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A 60 Year Old Man with Severe Corneal Ulcer of The Left Eye: A Case Report

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ABSTRACT
Corneal ulcer is an ophthalmological emergency characterized by corneal epithelial defects with stromal involvement, which can be caused by both infective and non-infective etiologies. This condition can lead to severe complications such as corneal scarring, perforation, endophthalmitis, and even permanent blindness if not treated promptly. The purpose of this study was to identify and manage a 60-year-old man with a severe corneal ulcer in the left eye. This study used a case report method that describes a patient with a clinical diagnosis of corneal ulcer based on anamnesis findings, physical examination, supporting examinations, and the treatment given. The results showed that the management that can be done is by administering rapid and appropriate therapy according to the culture and results of the sensitivity test of the causative microorganism. Prognosis depends on the severity and speed of therapy administration, the type of causative microorganism, and the presence or absence of complications that arise. Case report of a 60-year-old man came with complaints of left eye pain for 20 days, accompanied by redness, photophobia, epiphora, and blurred vision. The initial history was irritation after exposure to "frog urine" and washing the eye with betel leaf water. Examination revealed an epithelial-stromal defect with infiltrate and hypopyon in the left eye, and a diagnosis of a severe corneal ulcer was made. The patient received systemic antibiotics (IV ceftriaxone), antifungals (Itraconazole), and intensive topical therapy (Levofloxacin, Protagenta, Tropicamide, Fukrycin). This case demonstrates that minor trauma or environmental exposure can trigger severe corneal ulcers, especially if therapy is delayed or inadequate. The combination of systemic antibiotics, aggressive topical therapy, and antifungals is an approach consistent with current management guidelines.

Keywords: Corneal Ulcer, Hypopyon, Diagnosis, Management, Prognosis.

ABSTRAK
Ulkus kornea merupakan keadaan darurat oftalmologis yang ditandai oleh defek epitel kornea dengan keterlibatan stroma, yang dapat disebabkan oleh etiologi infektif maupun noninfektif. Kondisi ini dapat mengakibatkan komplikasi berat seperti jaringan parut kornea, perforasi, endoftalmitis, bahkan kebutaan permanen jika tidak ditangani segera. Tujuan penelitian ini adalah untuk mengidentifikasi dan penatalaksanaan seorang pria yang berusia 60 tahun dengan Ulkus Kornea Parah pada Mata Kiri. Metode penelitian ini menggunakan case report yang mendeskripsikan satu pasien dengan diagnosis klinis ulkus kornea berdasarkan temuan anamnesis, pemeriksaan fisik, penunjang, serta tatalaksana yang diberikan. Hasil penelitian menunjukkan tatalaksana yang dapat dilakukan yaitu dengan pemberian terapi yang cepat dan tepat sesuai dengan kultur serta hasil. Uji sensitivitas mikroorganisme penyebab Prognosis tergantung pada tingkat keparahan dan cepat lambat pemberian terapi, jenis mikroorganisme penyebab, dan ada tidaknya komplikasi yang timbul. Laporan kasus seorang laki-laki 60 tahun datang dengan keluhan nyeri mata kiri sejak 20 hari, disertai mata merah, fotofobia, epifora, dan penglihatan kabur. Riwayat awal berupa iritasi setelah terkena “kencing katak” dan membasuh mata dengan air sirih. Pemeriksaan menunjukkan defek epitel-stromal dengan infiltrat dan hipopion pada mata kiri, diagnosis ditegakkan sebagai ulkus kornea berat. Pasien mendapat terapi antibiotik sistemik (Ceftriaxone IV), antijamur (Itraconazole), serta terapi topikal intensif (Levofloxacin, Protagenta, Tropicamide, Fukrycin). Kasus ini menunjukkan bahwa trauma minor atau paparan lingkungan dapat memicu ulkus kornea berat terutama bila terapi terlambat atau tidak adekuat. Kombinasi antibiotik sistemik, terapi topikal agresif, dan antijamur merupakan pendekatan yang sesuai dengan pedoman manajemen terkini.

