

A very rare localization of kikuchi-fujimoto disease: parotid gland

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ABSTRACT

Kikuchi-Fujimoto disease or histiocytic necrotizing lymphadenitis is a rare benign disorder characterized by necrotizing lymphadenitis, which was independently defined by Kikuchi and Fujimoto in 1972. This disease of unknown etiology is most common in young women aged 20–30 years. In Kikuchi-Fujimoto disease, lymph node involvement most commonly occurs in the cervical region. In this study, we present a 29-year-old female patient who presented to our clinic with swelling of the right parotid gland, underwent right superficial parotidectomy after she was thought to have parotid gland tumor, and was diagnosed with Kikuchi-Fujimoto disease in a histopathologic examination. This case is important because of the very rare localization of Kikuchi-Fujimoto disease in the parotid gland, and to date, less than 10 cases have been reported in the literature.

Keywords: Histiocytic necrotizing lymphadenitis, kikuchi fujimoto disease, lymphadenitis, parotid gland mass

Introduction

Kikuchi-Fujimoto disease (KFD) is a rare, self-limiting, benign disease that usually occurs in the young population under the age of 30 years (1). It is also referred to as “necrotizing lymphadenitis,” “Kikuchi disease,” and “histiocytic necrotizing lymphadenitis” in the literature (2). It was first described in 1972 by 2 independent Japanese researcher groups, Kikuchi et al. (2) and Fujimoto et al. (3). Its incidence is unknown and has been reported more frequently, especially in Asian countries (1, 2, 4). This disease is most common in young people aged 20–30 years. It is more frequently seen in women than men (1–5). Neck swelling, fever, pain, weakness, and skin lesions are the most common complaints at presentation (1, 2, 5). This disease does not have typical clinical, laboratory, and radiological findings, and final diagnosis is made by histopathologic examination. Most of the cases recover without treatment in 1–6 months (1–3). In this study, a very rare intraparotid localization of KFD, which is confused with parotid tumor, was presented and the literature was reviewed.

Case Presentation

A 29-year-old female patient presented to our clinic with complaints of swelling and pain at the right side of her neck,

which she had for approximately 5 months. She stated that she had received antibiotic treatment at another hospital with this complaint, but her complaints had not resolved. It was understood that she underwent fine needle aspiration biopsy (FNAB) of the mass at the right of her neck at another hospital, but it was not possible to make a final diagnosis on her. The patient had no known disease in her history, and her ear-nose-throat examination revealed a regularly bordered, immobile hard mass of approximately 2 cm in diameter by palpation in the right parotid region. Upon her clinical preliminary diagnosis of parotid tumor, she was asked to produce a computed tomography (CT) image of her neck. Her neck CT image revealed a massive formation measuring 18×15 mm in the largest diameter, the borders of which cannot be clearly differentiated from the parotid gland, in the right parotid superficial lobe (Figures 1 and 2).

She underwent right superficial parotidectomy with a preliminary diagnosis of benign parotid tumor. Informed consent was obtained from the patient before the operation and clinical study. The results of her histopathologic examination were reported as “findings in agreement with KFD” (Figures 3 and 4). Her complaints regressed in the early postoperative period, and no recurrence was observed during her follow-up exam-

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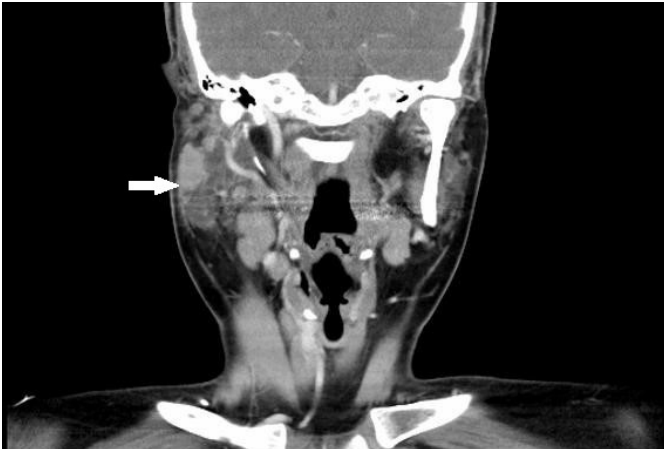


Figure 1. Computed tomography of the neck, coronal section (arrow: mass).

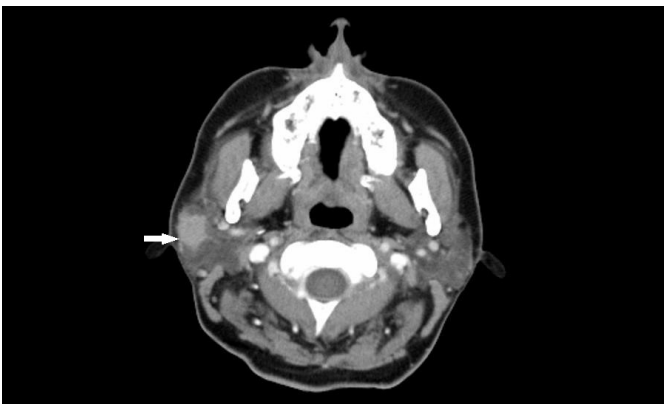


Figure 2. Computed tomography of the neck, axial section (arrow: mass).

ination at postoperative month 6. The patient, who was investigated for systemic lupus erythematosus (SLE) and found to have no SLE disease, began to be followed up for this disease.

