Bilateral Endophthalmitis and Auto-evisceration from retained products of conception after planned surgical abortion: a case report

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ABSTRACT

Background: Endogenous endophthalmitis (EE) is a rare but potentially blinding ocular infection caused by hematogenous spread from a remote primary source.

Case Presentation: A 30-year-old woman presented in eye outpatient department (OPD) with the loss of vision, redness, and purulent discharge in both eyes for 3 days. Detailed history revealed that the patient had 2 months of pregnancy for which she underwent a surgical abortion 5 days back in a hospital of local area followed by intense bleeding per vagina. On ocular examination, patient denied for light perception and an area of corneal thinning was present in the center in both eyes. Fundus examination revealed absence of normal red glow bilaterally. On general physical examination, patient was found to be semiconscious, hypotensive; pulse was feeble, and patient was in stage of shock. Medical management for the ocular condition was initiated and patient was referred to emergency department immediately. Follow ups continued in the ICU for the ocular condition.

Conclusion: To conclude, it could be said that minor procedures may sometimes lead to life threatening complications; thus, full antibiotic prophylaxis should be given before initiation of any (major or minor) surgical procedure to reduce incidences of post-operative morbidities.

Keywords: Dilation and curettage, septic shock, endophthalmilitis, corneoscleral melting, case report.

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Background

Dilation and curettage (D&C) is the most frequently performed gynecological surgery procedures for evaluating and treating symptoms of abnormal uterine bleeding and to clear the uterine lining after a miscarriage or abortion [1,2]. Although, D&C is considered a safer procedure in comparison to medical termination of pregnancy, it might lead to various complications like infection [3]. Entry of virulent organism may lead to a serious infection commonly known as sepsis that causes our immune system to attack our own body endangering life by causing shock like condition. Sepsis can be further complicated by entry of foreign/virulent organism to the various organs. A rare complication of sepsis is endogenous endophthalmitis (EE), an intraocular infection affecting inner coats of the eye with progressive vitreous inflammation caused by hematogenous spread of pathogens resulting in vision threatening complications. Involvement of both eyes simultaneously is extremely rare and infection could usually be controlled by intravitreal antibiotic injections; however, some organisms are highly virulent in nature and can cause overnight tissue destruction of both eyes

despite prompt treatment. We report an extremely rare case where D&C lead to septicemia further complicated by EE of both eyes and unfortunately resulting in melting of corneoscleral tissue and auto-evisceration over the span of few hours.

Case Presentation

A 30-year-old female presented to the eye department with the complaints of loss of vison, redness, and purulent discharge for 3 days in both eyes. Since the patient was semiconscious, history was obtained from her husband. Detailed history suggested that patient was forth time gravida with 2 months of pregnancy and underwent D&C procedure for the abortion 5 days back. Immediately following the procedure, patient had intense bleeding per vagina. Patient also experienced loss of vision in right eye accompanied by redness and discharge in the left eye. On ocular examination, light perception was absent, lids were edematous, conjunctiva was congested and chemosed, cornea was hazy, and thinning was present in the center. Pupil were observed to be mid dilated and fixed with

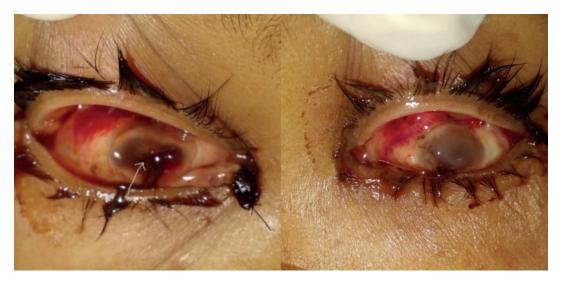


Figure 1. Clinical picture of patient 1 day after presentation and showing auto-evisceration of right eye (white arrow showing corneal perforation; black arrow showing prolapsed uveal tissue).

no glow on fundus examination in both eyes (Figure 1). Systemic examination of patient implied a stage of septic shock, so she was immediately referred to the emergency department. Consent was also obtained from her husband regarding publishing her findings and pictures. Ethical approval was not taken since it is not required at our institution to publish an anonymous case report.

Investigations

Systemic blood pressure dropped to 90/60 mm Hg at the presentation. Routine blood investigations suggested low blood sugar levels (72 mg/dl), severe anemia (5.5 gm%), and low platelet count (0.07 lakhs/ml). Serum lactate dehydrogenase (LDH) (535 U/l), serum urea (148 mg/dl), serum creatinine (2.05 mg/dl), and serum creatine phosphokinase-MB (44.27 U/l) were elevated. Other blood investigations including total leucocyte count, serum electrolytes, and blood coagulation profile illustrated all parameters within normal range. Ultrasonography of abdomen and pelvis suggested of bulky uterus with endometrial cavity measuring 3 cm and filled with echogenic content without vascularity likely to be avascular retained products of conception (RPOC). Contrast magnetic resonance imaging (MRI) of orbit suggested bilateral infective endophthalmitis with phthisis bulbi while brain study was normal (Figure 2). Serum Procalcitonin (PCT) levels were also observed to be elevated (13 ng/ml). Blood culture and ocular culture of aqueous tap were found to be sterile attributing to initiation of heavy anti infectious agents before obtaining blood/intraocular culture.