Kata Kunci: Ulkus Kornea, Hipopion, Diagnosis, Tatalaksana, Prognosis.

INTRODUCTION

The cornea consists of six layers: the epithelium, Bowman's membrane, stroma, stratum corneum, Descemet's membrane, and endothelium (Gurnani & Kaur, 2023). A corneal ulcer is a defect in the corneal epithelium involving the underlying stroma and is a potentially sight-threatening ocular emergency. This condition is usually accompanied by tissue excavation, infiltration, and necrosis. Despite prompt treatment, patients can still experience significant morbidity with complications such as corneal scarring or perforation, the development of glaucoma, cataracts, anterior and posterior synechiae, and vision loss. If left untreated, bacterial keratitis can progress to endophthalmitis and ultimately lead to eye loss (Alakuş & Baykara, 2024). Based on its etiology, corneal ulcers can be caused by infectious factors, including bacteria, viruses, fungi, pythium, and protozoa; and non-infective factors, such as neurotrophic, neuroparalytic, vitamin A deficiency, or Mooren's ulcer. Based on location, ulcers can be central, paracentral, or peripheral, and based on depth, ulcers can be superficial or deep (Asroruddin et al., 2015).

Symptoms and signs of corneal ulcers include eye inflammation, eye pain, excessive tearing, blurred vision, white spots on the cornea, eyelid swelling, cloudiness or discharge, photophobia (sensitivity to light), and a foreign body sensation (Singh et al., 2023). To confirm the diagnosis of a corneal ulcer, an eye examination using a slit-lamp microscope is performed. Assessing the severity of a corneal ulcer, especially flaky ulcers, requires accurate segmentation. Although manual segmentation is considered the most accurate, this method is very time-consuming (Winansari et al., 2024).

In the United States, the annual incidence of corneal ulcers is estimated to range from 30,000 to 75,000 cases, and approximately 12.2% of all corneal transplants are performed to treat infectious keratitis (Bidzan et al., 2024). A cloudy cornea can be caused by scarring from a corneal ulcer. Corneal cloudiness is an eye health problem and the fifth leading cause of blindness in Indonesia. Epidemiological data indicates an estimated 1.5–2 million cases of corneal ulcers in developing countries (Atima et al., 2024).

Predisposing factors include a history of trauma/irritation, dry eyes, vitamin A deficiency, chronic dacryocystitis, ectropion or entropion, trichiasis, distichiasis, exophthalmos, lagophthalmos, contact lens use, and irregular or prolonged corticosteroid use. In clinical management, corneal ulcer management includes a structured approach: identification of the etiology (bacterial, fungal, viral, Acanthamoeba, or non-infectious), aggressive medical therapy, and surgical intervention if necessary (e.g., due to perforation or risk of eye loss) (Winansari et al., 2024). Patient prognosis is influenced by factors such as the speed of diagnosis and treatment, the size and location of the ulcer (including involvement of the visual axis), the type of causative microbe, the depth of stromal involvement, and the presence or absence of complications such as perforation. Complications of corneal ulcers can include corneal thinning, corneal perforation, spread of intraocular infection (endophthalmitis), pseudocorneal or iris-corneal synechiae formation, secondary glaucoma, anterior synechiae, and even eye loss (Edwar et al., 2025).

Research gaps in identifying what differentiates this case from typical corneal ulcers include a discrepancy between clinical severity and subjective symptoms, or systemic involvement that progressively worsens the corneal condition. This case demonstrated resistance to first-line antibiotic/antifungal regimens according to current clinical guidelines, necessitating further diagnostic approaches. This case is important for the medical community to read: Management Innovation: "This case presents the successful use of adjuvant therapy, such as corneal cross-linking (CXL) or the use of amniotic membrane in the acute phase, which has not been widely documented for severe ulcer cases in elderly patients. Although the management of corneal ulcers has improved, cases resistant to standard therapy in elderly patients remain a significant clinical challenge. There is limited literature regarding the management of corneal ulcers caused by (insert name of pathogen/specific condition) in a 60-year-old male patient. The purpose of this study was to identify and manage a 60-year-old man with a severe corneal ulcer in the left eye.