Discussion

Although KFD has no pathognomonic clinical signs and symptoms, the most common complaint at presentation is painful or painless palpable swelling in the neck. Other complaints at presentation include fever, weakness, skin rash, loss of appetite, night sweats, weight loss, joint pain, muscle pain, chills, tremors, diarrhea, headache, nausea, vomiting, and cough (1, 2, 5). During physical examination, lymphadenopathy is the most

Main Points:

- Kikuchi-Fujimoto disease (KFD) is a rare benign disorder characterized by necrotizing lymphadenitis.
- Kikuchi-Fujimoto disease (KFD) does not have typical clinical, laboratory and radiological findings. Final diagnosis is made by histopathologic examination.
- Although this disease is seen most commonly in the cervical region, it should also be considered in parotid gland masses.
- KFD and systemic lupus erythematosus (SLE) may rarely co-exist. Therefore, patients diagnosed as having KFD should be followed up for SLE.

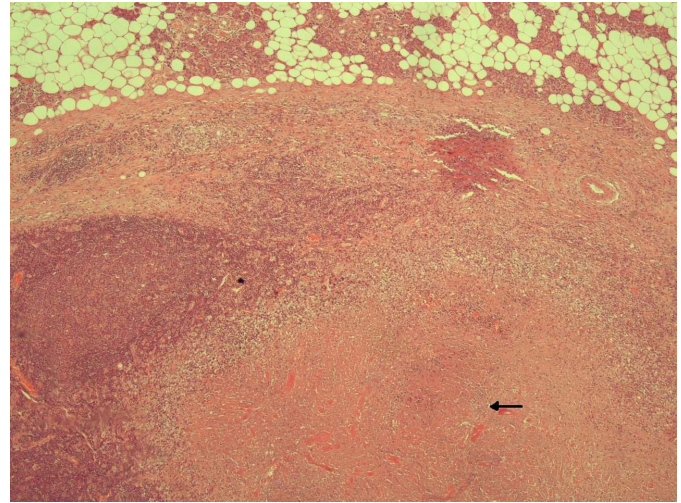


Figure 3. An irregularly shaped necrosis focus (arrow) is observed in the lymph node. Acinar structures of the salivary gland are seen on the top (hematoxylin and eosin, $\times 40$).

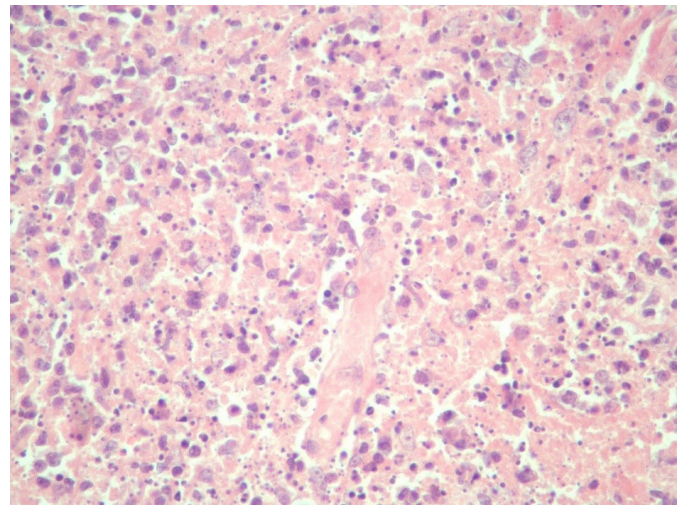


Figure 4. Nuclear fragments are observed in the necrosis focus, and there are no neutrophils and eosinophils (hematoxylin and eosin, $\times 400$).

common finding, and it may be accompanied by fever, rash, hepatomegaly, splenomegaly, and dry eye (1, 2). Our case only had a painful swelling in her neck.

Although lymph node involvement in KFD is mostly localized in 1 region, involvement of more than 1 region is also seen in some cases. Lymphadenopathy is most commonly seen in the cervical region but can also be seen in axillary, supraclavicular, submandibular, intraabdominal (hepatosplenic), mediastinal, suboccipital, inguinal, intraparotid, paraaortic, and internal iliac regions. Lymphadenopathies are most commonly located in the posterior triangle in the cervical region (2, 5). Lin et al. (6) detected 100% of lymphadenopathies in the cervical region in the posterior triangle in children with KFD. In our present case, lymphadenopathy was localized in the intraparotid region, which was rarely reported in the literature. Although the diameter of lymphadenopathies in KFD is generally less than 30 mm, cases with diameters of 5 to 70 mm have also been reported (1, 2, 4, 7). The diameter of our case was less than 30 mm, which was in agreement with the literature.