Since the ultrasonography of patient presented RPOC after D&C, a provisional diagnosis of post-operative septic shock followed by EE was made. Deranged levels of renal function test, serum LDH, PCT, and platelet counts further supported the diagnosis [4]. Other diseases causing corneoscleral melting were ruled out by absence of

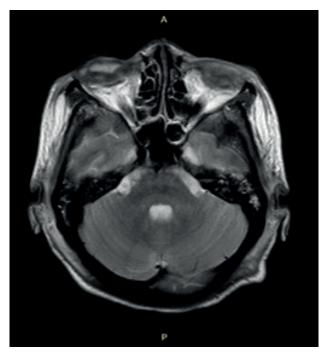


Figure 2. Contrast MRI of orbits suggestive of collapsed deformed contour with enhancement in retro-orbital fat and extraocular muscles and sclera suggestive of infective endophthalmitis.

trauma history and autoimmune disorders supported with reports of normal range of relevant parameters.

Treatment

Patient was kept under intensive care and was administered intravenous injections of piperacilline-tazobactum, clindamycin, and vancomycin along with intravenous infusions of dopamine, noraline, and human serum albumin to treat the post-operative septic shock. Blood transfusion was done. Due to poor general condition of patient, administration of intravitreal injections could not be planned and instead was treated with fortified topical



Figure 3. Bilateral Corneoscleral melting after auto-evisceration on next day.

antibiotics, antifungal, and cycloplegic drugs for the ocular condition. Repeat dilation and curettage procedure were also done for RPOC treatment and contents were sent for culture.

Despite of negative culture report retained contents of placenta were thought to be a source of infection causing septicemia further leading to EE by hematogenous spread of the organism/pathogen. As RPOC were removed, general condition of patient improved, and results of routine blood investigations indicated restoration of blood parameters. However, vitreous is supposed to be a good niche for virulent organisms; infection continued to progress in both eyes and unfortunately, resulted into the melting of whole corneoscleral tissue and auto-evisceration very rapidly (Figure 3).

Discussion

D&C is routinely performed as a surgical procedure for termination of pregnancy. Although, D&C is associated with low rates of complications, incomplete procedure and retained contents can complicate the situation by causing infection. The overall frequency of infections following surgical abortion in the first trimester is 0.27% [5]. Usually, the infection is limited to uterus causing pelvic inflammatory disease and/or endometritis; rarely, it can be manifested as septicemia endangering patient's life. Septicemia, sometimes, can be further complicated by introduction of organism to the various organs via hematogenous spread. When the organism enters the eye by crossing blood retinal barrier, it gives rise to EE. It constitutes 2%-8% of all cases of endophthalimitis [6]. The common organisms include Staphylococcus aureus, Group B Streptococcus, Streptococcus pneumoniae, Listeria monocytogenes, Klebsiella sp., Escherichia coli, Pseudomonas aeruginosa, and Neisseria gonorrhoea & Neisseria meningitides [7]. However, blood cultures may be positive in as much as 71% of patients with EE, while vitreous humor and other aqueous cultures may test positive in 61%-70% of cases [8]. The observation could be attributed to initiation of anti-infectious agents before obtaining sample for blood/intraocular culture.

Some cases are reported regarding post D&C septicemia further complicated by sacroiliac arthritis and gluteal abscess [9]. Although, no literature was found regarding septicemia due to D&C leading to complications of EE. To the extent of our knowledge this is the first report of septicemia caused by D&C leading to bilateral EE and resulting in overnight melting of corneoscleral tissue and auto-evisceration.

Conclusion

To conclude, it could be said that minor procedures may sometimes lead to life threatening complications; thus, full antibiotic prophylaxis should be given before initiation of any (major or minor) surgical procedure to reduce incidences of post-operative morbidities.

What is new?

Dilation and curettage are very commonly performed in gynecology practice and coreneo-scleral melting is an extremely rare event as a complication of procedure.

List of Abbreviations

D&C Dilation and Curettage

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this case report.

Funding

None.

Consent for publication

Written informed consent was taken from the family of the patient.

Ethical approval

Ethical approval is not required at our institution for publishing an anonymous case report.

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Summary of the case

1	Patient (gender, age)	30-year-old female
2	Final diagnosis	EE post dilation and curettage
3	Symptoms	Septic shock along with loss of vision
4	Medications	Intravenous antibiotics
5	Clinical procedure	
6	Specialty	Ophthalmology