RESEARCH METHODS

This study is a case report describing a patient clinically diagnosed with a corneal ulcer based on findings from medical history, physical examination, supporting diagnostic investigations, and the treatment administered. This design was selected to provide a comprehensive and detailed description of the disease presentation, clinical course, and management.

Data were obtained through medical record review, patient interviews, and clinical observations. The collected data were analyzed descriptively and presented in narrative form, as well as in tables or figures when necessary, such as results of supporting examinations and clinical photographs.

Participation in this study was voluntary, and informed consent was obtained from the patient. The patient was informed of the right to withdraw from the study at any time without any consequences. All personal and identifying information was kept strictly confidential, and the data were used solely for research purposes. This study adhered to ethical principles of biomedical research, including respect for autonomy, beneficence, non-maleficence, and justice.

RESULTS

A 60-year-old man presented with complaints of pain in his left eye for approximately 20 days. The initial pain was triggered by being "exposed to frog urine" while sleeping, which he then washed with betel leaf water. Two days later, the pain worsened and the eye became red. The patient purchased eye drops from a pharmacy, but they did not improve. A week later, he went to the emergency room at the regional hospital, but his symptoms worsened: pain extended to the back of the eyeball, accompanied by hyperemia, photophobia (glare), epiphora (watering), blurred vision, and difficulty opening the eye. There were no complaints in the right eye. There was no previous history (allergies, diabetes, hypertension, eye surgery, glasses). Activities: Occasionally working in the fields (meaning there is potential for trauma/environmental exposure). The complaints were present for a long time (> 2 weeks) without a response to initial therapy.

On physical examination, the general condition was found to be good, with compos mentis consciousness with GCS E4V5M6. The results of the vital signs examination showed blood pressure of 130/90 mmHg, pulse rate of 80 beats/minute, respiratory rate of 20 breaths/minute, and body temperature of 36.6°C.

Ophthalmological examination showed VOD (Visus Oculus Dexter) 5/10 and VOS LP (Visus Oculi Sinistri Light Perception) (+). Examination of the anterior segment of the eye obtained palpebra examination with the results of ectropion (-/-), entropion (-/-), ptosis (-/-), hyperemia (- /+), edema (-/+), mass (-/-), crust (-/-), spasm (-/+), secretion (-/+). Serous secretion was found in OS (Oculi Sinistra) (+) and no chemosis was found (-/-). The results of the cilia examination showed normal growth direction, madarosis (-/-), trichiasis (-/-), and districhiasis (-/-). The results of the conjunctival examination found CI (Ciliary Injection) (-/+), PCI (Prognostic Cauterization of Infection) (-/+).

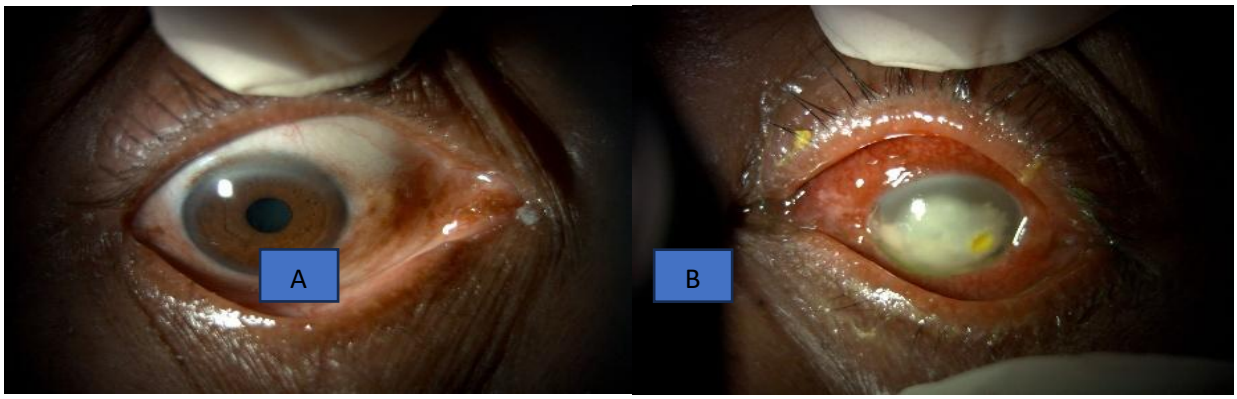

Figure 1. Ophthalmological Examination (A. Right eye, B. Left eye).

