal. No additional ophthalmologic pathology, other than subconjunctival hemorrhage, was detected. Evaluation for systemic bleeding disorders revealed no abnormalities.

Pelvic ultrasonography performed during the menstrual period demonstrated an anteverted uterus with an endometrial thickness of 3 mm. The left ovary appeared normal, while the right ovary contained a well-circumscribed cystic lesion measuring approximately 70×55 mm, with homogeneous low-level internal echoes and regular walls, consistent with an ovarian endometrioma (2) (Figure 2). Laboratory evaluation revealed a mildly elevated serum CA-125 level of 48.5 U/mL, while all other biochemical and hematological parameters were within normal limits (5).

Orbital magnetic resonance imaging, performed to investigate the etiology of the ocular findings, revealed no pathological signal changes, masses, or vascular malformations. Based on these findings, secondary causes of conjunctival hemorrhage were excluded.

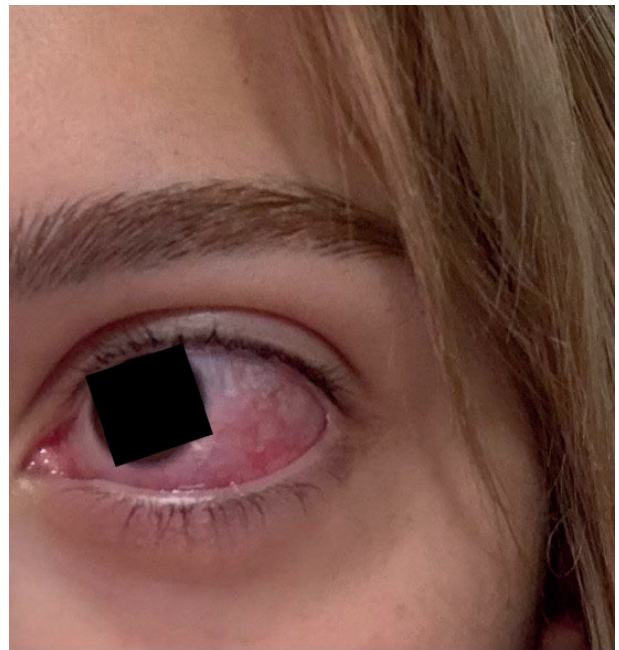


Figure 1. Conjunctival hemorrhage during menstruation.

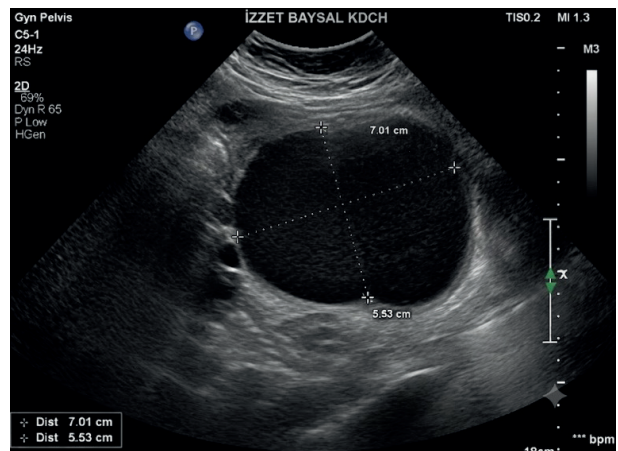


Figure 2. Transabdominal ultrasonographic image of the right ovarian endometrioma demonstrating homogeneous low-level internal echoes.

The patient was started on combined oral contraceptive therapy containing drospirenone and ethinylestradiol. From the third month of treatment onward, a marked improvement in dysmenorrhea and a significant reduction in menstruation-related conjunctival hemorrhage were observed (Figure 3).

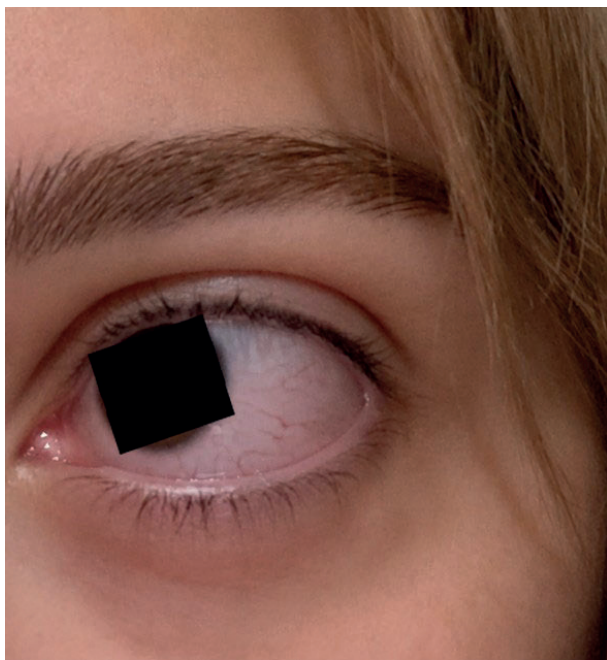


Figure 3. Marked regression of subconjunctival hemorrhage during menstruation after initiation of combined oral contraceptive therapy.

