

Plasma Cell Granuloma Of The Pinna: A Case Report

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Citation

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Abstract

We report the case of a 16-year-old girl who presented with a pseudotumour and ulceration of the lobe of the right pinna . Histopathology after biopsy confirmed a diagnosis of Plasma cell granuloma. This unusual condition in the pinna is hereby presented. INTRODUCTION Plasma cell granuloma (PCG) is a rare nonneoplastic lesion that was first described in 1973 by Bahadori and Liebow.¹ This inflammatory pseudotumor is a non-neoplastic process characterized by unregulated growth of inflammatory cells. It is a rare lesion that usually presents as a solitary nodule.² The pathogenesis is not clear, but is considered as a reparative process of an inflammatory lesion. Most of them are asymptomatic at the time of presentation³. Diagnosis is usually confirmed by biopsy. Histopathologically, plasma cell granuloma demonstrates a mixed inflammatory infiltrate with a preponderance of plasma cells and evaluation shows varieties of inflammatory cells including lymphocytes. We present the case of a 16-year-old girl with plasma cell granuloma affecting the lobe of the right pinna. To our knowledge, no case of plasma cell granuloma of the lobe of the pinna has been reported to date in the literature. We believe this is the first case report of plasma cell granuloma affecting the lobe of the pinna and the first one reported from our Institution. The purpose of this paper is to present a case of plasma cell granuloma of the pinna, demonstrating the nature of the clinical and pathologic problems of this particular entity and review of literature.

INTRODUCTION

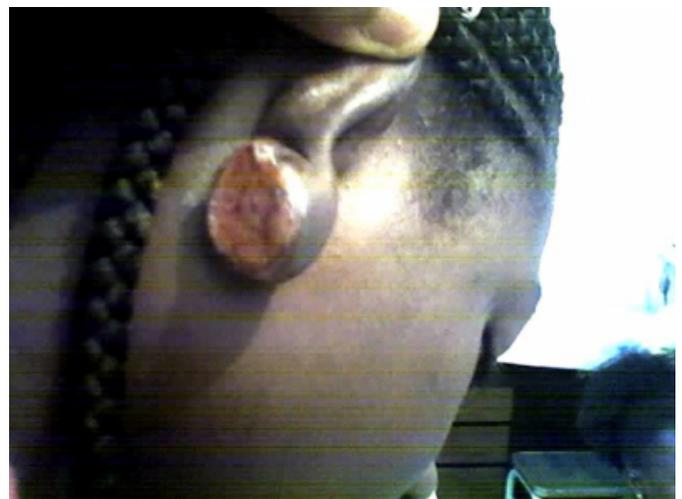
Plasma cell granuloma (PCG) is a rare nonneoplastic lesion that was first described in 1973 by Bahadori and Liebow.¹ This inflammatory pseudotumor is a non-neoplastic process characterized by unregulated growth of inflammatory cells. It is a rare lesion that usually presents as a solitary nodule.² The pathogenesis is not clear, but is considered as a reparative process of an inflammatory lesion. Most of them are asymptomatic at the time of presentation³. Diagnosis is usually confirmed by biopsy. Histopathologically, plasma cell granuloma demonstrates a mixed inflammatory infiltrate with a preponderance of plasma cells and evaluation shows varieties of inflammatory cells including lymphocytes. We present the case of a 16-year-old girl with plasma cell granuloma affecting the lobe of the right pinna. To our knowledge, no case of plasma cell granuloma of the lobe of the pinna has been reported to date in the literature. We believe this is the first case report of plasma cell granuloma affecting the lobe of the pinna and the first one reported from our Institution. The purpose of this paper is to present a case of plasma cell granuloma of the pinna, demonstrating the nature of the clinical and pathologic problems of this particular entity and review of literature.

CASE REPORT

A 16-year old girl noticed in June 2006 increasing enlargement and ulceration of the lobe of her right pinna over a period of 7 months. She noticed this phenomenon after wearing a new ear ring she bought from the market. She claimed that it started like a pimple which burst with resultant swelling and ulceration (Fig. 1).

Figure 1

Figure 1: Posterior Part Of Right Pinna Showing Ulceration



There was no associated pain. The other ear was almost initially involved but stopped early on its own after removal of the ear ring. The swelling and ulceration occasionally itched her. She visited many hospitals where she was given various drugs and treatment with no remission before presenting at our ENT clinic. On examination the swelling was firm, not tender but rather ulcerated (Fig. 2).