The right cornea was clear, the left cornea had a stromal epithelial defect (-/+) measuring 1.3x1 mm, feathery edge (-/+), satellite lesion (-/+), fluorescein test results (not evaluated/+), erosion (-/+), infiltrate (-/+). The anterior chamber was found to be deep in the ODS (Oculus Dexter et Sinister) (+/+), hypopyon (-/+) with 2/3 COA (Anterior Camera Oculi). The pupil was round (+/+) with a diameter of about 3 mm in the OD (Oculi Dextra) and 6 mm in the OS and pupillary reflex (+/+). The iris was sharply demarcated (radline) (+/difficult to evaluate), anterior synechiae (-/-), posterior synechiae (-/-). The lens was clear in the OD and a clear impression in the OS. The patient underwent a Fluorescein test and continued with a slit lamp examination in the OS as shown in the following image:

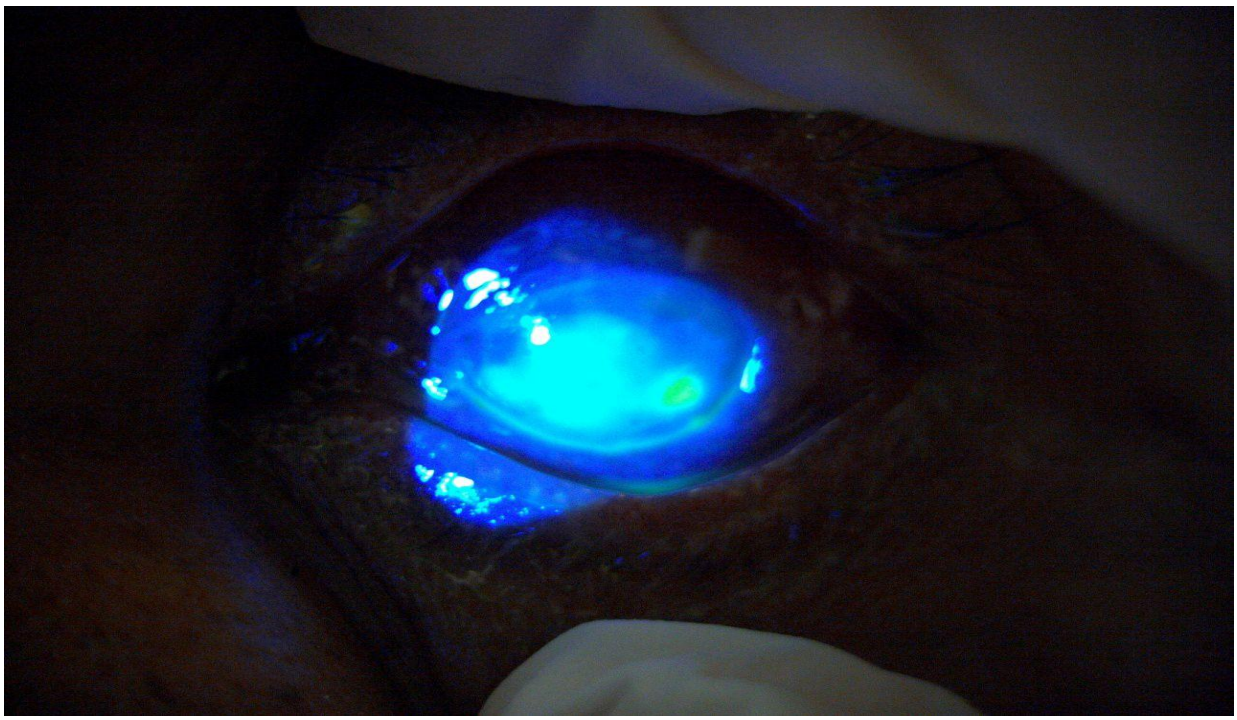

Figure 2. Fluorescein test examination with slit lamp on OS.

