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LETTER TO THE EDITOR

Do we need to differentiate "true" inflammatory pseudotumor from IgG4-related disease?

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Inflammatory pseudotumor is the pathologically non-neoplastic, chronic fibro-inflammatory granulomas with hyperplasia of fibroblasts and infiltration of immune cells such as lymphocytes, plasma cells, neutrophils and histiocytes [1]. Clinically, this disease presents with a progressive and destructive mass lesion. The common affected sites of inflammatory pseudotumor include the lungs, retroperitoneum, mediastinum, pelvis, liver, head and neck region. It is difficult to distinguish inflammatory pseudotumor from malignant diseases based on only blood and radiological findings. Thus, this disease is usually diagnosed with the pathological tissue examination. However, since the pathological findings for inflammatory pseudotumor are nonspecific, clinicians often face difficulties in diagnosing and need to exclude the differential diagnosis before making the final diagnosis as "true" inflammatory pseudotumor.

IgG4-related disease is a recently recognized disease entity which shows chronic fibroinflammatory features in the affected tissues which is similar to inflammatory pseudotumor [2]. In addition, IgG4-related disease can present with the tumor-like lesion, which resembles inflammatory pseudotumor. This disease is characterized by serum IgG4 elevation and massive infiltration of IgG4-positive plasma cells. Since the first reports that described serum IgG4 elevation and IgG4-positive cell infiltration in autoimmune pancreatitis and Mikulicz disease, IgG4-related disease is now recognized to affect almost every single organ [2]. As well, the existence of lgG4-related inflammatory pseudotumor was reported in the liver, biliary tract, and lungs.

Although the differential diagnosis of inflammatory pseudotumor in head and neck lesion includes many kinds of diseases such as inflammatory myofibroblastic tumor, mass formation in the repair process of infection and inflammation, inflammatory pseudotumor due to active infection (fungal infection, etc), Epstein–Barr virus-associated inflammatory pseudotumor-like follicular dendritic cell tumor, malignancies and lymphoma, the clinical significance of IgG4-related disease in inflammatory pseudotumor of head and neck lesions remains unclear due to its rarity. In the recent paper published in European Archives of Oto-Rhino-Laryngology [3], Ryu et al. demonstrated that all IgG4-positive inflammatory pseudotumor (defined as IgG4/IgG ratio > 0.4 in the tissue) showed good or partial response to steroid therapy, while 25% of IgG4-negative inflammatory pseudotumor showed poor response. Despite the retrospective study with the small number of cases, this study suggests the preferable response to steroid in IgG4-positive inflammatory pseudotumor than IgG4-negative inflammatory pseudotumor.

Although Ryu et al. did not show the histopathological information except for IgG4/IgG-positive cell quantitation, we need to be cautious that IgG4-positive cell infiltration can be observed non-specifically in various inflammatory conditions [4]. Thus, we need to evaluate the suspected IgG4-related inflammatory pseudotumor cases not only based on IgG4-positive cell infiltration but also the combination of other clinical, serological and histopathological findings. Clinically, the following presentation is not likely to be IgG4-related disease; steroid-resistant and tissue-destructive cases such as bone invasion and erosion. Serologically, elevated serum C-reactive protein or anti-neutrophil cytoplasmic antibody positivity make the cases less likely IgG4-related disease [5]. Histopathologically, neutrophilic infiltration, the presence of histiocytes, and necrosis are uncommon in IgG4-related disease [2]. Those findings need to be considered when clinicians try to diagnose as IgG4-related inflammatory pseudotumor.

There are various reports such as surgical resection, steroid therapy, and radiotherapy as treatment of inflammatory pseudotumor, but the established evidence is scarce.

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Moreover, there are very few reports of inflammatory pseudotumor on the skull base and temporal bone, and accumulation of treatment evidence is necessary. On the other hand, in recent years, it has been increasingly known that various pathologies such as inflammatory myofibroblastic tumor, granulomatosis with polyangiitis, and IgG4-related disease can be differentiated from the "true" inflammatory pseudotumor. Thus, it is desired that a unified treatment strategy will be established according to each disease state mimicking inflammatory pseudotumor in the future.

Compliance with ethical standards

Conflict of interest None declared.

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