Case Report

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A rare case of Behcet's disease in Nepal: multisystem manifestations and diagnostic challenges

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Abstract

Behcet's disease (BD) is a chronic inflammatory disorder characterized by a relapsing and remitting course and multisystem involvement. The authors present a case report of a 20-year-old male who presented with bilateral knee joint pain, oral and genital ulcers, and papulopustular skin lesions. The patient's clinical history, physical examination, laboratory findings, and biopsy results were consistent with the diagnosis of BD. The patient tested positive for the HLA-B51 allele, confirming a genetic predisposition. The diagnosis was supported by a positive pathergy test and a skin biopsy showing vasculitis. The diagnostic criteria established by the international study group and the International Criteria for Behcet's Disease were fulfilled. Treatment consisted of colchicine, azathioprine, and topical corticosteroids. This case highlights the importance of recognizing the varied clinical presentations of BD and the need for a multidisciplinary approach to diagnosis and management. Early and accurate diagnosis is crucial to prevent severe complications and improve patient outcomes.

Keywords: Behcet's disease, genital ulcers, multisystem inflammatory disorder, oral aphthous ulcers

Introduction and importance

Behcet's disease (BD) is a chronic and systemic inflammatory disorder with a relapsing and remitting course of presentations in genetically predisposed individuals[1,2]. First described by Hulusi Behcet in 1937 as a 'triple symptoms complex' due to its hallmark presentation of recurrent oral aphthous ulcer, genital ulcer, and uveitis[2]. However, it is now recognized as a multisystem vasculopathy that affects various organ systems, including the musculoskeletal, cardiac, gastrointestinal, mucocutaneous, vascular, and urogenital systems[3]. The disease usually begins in the second and third decades of life[4] and is more frequent in males[1,5]. Due to its high prevalence in the Mediterranean, Middle East, and East Asia, it has been often dubbed the Silk Route Disease[4]. Here, we present a case of BD in a young male patient.

HIGHLIGHTS

- Rare case of Behcet's disease in a 20-year-old male in Nepal.
- Multisystem manifestations include bilateral knee joint pain, oral and genital ulcers, and papulopustular skin lesions.
- Positive diagnostic criteria were fulfilled: international study group and International Criteria for Behcet's Disease criteria, positive pathergy test, and skin biopsy showing vasculitis.
- Importance of a multidisciplinary approach for diagnosis and management.
- Emphasis on early and accurate diagnosis to prevent severe complications and improve patient outcomes.

Case presentation

A 20-year-old male martial arts player visited the internal medicine department with a referral from another ENT center. He was diagnosed with a herpetic ulcer of the soft palate. The patient presented with bilateral knee joint pain persisting for 15 days and reported difficulty in swallowing. Upon further evaluation, he had aphthous-like ulcers in the soft palate, along with papulopustular rashes on both the upper and lower limbs.

Upon further inquiry, the patient revealed previous ulcers that resolved on their own. He also reported experiencing intermittent pain in his ankles, knees, and elbows, which was temporarily relieved by over-the-counter anti-inflammatory medications. Subsequent history-taking revealed the presence of genital ulcers (Fig. 1), which the patient had initially been reluctant to mention.

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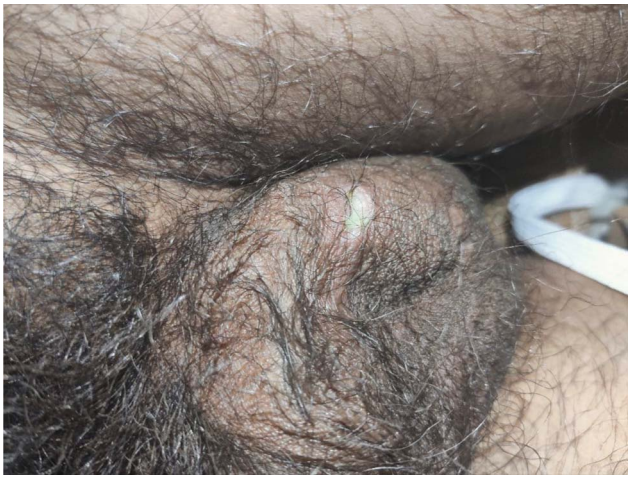

Figure 1. Presence of genital ulcers.