Table 1. Results of the Patient's Ophthalmological Examination

Inspection	**OD**	**OS**
Vision	5/10	1/300
Eyeball position	Orthophoria	Orthophoria
Palpebra	Edema (-), spasm (-), hyperemia (-), secretion (-)	Edema (+), spasm (+), hyperemia (+), secretion (+)
Conjunctiva	CI (+), PCI (+)	CI (+), PCI (+)
Cornea	Clear	*Fluorescein test (+), erosion (+), infiltrate (+), stromal epithelial defect (+), feathery edge (+)*
COA	In, hypopyon (-)	In, hypopyon (+) 2/3 COA
Iris	Radline (+)	Radline (sde)
Pupil	Round, diameter 3 mm, RP (+)	Round, diameter 6 mm, RP (+)
Lens	Clear	Clear impression

Based on history, clinical examination, and slit lamp examination, the patient was diagnosed with severe corneal ulcer. The patient was given medical management consisting of ceftriaxone 2 x 1 g IV, Ketorolac 3 x 1 IV, Ranitidine 2 x 1 IV, Itraconazole 2 x 100 mg, Levocin ED 1 drop every hour OS, Protagenta ED 1 drop every hour OS, Cendo Tropin 1% 3 x 1 drop OS, Fukrycin MD 6 x 1 drop OS. The patient was planned to undergo KOH scraping and gram swab examination.

Common complications of corneal ulcers include partial or complete blindness due to endophthalmitis, endophthalmitis and panophthalmitis due to continued corneal perforation, cumhypopyon, iris prolapse, corneal scarring, cataracts, and secondary glaucoma. The prognosis of a corneal ulcer depends on its severity and the speed with which treatment is sought, the type of microorganism causing it, and the presence or absence of complications. Extensive corneal ulcers require a long healing time because corneal tissue is avascular. The greater the severity, the slower the treatment, and the more complications, the worse the prognosis. Longer healing times may also be affected by adherence to medication.

DISCUSSION

The patient's diagnosis in this case was established based on history, physical examination, and supporting examinations. The patient's diagnosis was a corneal ulcer, in accordance with the theory, namely based on the history of complaints that led the patient to come to the hospital, namely decreased vision accompanied by a red eye and corneal cloudiness. In addition, a history of trauma, foreign bodies, abrasions, or a history of corneal disease is also important in the history. An ophthalmological examination showed symptoms such as corneal edema, ciliary injection, infiltrates, corneal tissue loss accompanied by necrotic tissue.

The incidence of corneal ulcers worldwide is high, with variations based on type. A 2010 retrospective study in California reported an annual incidence of 60.3 bacterial corneal ulcers per 100,000 people. In developing countries, the incidence of corneal ulcers caused by the herpes simplex virus is reported to reach 5–20 cases per 10,000 people per year, while the incidence of fungal corneal ulcers is only around 0.32 cases per million people per year (Soleimani et al., 2023). According to the WHO, 5.1% of blindness is caused by corneal disease, making it the fourth leading cause of blindness after cataracts, glaucoma, and age-related macular degeneration. Southeast Asian countries with large agricultural sectors, such as Nepal, India, Myanmar, and Bhutan, have a high incidence of corneal ulcers due to trauma, particularly in agricultural work environments (Bautista-Ruescas et al., 2009).

