

Rosai-Dorfman Disease Presenting as Bilateral Tonsillary Hypertrophy: Case Report

Bilateral Tonsiller Hipertrofi ile Gelen Rosai-Dorfman Hastalığı

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ABSTRACT Rosai-Dorfman Disease, also known as Sinus Histiocytosis with Massive Lymphadenopathy is a rare, benign granulomatous disease. It is most commonly found in young adults. 62% of the disease is seen under the age of 10 and 82% of the disease is detected before the age of twenty years old. Here we reported a 66-year-old male patient, presented with bilaterally extremely enlarged palatine tonsils. To exclude any possible malignancy, bilateral tonsillectomy was performed for histopathological examination and the material was reported as Rosai-Dorfman Disease. Although Rosai-Dorfman Disease is most commonly found in young adults with the classical sign and symptoms, it may rarely be seen in the elderly population, even in atypical forms. This case is a very rare presentation of RDD, the one of the rare reports to the best of our knowledge.

Key Words: Histiocytosis, sinus; tonsillar neoplasms; lymphatic diseases

ÖZET Masif lenfadenopatili sinus histiositozisi olarak da bilinen Rosai-Dorfman Hastalığı, nadir görülen, benign ve granülatöz bir hastalıktır. En sık genç erişkinlerde görülür. Hastaların %62'si 10 yaşın ve %82'si de 20 yaşın altında görülür. Biz burada iki taraflı ileri derecede büyümüş palatin tonsiller ile başvuran 66 yaşındaki erkek hastayı sunduk. Olası bir maligniteyi dışlamak için, bilateral tonsillektomi yapıldı ve histopatolojik inceleme sonucu Rosai-Dorfman Hastalığı olarak rapor edildi. Rosai-Dorfman Hastalığının en sık genç yetişkinlerde klasik belirti ve bulgular ile görülmesine rağmen, nadiren yaşlılarda hatta atipik formlarda bile görülebilir. Bu vaka RDD'nin çok nadir bir örneğidir ve literatürde çok az sayıda olgu bildirilmiştir.

Anahtar Kelimeler: Histiyoitozis, sinüs; tonsil tümörleri; lenfatik hastalıklar

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Rosai-Dorfman Disease (RDD), first introduced by Rosai and Dorfman in 1969, also known as Sinus Histiocytosis with Massive Lymphadenopathy due to its characteristic findings such as histiocytosis, plasma cell proliferation and lymphophagocytosis in histopathologic examination, is a rare benign granulomatous disease.^{1,2} The absence of lymphadenopathy renders the term Sinus Histiocytosis with Massive Lymphadenopathy inappropriate, and therefore, the eponym Rosai-Dorfman Disease is preferable.²

Despite the suggestion of an infectious agent or an altered immune response in the pathogenesis, the cause and pathogenesis of the disease remain unclear.^{1,2} Its course is usually characterized by insidious onset,

protracted duration of active disease state and eventual spontaneous remission, but recurrences are also reported occasionally.³

It is most common in young adults with a rate of 62% for patients under ten years of age, and 82% for patients under twenty.

This article reports a 66-year-old male patient with extranodal RDD presenting as bilateral tonsillary hypertrophy without cervical involvement. This case is a very rare presentation of RDD. Previously, RDD with unilateral tonsillar enlargement and subtle cervical lymphadenopathy was reported in 1994, as the first case of RDD with tonsillary involvement, which is among few reports to the best of our knowledge.⁴⁻⁶

CASE REPORT

A 66-year-old male patient presented to the otolaryngology outpatient clinic with a history of progressive choking sensation, difficulty in speaking and swallowing. Physical examination revealed bilateral extremely enlarged palatine tonsils. There was no palpable neck mass. Ultrasonography of the neck revealed a few lymphadenopathies, 5-8 mm bilaterally, reactive in nature. No systemic disease was reported by the patient. The routine biochemical and hematological laboratory findings were within normal limits. To exclude malignancy, bilateral tonsillectomy was performed for histopathological examination, which revealed RDD (Figures 1, 2) and the patient was referred to the hematology department for further evaluation. But, we have been informed later that the patient did not apply to the hematology department.