On examination of the genital area, a single deep ulcer on the scrotum was observed, along with a healed scar nearby. The patient had a history of recurrent eye redness but no current ocular complaints. There were no neurological, cardiopulmonary, renal, or gastrointestinal symptoms, or signs.

During a head-to-toe examination, redness and warmth were noted in both ears (Fig. 2). Additionally, ulcers were observed in the soft palate, papulopustular rashes were present on the upper and lower limbs (excluding the face, palms, and soles), and an ulcer with a scar was noted on the scrotum.

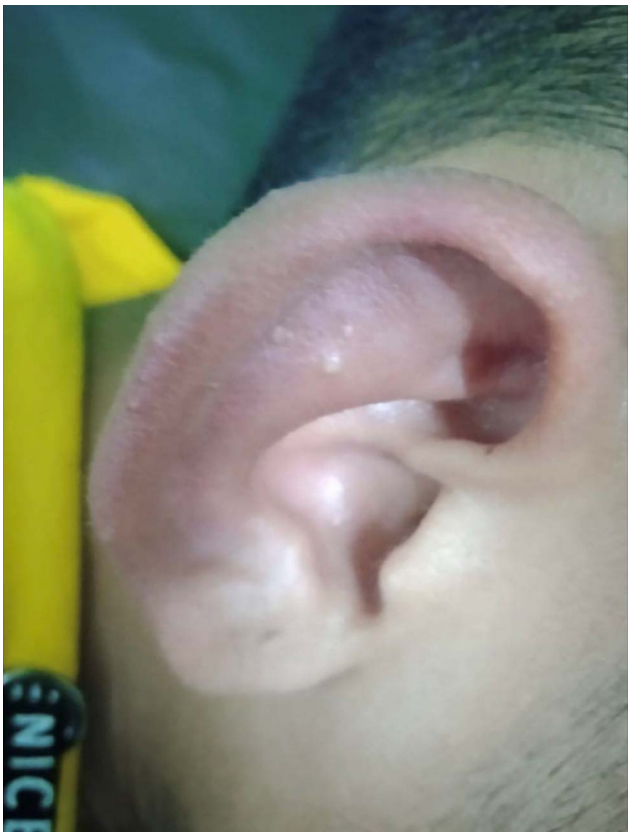

Figure 2. Redness and warmth were noted in both ears.

The patient's vital signs were stable on the first day of admission. Blood investigations revealed a total white blood cell count of 22 200 with 88% neutrophils. The C-reactive protein level was 143.68 mg/dl, and the erythrocyte sedimentation rate was 58 mm/h, indicating the presence of infection or inflammation. On the second day of admission, the patient developed a fever of 102°F. Blood and urine cultures were negative, and the procalcitonin level was 2 ng/ml. Additional investigations, including liver and renal function tests, serology, urine routine examination, chest radiograph, and abdominal ultrasound, revealed normal findings.

With a provisional diagnosis of BD, the pathergy test was performed, yielding positive results. A biopsy was taken from the right thigh, and HLA-B51 testing was ordered. The patient was initiated on antibiotics (ciprofloxacin and tazobactam-piperacillin) and steroids. Diclofenac gargle was prescribed for pain relief, along with Delta Gel (containing antiseptics) and triamcinolone paste. Remarkably, the patient experienced significant improvement in oral symptoms on the third day of starting medication became afebrile, and the oral ulcers resolved on the fifth day of admission.

The HLA-B51 test confirmed a positive finding, and the biopsy revealed dermis showing dense neutrophilic exocytosis with fibrin exudates, edema, and a perivascular inflammatory infiltrate composed predominantly of mononuclear cells, along with a significant amount of red blood cell extravasation (Fig. 3). Based on the established diagnostic criteria of BD by the international study group, our patient fulfilled several key features, including recurrent oral ulcers, recurrent genital ulcers, skin lesions, a positive pathergy test, and a positive HLA-B51 result. To manage the condition, he has been initiated on a treatment plan consisting of Colchicine (0.5 mg twice daily) and azathioprine (50 mg once daily). Upon discharge, the patient was prescribed colchicine, azathioprine, and triamcinolone oral cream. During the follow-up visit 2 weeks later, the patient reported no symptoms. A 1-month follow-up appointment was scheduled.