In Indonesia, the incidence of corneal ulcers in 2013 reached 5.5%, with the highest prevalence in Bali (11.0%), Yogyakarta (10.2%), and South Sulawesi (9.4%). Trauma due to plant exposure is a major predisposing factor, especially among farmers, fishermen, and laborers who frequently experience eye injuries in the workplace. At the National Eye Center of Cicendo Eye Hospital in Bandung, the majority of corneal ulcer cases were caused by Gram-positive bacterial infections (56.6%), while at Sardjito Hospital in Yogyakarta, trauma was the main cause (68.4%) (Cabrera-Aguas et al., 2022). Groups with low education and workers in manual sectors showed a higher prevalence of corneal opacities, possibly due to the lack of use of personal protective equipment at work (Sirrals, 2024). Corneal ulcers have various etiologies, both infectious and non-infectious. Infectious causes include bacteria such as Streptococcus pneumoniae, Pseudomonas aeruginosa, and Moraxella sp., fungi such as Candida, Aspergillus, and Fusarium, viruses such as herpes simplex and varicella-zoster, and parasites such as Acanthamoeba (Shoughy & Tabbara, 2016). Non-infectious causes include exposure to chemicals, radiation, extreme temperatures, vitamin A deficiency, Sjögren's syndrome, trauma, basement membrane disorders, and neurotrophic conditions. Immune disorders such as Wegener's granulomatosis and rheumatoid arthritis may also contribute (Salvatore et al., 2019).

A corneal ulcer is a pathological condition of the cornea characterized by a suppurative infiltrate accompanied by a resonant corneal defect, a discontinuity of corneal tissue that can occur from the epithelium to the stroma (Ou et al., 2024). A corneal ulcer is the loss of a portion of the corneal surface due to the death of corneal tissue. Extensive corneal ulcers require prompt and appropriate treatment to prevent ulcer expansion and complications such as desmetocele,

perforation, and endophthalmitis (Obaid et al., 2025). Perforation is a condition in which there is a defect in all layers of the cornea and a connection between the anterior chamber and the surface of the eyeball. Corneal perforation is the result of various disorders that can leave sequelae affecting vision (Coppo et al., 2014).

The causes of corneal ulcers are divided into bacterial infections, fungal infections, and viral infections. Bacterial Infections: P. aeraginosa, Streptococcus pneumoniae, and Moraxella species are the most common causes. Fungal Infections: Caused by Candida, Fusarium, Aspergillus, Cephalosporium, and Mycosis fungoides species. Viral Infections: Corneal ulcers caused by the herpes simplex virus are quite common. The characteristic dendritic appearance can be followed by small vesicles in the epithelial layer, which, when ruptured, will cause ulcers (Femling & Baca, 2019). Bacterial keratitis: Most common, especially if there is corneal trauma. Literature: In a study of 33 patients, 81.8% had predisposing factors and 48.5% had corneal trauma (Ghafarian et al., 2025). Fungal keratitis: In vegetative trauma or exposure of the eye in agricultural or field environments, fungi are more likely. Literature: Studies on fungal keratitis indicate that corneal trauma or abrasion is found in ~42.9% of cases (Atta et al., 2022). Non-infectious (e.g. autoimmune keratitis) is less likely because there is a history of trauma or irritation and clear symptoms of infection (pain, redness, blurred vision) and a long duration without response (Gugnani et al., 1976).

The patient's diagnosis is a corneal ulcer, which is in accordance with the theory based on the anamnesis of the complaint that made the patient come, namely pain in the eye accompanied by decreased vision in the left eye and a cloudy cornea (Martinez et al., 2019). The clinical manifestations of severe pain, photophobia, epiphora, hyperemia, decreased vision, difficulty opening the eyes are symptoms consistent with the clinical manifestations of keratitis (corneal inflammation), as in the literature explaining that corneal inflammation is characterized by corneal edema, inflammatory cell infiltration, conjunctival and limbus congestion (Putri & Faried, 2025).

This patient had a history of trauma or irritation (contact with "frog urine" and washing the eyes with betel leaf water), which is a form of local incident that can disrupt the integrity of the corneal or conjunctival epithelium. The contents of frog urine cannot directly cause corneal ulcers because there are no directly dangerous contents in frog urine. It is known from the literature that urine contains urea, ammonia, water, mineral salts, uric acid, and creatinine (Lei et al., 2025). Field activities and possible exposure to particles, vegetation, or environmental water are consistent with reports that corneal trauma is a major risk factor for keratitis. In a study from Indonesia, corneal trauma was a predisposing factor in 48.5% of cases of bacterial keratitis (Hanifa et al., 2025). The primary risk factor in this case is trauma or irritation from environmental exposure (frog urine and betel leaf water), which disrupts the integrity of the corneal epithelium, facilitating the entry of pathogenic microorganisms. While frog urine is not directly toxic to the cornea, it can act as a conduit for environmental microbial contamination.

