ANATOL J FAMILY MED
The Anatolian Journal of Family Medicine

Case Report

DOI: 10.5505/anatoljfm.2022.72687
Anatol J Family Med 2022;5(3):187–190

Kaposi's Sarcoma with Type 2 Diabetes: A Case Report

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ABSTRACT

This is a case report of Kaposi's sarcoma (KS) in an HIV-negative patient with type 2 diabetes. An 84-year-old female patient presented to the hospital with lesions and yellow-brown-black colored painless papules on both feet and ankles and on the medial of the left leg that tended to connect with each other. The histopathology was confirmed as KS. The patient is screened for diseases that could suppress the immune system. The patient with HIV-negative KS has no known disease affecting the immune system other than type 2 diabetes and obesity. This raises the question of whether diabetes and obesity can be included in the group of immunosuppressive diseases.

Keywords: Diabetes mellitus, immune system, kaposi sarcoma

Please cite this article as:
Doğan B, Beyaz B, Işık D, Tamer A. Kaposi's Sarcoma with Type 2 Diabetes: A Case Report. Anatol J Family Med 2022;5(3):187–190.

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Received Date: 11.10.2022
Revision Date: 06.12.2022
Accepted Date: 12.12.2022
Published online: 30.12.2022

INTRODUCTION

Kaposi's sarcoma (KS) is also known as multiple idiopathic hemorrhagic sarcoma and multiple pigmented hemorrhagic sarcoma.[1,2] It is a rare, malignant vascular tumor characterized by blue-red skin nodules, often in the heel and foot, especially in the lower extremities. Its progression is slow towards the proximal. Visceral involvement may occur. The virulent and prevalent form is more common in patients undergoing transplantation and immunocompromised patients such as those with AIDS.[3-5] In diabetes, increased blood glucose levels cause increased insulin secretion from β-cells of the pancreas. Even though the levels of insulin increase, it is not effective. Diabetes also occurs if there is a β-cell deficiency or the amount of insulin is insufficient to meet the demand. In type 2 diabetes, overweight and obesity occur due to increased insulin resistance. In particular, excess fat accumulation in the abdomen is associated with low-grade systemic inflammation. This low-grade inflammation is characterized by higher levels of circulating pro-inflammatory cytokines and fatty acids. Adipocyte hypertrophy, hypoxia and stress in obesity and diabetes activate chemokines and macrophages through pro-inflammatory cytokines. This triggers the immune system through pro-inflammatory and anti-inflammatory mechanisms.[6,7] This case with a diagnosis of KS brought to mind the question of whether diabetes and obesity can be evaluated as immunosuppressive diseases.

CASE REPORT

The patient is 84 years old female, height 158 cm, weight 72.3 kg, and body mass index of 28.96 kg/m^2. The patient had type 2 diabetes for 22 years. The patient has had lesions on the right and left foot and leg since 2014. Her examination revealed 3–4 nodular lesions with a diameter of 4–5 cm on the dorsum and medial of the right ankle that tends to connect (Fig. 1). One 5 mm lesion on the lateral of the right foot, 3–4 cm nodular lesions surrounding

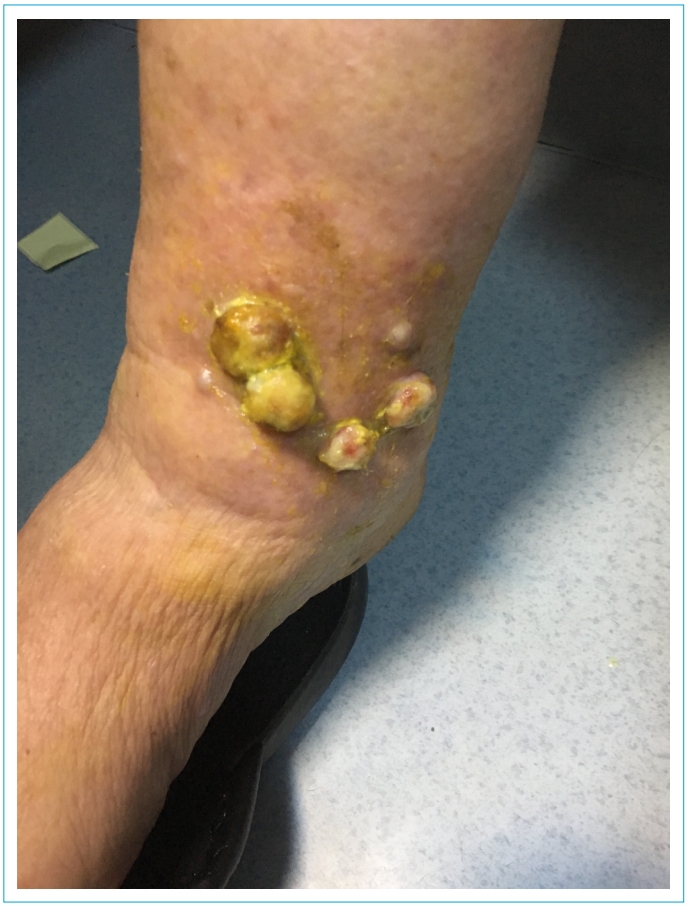

Figure 1. Lesions on the right ankle.