Clinical discussion

The etiology of BD is unknown, but it is believed to involve genetic and environmental factors. In particular, the presence of the HLA-B51 allele in the major histocompatibility locus has shown a strong correlation with its incidence among Asian and Mediterranean populations[1,6]. According to a study done by Methon *et al*.[7], carriers of the HLA-B51 split antigen have a 5.90 times higher risk of developing BD. Our patient tested positive for the HLA-B51 allele, confirming a genetic predisposition. In addition, this disease has also been associated with other factors like viral infection (e.g. Herpes simplex type 1), autoantibodies (antiendothelial antibody), and heat shock protein[1].

BD is a multisystem inflammatory condition with varied clinical presentations. Oral aphthous ulcers are often the initial sign of BD, appearing years before other symptoms[6]. These ulcers, which are the most sensitive sign and present in 86–100% of BD patients, start as painful papules and evolve into round or oval-shaped ulcers surrounded by a reddish halo and covered by a white-yellow pseudomembrane[1,3]. They commonly affect the lips, gingiva, cheeks, (buccal mucosa), and tongue and usually

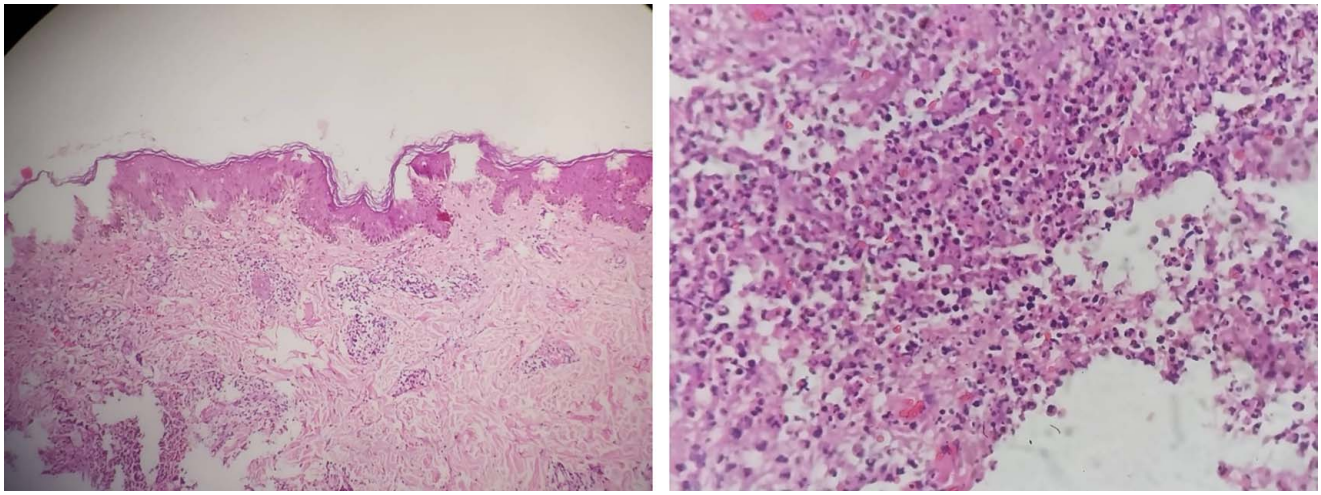

Figure 3. Histopatholgic picture of the biopsy.

heal without leaving a scar[3]. The second most common presentation is a genital ulcer, observed in 57–93% of affected individuals[1]. In our case, the patient had recurrent oral ulcers and a genital ulcer with a nearby scar on the scrotum, consistent with typical features of BD in males. Additionally, the patient also complained of a papulopustular rash on bilateral upper and lower limbs, which is the most common dermatological presentation in males[8].

BD often presents with rheumatologic conditions, affecting 40–70% of cases. The associated arthritis is typically non-destructive, recurring, and can affect joints symmetrically or asymmetrically, and the involvement can be monoarticular or oligoarticular[9]. Commonly affected joints include the knees, elbows, hands, and ankles[1,3]. Ocular manifestations occur in about 70% of BD patients[10], primarily affecting males at a young age[1]. Uveitis is the most prevalent ocular manifestation, but other conditions like iridocyclitis, keratitis, episcleritis, vitritis, conjunctivitis, scleritis, and optic neuritis can also occur[1,10]. These ocular manifestations contribute to significant morbidity, with blindness occurring ~3.36 years after the onset of eye symptoms[3,6].