In keratitis, the corneal epithelium is disrupted (e.g. trauma or irritation) so that microorganisms (bacteria, fungi) infiltrate the corneal stroma and the inflammatory response (neutrophil cells, macrophages) results in tissue damage (edema, infiltrate, hypopyon in some cases) and impaired corneal transparency, causing the patient's vision to decrease (Cabrera-Aguas et al., 2022).

Symptoms of corneal ulcers depend on the etiology of the corneal ulcer. Bacterial ulcers include pain, redness, a foreign body sensation, photophobia, epiphora, watery discharge, and swelling. Fungal ulcers include blurred vision, pain, eyelid edema, photophobia, and irritation. Viral ulcers include pain, redness, photophobia, blurred vision, and a gritty sensation (Gurnani & Kaur, 2022).

Table 2. Clinical symptoms and ophthalmologic examination based on the type of corneal ulcer

Types of Corneal Ulcers	Main Clinical Signs
Bacterial Ulcer	Corneal epithelial defects, Corneal infiltrates, Corneal abscesses, Stromal melting (corneal melt), Descemetocele, Perforation, Conjunctival hyperemia and congestion, Anterior chamber reaction, Exudates and hypopyon

Fungal Ulcer	Conjunctival congestion, Gray or white stromal infiltrate, Indistinct lesion edges, fluffy appearance, Satellite lesions, Hypopyon
Ulcer Virus (HSV/VZV)	Conjunctival congestion, Typical dendritic lesions (in HSV), Geographical ulcer, Subepithelial keratitis, Stromal haze, edema, and infiltrate, Interstitial/disciform keratitis, Decreased corneal sensation, Corneal thinning, Superficial and deep neovascularization
Protozoan Ulcer (Acanthamoeba)	Causative agent: Acanthamoeba castellanii, Perineural infiltrate (radial keratoneuritis), Epithelial defect, Superficial punctate keratitis, Subepithelial infiltrate, Stromal ulceration, Limbitis, Infiltrate penetrating the entire thickness of the cornea
Pythium ulcer	Reticular dot infiltrates, Tentacular projections, Peripheral furrowing, Guttering with spread to the limbus

Diagnostic examinations such as visual acuity, slit examination-Lamp examination, pupillary reflex response, corneal staining with fluorescein, and scraping for analysis or culture (Gram, Giemsa, or KOH stain) are also necessary. The possibility of endophthalmitis and panophthalmitis cannot be confirmed because the posterior segment is difficult to assess in patients. If therapy is delayed or the microbes are resistant, keratitis can progress to perforation, corneal abscess, or permanent vision loss (Ilyas S., 2019).

Therapy given to this patient The patient was given medical management consisting of ceftriaxone 2 x 1 gr IV, Ketorolac 3 x 1 IV, Ranitidine 2 x 1 IV, Itraconazole 2 x 100 mg, Levocin ED 1 drop every hour OS, Protagenta ED 1 drop every hour OS, Cendo Tropin 1% 3 x 1 drop OS, Fukrycin MD 6 x 1 drop OS. Based on the literature, the purpose of corneal ulcer management is to eradicate the cause of the corneal ulcer, suppress the inflammatory reaction so as not to worsen the destruction of the cornea, accelerate the healing of epithelial defects, overcome complications and improve visual acuity. The management given can be non-medical and medical. Corneal ulcer management must be carried out immediately with the provision of appropriate and fast therapy, then the therapy is adjusted to the culture and sensitivity test results of the causative microorganism. Ceftriaxone is given as a semisynthetic antibiotic of the third-generation cephalosporin (β-lactam) class that has a broad spectrum of activity against Gram-positive and Gram-negative bacteria. Medical management that can be given is antimicrobials, namely antibiotics, antifungals, antivirals, or anti-acanthamoeba. Other drugs that can be given include atropine sulfate and analgesics to reduce pain. Cycloplegics (atropine 1%, homatropine 1%, cyclopentolate 1%) to reduce ciliary spasm, dilate the pupil, reduce pain, and prevent synechiae. Antiglaucoma drugs if intraocular pressure is increased. Oral analgesics if needed. In addition, surgery can also be performed to treat corneal ulcers. Surgical management includes conjunctival flaps, amnion grafts, periosteal grafts, and definitive procedures in the form of keratoplasty. Keratoplasty is a last resort if other surgical procedures are unsuccessful (Asyari et al., 2017).