Figure 2

Figure 2: Tumour in the right lobe of the pinna anterior view



Systemic examination revealed no abnormalities. Investigations at the time of presentation - PCV 35%, WBC $4.9 \times 10^9/L$, ESR 29mm/hr; Swab from the mass for culture and sensitivity yielded profuse growth of *E. Coli* sensitive to ofloxacin; ciproxin; streptomycin; peflacin and gentamycin. A biopsy of the mass was done. Histological sections of tissue showed intense mononuclear cells infiltrate with tissue damage and debris. Majority of the mononuclear cells were plasma cells and lymphocytes. There were some neo-vascularizations showing variable size of engorged blood vessels. A histological diagnosis of Plasma cell granuloma was made.

DISCUSSION

Plasma Cell Granuloma (PCG) is characterized by cellular proliferation predominantly of polyclonal plasma cells, with a variable number of lymphocytes, neutrophils, eosinophils, and histiocytes, against a fibrovascular background [1,4-6]. They have been found in the lungs and less commonly in the mesentery, genital and urinary tracts, pelvis, and mediastinum⁵. The lesion is characterized by a dense nodular infiltrate of mature plasma cells. Bahadori and Liebow, however, prefer the designation of plasma cell granuloma since plasma cells represent the cell type common to these lesions¹. Plasma cell granuloma has been

found in a number of sites in the body. The lungs¹⁷ and the stomach⁸⁹ are the commonest sites. The tonsil¹⁰ and the bladder¹¹ have been involved. Plasma cell granuloma has also been found in other organs such as the spleen, stomach, pancreas, liver, thyroid, larynx, orbit, heart, kidney, and retroperitoneum. Intracranial and spinal cord plasma cell granulomas have also been described infrequently^{12,13,14,15,16,17}. In exceptional cases, plasma cell granulomas have involved different organs in the same patient. Cases of middle ear and mastoid plasma cell granuloma and that affecting the facial nerve have been described^{18,19,20}. The aetiology, biological characteristics, and management of these lesions remain a matter of debate, and conflicting results have been reported. While the cause of plasma cell granuloma remains unknown it is generally regarded as a reactive lesion.²¹ The pathophysiology of PCG is incompletely understood. It has been suggested that it might be the consequence of abnormalities of plasma cell differentiation secondary to an underlying chronic inflammatory or infectious condition [22]. These lesions are non-neoplastic tumour-like lesions composed principally of plasma cells within a fibrous stroma. In the past its distinction from plasmacytoma was based essentially on morphology. A popularly accepted definition of granulomatous inflammation regards the process as chronic, focal, associated with necrosis and varying numbers of lymphocytes, plasma cells, giant cells and histiocytic cells. Such a constellation of cells and structural alterations may represent a tissue response to a wide variety of unrelated etiologic agents. In the absence of a demonstrable etiology, the granuloma is regarded as non-specific. The primitive mesenchyme, upon appropriate stimulation, may differentiate into a variety of cell types including histiocytes, fibroblasts and plasma cells. A great body of accumulated evidence clearly establishes the plasma cell as the cellular source of antibody. Studies of Orteger and Mellors²⁴ and others have demonstrated gamma globulin in the plasma cell cytoplasm. However, when the plasma cell accumulation reveals abnormal cells without other evidences of a inflammatory process and destruction of tissue, a plasmacytoma may be considered^{23,24}. Some authors consider plasma cell granuloma to be a purely inflammatory lesion related to infection or an autoimmune disorder^{25,26,27}. There are only limited data available on the etiology, pathogenesis, and most effective treatment. Various theories attribute the cause of plasma cell granuloma to a viral origin²⁸ or antigen antibody interaction in relation to an agent²⁹. We believe that antigen-antibody reaction must have been responsible or probably the cause in the case presented. However, neither

bacteria nor fungi have been grown in tissue cultures in any of the resected specimens. E Coli was grown from the culture taken in the reported case. Laboratory data are not of much help in the diagnosis of inflammatory pseudotumours or plasma cell granuloma. Histological analysis is the only way to establish the diagnosis. The role of antibiotics has been speculated upon in the treatment of plasma cell granuloma . There are only limited data available on the etiology, pathogenesis, and most effective treatment .

CORRESPONDENCE TO

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