About 1 year later, the patient presented with the sudden appearance of painless, multiple, bilateral cervical lymphadenopathies. Cervical magnetic resonance imaging (MRI) revealed bilateral massive lymphadenopathy with a diameter of 3 cm maximum. Thorax computed tomography (CT) scan revealed a 3 cm mass in the right-upper lobe. Abdominal MRI was normal. Nasopharynx MRI showed a prominence of the nasopharyngeal lymphoid tissue, neither infiltrative nor a discrete mass. During panendoscopy, enlarged lingual ton-

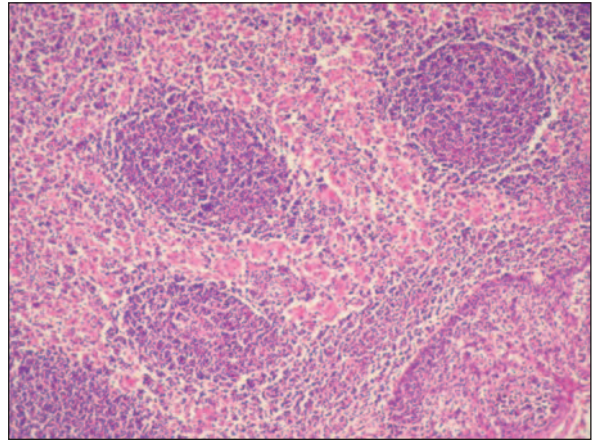


FIGURE 1: Massive histiocytic proliferation in interfollicular area (H&E x100) (tonsillectomy material).

(See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)

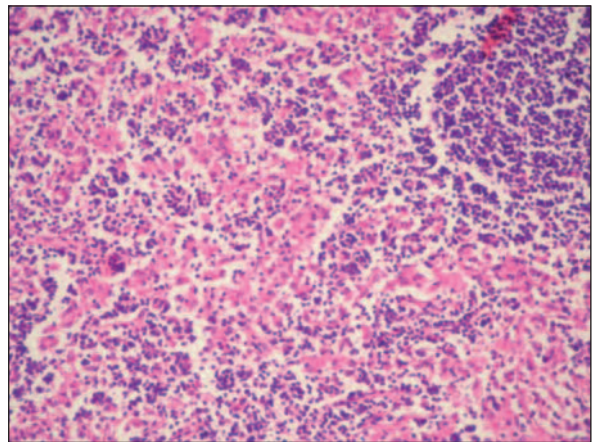


FIGURE 2: Enlarged view of the histiocytes in the tonsillectomy material (H&E x200).

(See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)

sils were also noticed. Complete blood count, electrolyte levels, and renal and liver function test results were within normal limits. Histopathologic examination of the cervical lymphoid chain biopsy specimen revealed RDD (Figure 3). The patient was non-smoker, with no alcohol intake habit, and had no recent history of foreign travel. Other common symptoms of RDD such as fever, malaise, and weight loss were not present in our patient.

DISCUSSION

More than 900 cases of RDD have been described in the English literature, generally children or

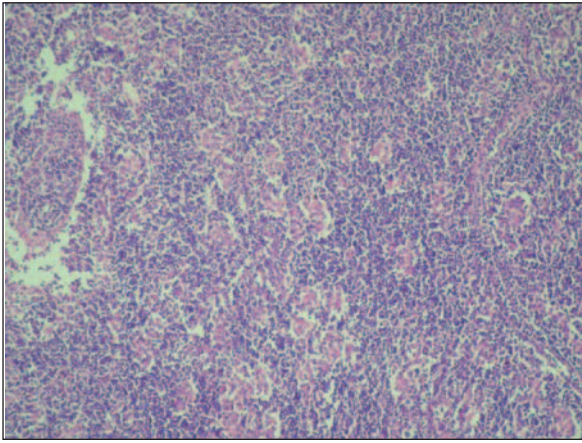


FIGURE 3: Histiocytes in the lymph node sinuses and other areas (H&E x40). (See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)