In addition to the aforementioned clinical presentations, BD can manifest in various other ways, affecting cardiovascular (thrombophlebitis, DVT, aneurysms, myocardial infarction), gastrointestinal (ulcers, malabsorption), and neurological symptoms (neuro-behcet, meningoencephalitis)[1,3]. Increased mortality rates have been reported, particularly among young males and individuals with involvement of large vessels and neurological, gastrointestinal, and cardiac manifestations[11]. Therefore, a comprehensive evaluation of multiple organ systems is crucial to prevent potential morbidity and mortality.

The diagnosis of BD in this patient is further supported by a positive pathergy test. A positive pathergy test is indicated by the development of an erythematous papule of size greater than or equal to 2 mm or a pustule after 24–48 h of trauma as a result of exacerbated innate immunity[9,12]. At present, there is no single definitive test available that can conclusively diagnose BD. Instead, the diagnosis is primarily based on the evaluation of clinical symptoms. Diagnostic criteria established by the ISG in 1990, require the presence of recurrent oral ulcers and at least two additional symptoms from recurrent genital ulcers, skin lesions, a positive pathergy test, or ocular manifestations[13]. In 2014, 27 countries set the international criteria for BD (ICBD). It uses a scoring system with ocular lesions, genital aphthous, and oral aphthous worth two points each, while neurological, vascular manifestation, and positive pathergy tests are worth one point each. A BD diagnosis requires a total score of 4 or more[14]. The ICBD criteria are more sensitive than the ISG criteria[15]. Our patient presented with recurrent oral ulcers, scrotal ulcers, papulopustular skin lesions, and a positive pathergy test, meeting the diagnostic criteria for Behçet's disease as per both the ISG and ICBD criteria.

The treatment of BD varies according to the severity, duration, frequency, sex, and different organs and systems involved[11]. A multidisciplinary approach is essential to develop tailored treatment plans[16]. Topical corticosteroids can be used for oral and genital ulcers[16]. While colchicine is a first-line systemic treatment for mucocutaneous lesions, preventing the recurrence of erythema nodosum and genital ulcers[11,16]. The addition of topical antiseptics or antibiotics may prevent bacterial contamination[17]. Inadequate control may require drugs like azathioprine, interferon alfa, TNF alfa inhibitors, apremilast, or dapsone[11,16,18]. Additionally, maintaining oral hygiene and avoiding irritant foods are important for managing oral ulcers[17].

The first-line treatment for joint involvement in BD can be managed using either colchicine alone or in combination with NSAIDs. Intra-articular glucocorticoids can be used in cases of monoarticular arthritis. If symptoms are not adequately controlled, alternative options like azathioprine, interferon alpha, TNF alpha inhibitors, and methotrexate can be considered[11,16,17]. Treatment approaches vary based on individual and clinical presentation, and regular follow-up is important to monitor and optimize the management plan.

Conclusion

In this case report, we emphasize the significance of conducting thorough evaluations for patients who present with recurrent oral and genital ulcers, as well as other multisystem manifestations

that may indicate rare disorders like BD. The underreporting of BD may be attributed to the failure to identify the telltale signs of the disease, leading to a potential increase in morbidity and mortality, particularly among young individuals. Therefore, an early and accurate diagnosis, along with a coordinated multidisciplinary approach, is crucial in preventing the development of severe and fatal complications. Furthermore, there is a need for extensive research to determine the prevalence of BD in Nepal and enhance our understanding of the disease in this population.

Ethical approval

Ethical approval exempted by our institution. Name of the institution is Bir Hospital.

Consent

Written informed consent was obtained from the patient for publication and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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No funding was generated for this case study.

Author contribution

S.M.: design of study, data collection, evidence collection, manuscript writing and revision; E.A.: design of study, data collection, evidence collection, manuscript writing and revision, corresponding author; S.L.: involved in patient management, data collection, design of study, manuscript writing, and revision; K.N.C.: involved in patient management, design of study, data collection, manuscript writing, and revision; R.G.: design of study, data collection, and manuscript revision.

Conflicts of interest disclosure

The authors would like to declare that they have no competing interests.

Research registration unique identifying number (UIN)

Name of the registry: not applicable.
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Guarantor

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Availability of data and materials

All the data generated or analyzed during this study are included in the manuscript.

Provenance and peer review

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