The exact cause of KFD is unknown; however, various infectious causes, autoimmunity, and genetic predisposing factors are emphasized in its etiology (2). Suggested infectious causes include several microorganisms such as Epstein-Barr virus, cytomegalovirus, varicella zoster virus, human herpesvirus 6, HIV, *Yersinia enterocolitica*, and toxoplasma (8). In our case, infectious markers for etiology were studied and found to be negative.

KFD is a rare disease and does not have typical clinical, laboratory, and radiological findings, which makes it difficult to diagnose this disease. The definitive diagnosis is based on histopathological examination of the excisional or incisional biopsy of lymphadenopathy. Histologically, it has 3 subtypes: being necrotic (53.2% to 76.5%), xanthogranulomatous (17.7% to 19.1%), and proliferative (4.4% to 29.1%) subtypes (5, 7). Microscopic examination characteristically contains necrosis in the paracortical area. Numerous karyorrhexis and mononuclear cell reactions occur around the necrosis focus. Lymphoid tissue destruction, patchy fibrinoid necrosis foci, signet ring, and crescent-shaped histiocytes with foamy cytoplasm around the necrotic tissue, karyorrhexis, and apoptosis residues of some cells (lymphocytes, histiocytes, immunoblast, and plasma cells) are observed. Absence of neutrophilic or eosinophilic reaction despite necrosis is important in the differential diagnosis (5, 8).

In the differential diagnosis of KFD, SLE, lymphoma, metastatic carcinoma, infectious mononucleosis, toxoplasmosis, tularemia, yersiniosis, lymphogranuloma venereum, tuberculosis, AIDS, cat scratch fever, angioimmunoblastic lymphadenopathy, Kawasaki disease, and Still's disease should be considered (2, 3, 9). Necrotizing lymphadenitis may also be seen in the histological examination in SLE, tuberculosis, and lymphoma, so these diseases should particularly be considered in differential diagnosis. Histologically, it is very important to make a differential diagnosis from these diseases to prevent unnecessary and inappropriate treatments. KFD and SLE may rarely coexist (8). Kucukardali et al. (1) found SLE to be associated with KFD in 32 cases (13%) in a series of 244 cases. SLE was diagnosed concurrently with the diagnosis of KFD in 18 cases (56%), during follow-ups after the diagnosis of KFD in 6 cases (19%) and before the diagnosis of KFD in 4 cases (12%). Notably, 4 cases (12%) were accepted as incomplete SLE. Therefore, patients diagnosed as having KFD should be followed up for SLE. Our case was investigated for SLE, which was not detected. The patient underwent long-term follow-up for SLE.

Although there is no diagnostic laboratory finding of KFD, lymphocytosis, leukopenia, leukocytosis, neutropenia, thrombocytopenia, pancytopenia, chronic disease anemia, elevated erythrocyte sedimentation rate, elevated C-reactive protein level, elevated antinuclear antibody level, and elevated serum lactate dehydrogenase level may also be detected in patients (1, 2, 4, 5). Our case had no abnormal laboratory findings except leukocytosis.

Radiological imaging methods in KFD do not provide sufficient information for diagnosis. The appearance of KFD on CT image is similar to that of lymphoma, tuberculosis, and lymph node metastasis (2). Our case's preoperative neck CT image revealed

a massive formation, the borders of which cannot be clearly differentiated from the right parotid gland, and a definitive diagnosis could not be made. Central necrosis in lymph nodes has less signaling features in T1-weighted sequence than T2-weighted sequence in magnetic resonance imaging (MRI) (2). Therefore, we think that neck MRI is more useful owing to necrosis in lymph nodes in patients with KFD.

Tong et al. (10) reported a sensitivity of 56.25%, a false positivity rate of 37.5%, and a false negativity rate of 50% for FNAB in diagnosis. Ramirez et al. (11) reported a false diagnosis rate of 40% for FNAB and stated that it was mostly confused with non-Hodgkin's lymphoma. In our case, the definitive diagnosis could not be made by FNAB performed in another hospital.

There is no specific treatment for KFD; most cases resolve spontaneously within 1–6 months. The reported spontaneous recovery rates were 64% in Kucukardali et al.'s (1) series of 244 cases and 61.5% in Dumas et al.'s (5) series of 91 cases. Non-steroidal antiinflammatory drugs, corticosteroids, minocycline, intravenous immunoglobulin, paracetamol, methotrexate, cyclosporine, and cyclophosphamide have been used alone or in combination to treat the disease (1, 2, 5). Recurrence is rare and reported to be 3% to 14.6% in the literature (2, 12). Although the prognosis is good, deaths have been reported (2). Kucukardali et al. (1) reported a mortality rate of 2.1% in their series of 244 cases. The complaints of our case completely regressed postoperatively, and no recurrence was observed during her follow-ups.

In conclusion, KFD is a rare disease and does not have typical clinical, laboratory, and radiological findings, which makes it difficult to diagnose this disease. KFD should be considered in the differential diagnosis of young patients presenting with lymphadenopathy and parotid mass in the neck, and these patients should be followed up for a long time for SLE.

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

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