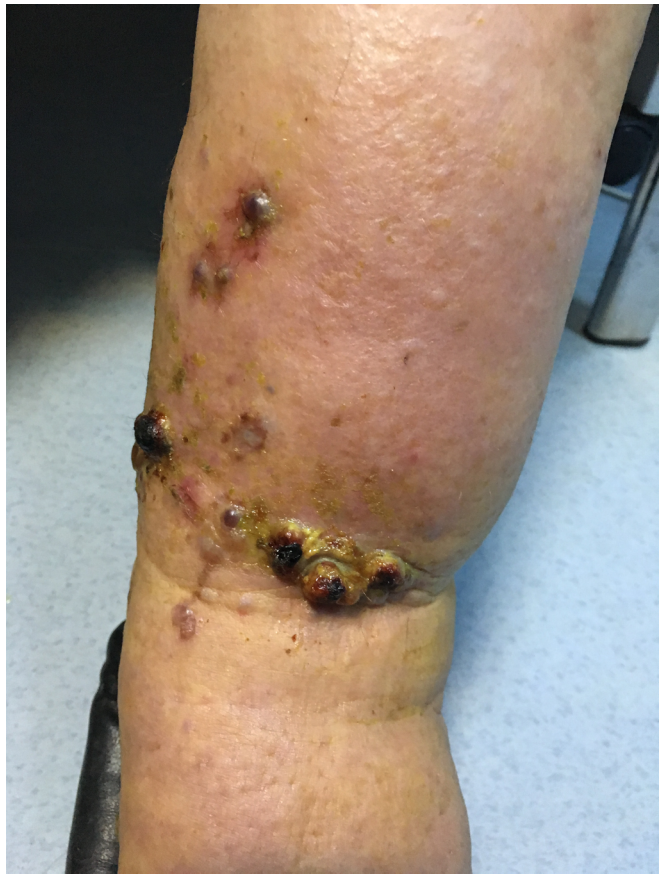

Figure 2. Lesions on the medial of the left ankle.

the left ankle and one lesion of 5 mm on the medial of the left leg (Figs. 2 and 3). In October 2015, cryotherapy was performed on the lesion diagnosed with crusted actinic keratosis of 4–5 mm on the left cheek. The patient stated that she had this kind of lesion on her left foot a year ago, but it resolved spontaneously, and she had these lesions on both ankles for the last 6–7 months. In September 2016, the biopsy from both ankles showed that it was KS, and the lesions were treated with cryotherapy. The patient did not benefit from cryotherapy and presented to the diabetes outpatient clinic of Sakarya Training and Research Hospital to regulate blood sugar before radiotherapy. At admission, her fasting blood glucose level was 280 mg/dl, HbA1c was 8.9%, and the patient was using 38 units of insulin aspart/protamin daily. The patient had no allergies, did not smoke, used no alcohol, and had a hip replacement 4 times and a knee operation after trauma. The patient was hospitalized in 2003 due to tuberculosis, although she has no active tuberculosis. The patient had mild mitral and tricuspid regurgitation. Anti-HCV, anti-HBs, HBsAg, and anti-HIV tests with ELISA of the patient were negative. Thorax and abdominal tomography revealed nodules with the largest diameter of 8.7 mm due to tuberculosis sequelae in the right hemithorax and an ascending aortic aneurysm of 38.8 mm in diameter. Endoscopy showed antral gastritis, and colonoscopy showed mild colitis in the ascending colon. The patient stated that her siblings had diabetes and heart failure and that her father had skin cancer, but the patient did not know the type of it.

DISCUSSION

It has been reported that KS can be detected in patients with immunosuppressive diseases or patients taking immunosuppressive therapy, and KS can regress or completely resolves after discontinuation of immunosuppressive therapy or systemic chemotherapeutic drugs.[7] The case is essential because the patient was neither receiving any treatment nor had any diseases suppressing the immune system except diabetes. KS is a multifocal neoplasm. It usually presents findings on the skin and in the oral cavity, which can also affect organs or lymph nodes.[4] The case had a 4–5 mm crusty lesion on the left cheek, and the patient also had brown-yellow-black colored painless papules on both legs and left foot.