Complications of corneal ulcers include scarring, perforation, endophthalmitis, secondary glaucoma, neovascularization, astigmatism, phthisis, and loss of the eye. The prognosis depends on the characteristics of the ulcer (size, depth, location), microbial etiology, patient status (age, immunity), and the speed and appropriateness of therapy (Sirrals, 2024). Clinical efforts should focus on early detection, microbiological diagnostics, targeted intensive antimicrobial therapy, and surgical intervention when necessary to reduce morbidity and preserve visual function. The prognosis for this patient is quo ad vitam bonam because it cannot cause death, quo ad fungtionam and sanationam is dubia ad malam because the corneal ulcer experienced by the patient caused decreased visual function in the patient's left eye.

Given the potential impact of corneal ulcers, preventing this disease is crucial. Corneal ulcer prevention can be achieved through several steps, including regular hand washing and drying with a clean towel to prevent the spread of infection. If you wear contact lenses, it's important to remove them promptly and avoid touching or rubbing the inflamed eye. Furthermore, avoiding cigarette smoke is recommended, as it can slow the wound healing process.

In terms of differential diagnosis, corneal ulcers need to be distinguished from several other conditions, such as corneal abrasion, keratitis, anterior uveitis, and acute angle-closure glaucoma. If not treated properly, corneal ulcers can lead to various serious complications.

Deeper infections of the cornea, such as endophthalmitis and panophthalmitis, can occur. Corneal perforation can also occur due to thinning of the corneal layer, which triggers increased intraocular pressure. Furthermore, scar tissue formed by corneal ulcers can cause decreased vision, which can progress to glaucoma or cataracts.

The prognosis of corneal ulcers depends heavily on the speed and accuracy of diagnosis and treatment. The earlier the diagnosis and appropriate therapy are administered, the better the prognosis. Other factors influencing prognosis include the type of causative microorganism and the potential complications that may arise during the course of the disease. Therefore, this case emphasizes the importance of prompt and appropriate action in managing corneal ulcers, where early detection and appropriate treatment of the underlying cause are key to avoiding further complications.

CONCLUSION

Corneal ulcers are infections or inflammation of the cornea that can threaten vision if not treated promptly and appropriately. The main risk factors in this case are trauma or irritation due to environmental exposure (frog urine and betel leaf water), which disrupt the integrity of the corneal epithelium, facilitating the entry of pathogenic microorganisms. The contents of frog urine (urea, ammonia, mineral salts, and creatinine) are not directly toxic to the cornea, but can act as a medium for environmental microbial contamination. Treatment using a combination of systemic antibiotics (ceftriaxone) and topical antimicrobials is effective in suppressing the progression of the infection and preventing further complications. Treatment of corneal ulcers must be tailored to the cause and the patient's condition to prevent complications that could worsen the patient's condition. The patient's prognosis for survival is considered good, but the outcome for visual recovery and overall eye condition remains questionable, despite a trend toward improvement. This case demonstrates the importance of prompt diagnosis and evidence-based treatment to avoid serious visual complications. Early and aggressive treatment is crucial to reduce morbidity and prevent complications that can lead to permanent vision impairment. In addition, education about eye health and the dangers of alternative treatments that have not been proven effective is very important to reduce the level of pain caused by corneal ulcers.

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