young adults with tumoral cervical adenopathy, fever, hypergammaglobulinemia, increased erythrocyte sedimentation rate (ESR), and leukocytosis with neutrophilia.^{4,7,8} Other lymphatic groups, such as mediastinal, axillary, and inguinal lymph nodes, can also be affected.^{4,9} In the absence of lymphadenopathy, diagnosing RDD is difficult because of the lack of the most typical manifestation of the disease.⁴ In addition, the radiologic appearance of nodal or extranodal RDD on CT and MRI mimics other more common entities such as lymphoma.¹ Extranodal involvement is most common in the bone, testes, orbit, eyelid, upper respiratory tract, and occasional in the salivary glands, skin, lung, surrenal glands, kidney, peritoneum, thyroid, and small bowel.² Soft tissue of the head and neck is among the most common sites of extranodal disease and occurs in 20 to 30% of cases.²

Although the cause of RDD is still unclear, two theories have been suggested. One associates the disease with a specific infectious process and the other attributes it to a disturbance of the immune system. Approximately 43% of patients with typical nodal RDD also have extranodal involvement; this is probably more common in patients with immune dysfunction.^{1,7} The course of the disease is generally benign, with spontaneous remission, but rare cases of death have been reported.⁷

The differential diagnosis of RDD should involve nonspecific sinus hyperplasia, Langerhans cell histiocytosis, leprosy, metastatic malignant

melanoma, metastatic carcinoma, and Hodgkin's and non-Hodgkin's lymphoma. When extranodal lesions involve the head and neck area, the differential diagnosis includes rhinoscleroma, fibromatosis, benign fibrous histiocytoma, malignant fibrous histiocytoma and Wegener's granulomatosis.¹⁰

The characteristic histopathological feature of RDD is the tendency for the infiltrates to recapitulate lymph node architecture with dilated "sinuses" (lymphatic) and reactive germinal centers. The sinusoids are distended by pale staining histiocytes intermixed with variable numbers of plasma cells. Current evidence suggests that these characteristic foamy histiocytes are functionally activated histiocytes derived from monocytes containing one or more viable lymphocytes in the cytoplasm. The lymphocytes are thought to have penetrated the cytoplasm in a process known as emperipolesis. Because lymphocyte emperipolesis is suggested to be associated with antigen presentation, RDD may present a derangement of the method by which histiocytes contact lymphocytes for antigen delivery.³

Rosai-Dorfman disease should be considered when evaluating neck masses with or without extranodal involvement and treatment should be planned according to the site of involvement and the severity of symptoms.¹¹

Being a rare condition, there is no ideal protocol for treating RDD; the disease is usually self-limiting and seldomly life threatening, rendering therapy unnecessary in most cases. Drug therapy for RDD includes corticosteroids, cytotoxic agents or a combination of both. However the most effective regimens would be a combination of corticosteroid (prednisolone) and vinca alkaloid (vincristine and vinblastin) with an alkylating agent (cyclophosphamide) achieving a complete and partial response rate of 44% according to Komp's series.³ For those who require therapy because of persistent or worsening symptoms, the treatment modalities include surgery, chemotherapy, and radiotherapy.³

The course of Rosai-Dorfman disease is unpredictable and episodes of remission and exacerbations may occur over many years. Approximately

70% of patients will live with a stable but persistent disease, while 20% will experience a spontaneous permanent remission and 10% will suffer from a progressive or generalized disease.¹²

CONCLUSION

RDD is a chronic disease with no known etiologic factors and an unpredictable clinical course. The

initial presentation may mimic infection with fever, leukocytosis, and cervical adenopathy. However, the adenopathy will persist and may progress quite dramatically in a matter of weeks. Many patients will manifest otolaryngologic signs and symptoms, and the head and neck surgeon may ultimately be called on to establish tissue diagnosis.¹³

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