KS is the most common neoplasm in people with AIDS.[8]

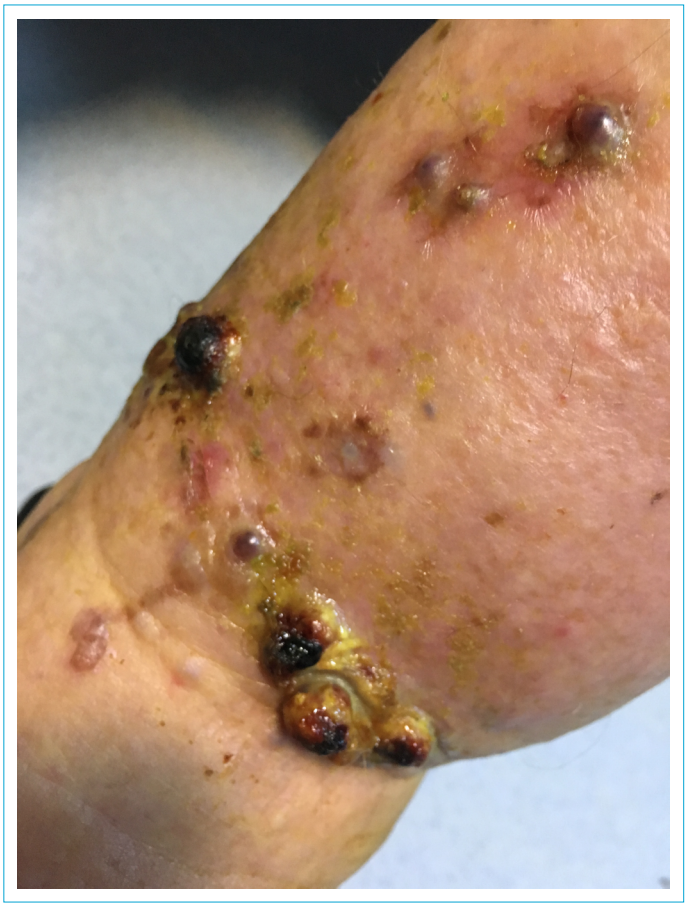

Figure 3. Lesions on the lateral of the right ankle.

Endemic is also most common in Africa. It is known that iron exposure is in the etiology of classical and endemic KS. Iron exposure is seen mostly in people living in areas with volcanic soil structures.[9,10] In this case, the habitat is Adapazarı plain, which has an alluvial soil structure. It can also be seen as a complication in patients who have undergone organ transplantation. It is frequently associated with the Epstein-Barr virus, herpesvirus saimiri, and human papillomavirus infections, which can cause lymphoid malignancies. Organ transplantation history and lymphoid malignancy were not detected in this case. The association of human herpes virus (herpes simplex virüs, Epstein-Barr virus, varicella-zoster virus, and cytomegalovirus).[8,11] Human herpes virus (HHV) 6 and HHV 7 infections with KS have been reported. HHV 8, one of the human rhadinovirus (gamma-2 herpesvirus), has been associated with KS.[11] Viral disease symptoms and signs were not observed in this case. Although the viral marker parameters that could be measured for KS were negative, tests such as HHV-8 and gamma-2 herpesvirus could not be evaluated. In this case, without viral disease symptoms, the inability to measure extensive viral parameters creates a limitation.

Obesity and diabetes adversely affect the pro-inflammatory and anti-inflammatory processes, resulting in the suppression of the immune system.[12] Even though the case was HIV-negative, did not have any immunosuppressive diseases and did not receive any treatment that could suppress the immune system, the patient had KS.

CONCLUSION

In this case, researchers thought that the immune system of this patient was negatively affected due to obesity and uncontrolled type 2 diabetes which the patient had for 22 years. The authors believed that diabetes and obesity could affect immunity as much as immunosuppressive diseases or treatments. As things stand, this raised the question if diabetes and obesity can be included in the immunosuppressive diseases group.

Disclosures

Informed Consent: An informed consent form was obtained from the patient.

Conflict of Interest: None.

Peer-review: Externally peer-reviewed.

Financial Disclosure: No financial support has been received.

Authorship contributions: Concept – B.D.; Design B.D.; Supervision – A.T.; Materials – B.D., B.B., D.I.; Data collection and/or processing – B.D., B.B., D.I.; Analysis and/or interpretation – B.D.; Literature search – B.D.; Writing – B.D.; Critical Review – A.T.

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