The patient remains under regular clinical follow-up. Written informed consent was obtained from the patient for publication of this case report and accompanying images.

The study was conducted in accordance with the ethical standards of the institutional research committee and the 1975 Declaration of Helsinki, as revised in 2000.

DISCUSSION

Very few cases of catamenial conjunctival hemorrhage have been reported to date, and the existing literature is limited to isolated case reports (3,6–9). What links these cases is the close temporal relationship with the menstrual cycle; in most patients described, no ophthalmologic abnormality was identified beyond the subconjunctival hemorrhage. The first description came from Abboud and Hanna, who documented five adolescent girls with recurrent conjunctival bleeding that tracked their menstrual cycles and resolved on its own within days (6). Barat and Kwedar later described a 13-year-old girl whose recurrent cyclic subconjunctival

hemorrhage responded well to hormonal treatment (7). More recently, Ghosh et al. described a young woman with bilateral recurrent conjunctival hemorrhage but no identifiable ocular pathology (9), and Celebi and Aygun reported a case of recurrent unilateral subconjunctival hemorrhage that improved markedly with combined oral contraceptive therapy (3). Our patient's presentation fits this pattern: recurrent, menstruation-linked conjunctival hemorrhage without any accompanying ophthalmologic abnormality. What sets our case apart from most previously reported, however, is the presence of a concomitant ovarian endometrioma, pointing to underlying endometriosis and lending support to a possible link between pelvic endometriosis and this unusual ocular finding. Pelvic ultrasonography in our patient showed a homogeneous cystic lesion with low-level internal echoes, a well-recognized and highly specific sonographic feature of ovarian endometrioma (2). This was corroborated by a mildly elevated serum CA-125 level, lending further support to the diagnosis of endometriosis (5). The exact pathophysiological mechanism underlying catamenial conjunctival hemorrhage remains incompletely understood. It has been proposed that cyclical fluctuations in estrogen and progesterone increase conjunctival vascular permeability and capillary fragility, predisposing susceptible individuals to recurrent subconjunctival hemorrhage during menstruation (3,4). Furthermore, endometriosis is characterized by chronic inflammation, enhanced angiogenesis, and increased expression of vascular endothelial growth factor (VEGF), all of which may contribute to vascular instability. Another hypothesis suggests the presence of hormonally responsive ectopic endometrial tissue at extra-pelvic sites through hematogenous or lymphatic dissemination. However, histopathological confirmation is rarely available in ocular cases because conjunctival biopsy is generally not indicated in patients with self-limited disease (2–4).

Before attributing ocular bleeding to a catamenial pattern, other causes—trauma, coagulopathies, vascular malformations, infections, and orbital masses—must be ruled out. We addressed this in our patient with repeated ophthalmologic evaluations and orbital MRI, both of which were normal and effectively excluded these secondary causes. There is no single

treatment protocol; management must be tailored to the patient. That said, earlier reports point consistently to hormonal suppression, whether through combined oral contraceptives or GnRH analogues, as an effective way to control symptoms (3,4). Our patient's response supports the hypothesis that suppression of hormonal cycling attenuates the vascular changes underlying recurrent bleeding. The fact that both her dysmenorrhea and ocular symptoms improved after she started combined oral contraceptives further strengthens the case for a shared hormonal mechanism linking endometriosis to conjunctival hemorrhage. Catamenial conjunctival hemorrhage may be rare, but its occurrence alongside an ovarian endometrioma, as in our patient, suggests it is more than an isolated ocular curiosity; rather, it may reflect a broader, hormonally driven process. Therefore, endometriosis should be considered in the differential diagnosis of patients presenting with cyclic ocular bleeding. Catching this connection early carries practical value: it can prompt timely gynecological referral, spare patients from unnecessary ophthalmologic workups, and start appropriate hormonal treatment sooner.

Ethical approval

Ethics committee approval was not required for this case report. Written informed consent was obtained from the patient for the publication of this case report and the accompanying images.

Author contribution

Surgical and Medical Practices: EBE; Concept: EBE; Design: EBE; Data Collection or Processing: EBE; Analysis or Interpretation: EBE; Literature Search: EBE; Writing: EBE. The author reviewed the results and approved the final version of the article.

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Conflict of interest

The authors declare that there is no conflict of interest.

Declaration on the Use of AI

During the preparation of this manuscript, the author(s) used an artificial intelligence-based language tool solely to improve the English language, grammar, and readability of the text. The tool was not used to generate scientific content, data, analysis, or conclusions. After using this tool, the author(s) reviewed and edited the content as needed and took full responsibility for the content of the publication.

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