Plasma Cell Granuloma Of The Pinna: A Case Report
A Chukuezi, V Onyiaorah

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. 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. 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 presentation. 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. 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. 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 presentation. 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
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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 4.9x 10⁹/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 mediastinum. 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 lesions. Plasma cell granuloma has been found in a number of sites in the body. The lungs, stomach and the bladder 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 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. 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. 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. 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 Mellors and others have demonstrated gamma globulin in the plasma cell cytoplasm. However, when the plasma cell accumulation reveals abnormal cells without other evidences of an inflammatory process and destruction of tissue, a plasmacytoma may be considered. Some authors consider plasma cell granuloma to be a purely inflammatory lesion related to infection or an autoimmune disorder. 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 origin, or antigen antibody interaction in relation to an agent. 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.

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References
1. Bahadori M, Liebow AA. (1973) Plasma cell granulomas
of the lung. Cancer; 31: 191–208
Inflammatory pseudotumor of the lung: Report of a case
granuloma of the lung. Indian Pediatrics No. 293 Vol. 41,
March 17.
granuloma of the Thyroid, Arch Pathol Lab Med
126:595–598
Extrapulmonary inflammatory myofibroblastic tumor
(inflammatory pseudotumor). Aclinicopathologic and
immunohistochemical study of 84 cases. Am. J Surg Pathol
19: 859–872.
6. Anna Maria Buccoliero; Adele Caldarella, Marco
Santucci; Franco Ammannati; Pasquale Mennonna; Antonio
Taddei; Gian Luigi Taddei, Plasma Cell Granuloma—An
Enigmatic Lesion Description of an Extensive Intracranial
Case and Review of the Literature, Archives of Pathology
and Laboratory Medicine: Vol. 127, No. 4, pp. e220–e223.
and Laboratory Medicine: Vol. 127, No. 4, pp. e220–e223.
granuloma of the stomach. Hum Pathol. May; 9(3): 355–358
Plasma cell granuloma of the Madden: 2 case report, J Urol;
131:1175-6
plasma cell granulomas of the central nervous system: case
Coexistence of plasma cell granulomas of lung and central
Inflammatory myofibrohistiocytic proliferation simulating
case of plasma cell granuloma involving lung and brain.
pulmonary and cerebral inflammatory pseudotumor in a
17. Kilink M, Erturk JO, Uysal H, Birler K, Evrenkaya T,
Akalyonku BB. (2002) Multiple plasma cell granuloma of
the central nervous system: a unique case with brain and
spinal cord involvement. Case report and review of
cell granuloma of the middle ear and mastoid: Case report.
granuloma of the temporal bone: a case report. Head Neck
16:457—459.
20. Guillermo Rubio, C. García Guijo, and J. M. Baez,
Facial nerve palsy produced by plasma cell granuloma.
Journal of Neurosurgery April 1997
(Inflammatory Pseudo-Tumour) of the Liver Journal of the
Hong Kong Medical Association Vol. 10 No.1.
22. Silvana Laurent, Luc Mouthon, Elisabeth Longchamp,
Marie Roudaire,Sylvia Franc, Alain Krivitzky, and Regis
Cohen, Medical Cure of Plasma Cell Granuloma of the
Thyroid Associated with Hashimoto’s Thyroiditis: A Case
Report and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
23. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
106:627.
granuloma of the temporal bone: a case report. Head Neck
16:457—459.
Frequent presence of the Epstein-Barr virus in inflammatory
Epstein-Barr virus in inflammatory pseudotumor. Semin.
30. Taddei, Marco Santucci; Franco Ammannati; Pasquale Mennonna; Antonio
Taddei; Gian Luigi Taddei, Plasma Cell Granuloma—An
Enigmatic Lesion Description of an Extensive Intracranial
Case and Review of the Literature, Archives of Pathology
and Laboratory Medicine: Vol. 127, No. 4, pp. e220–e223.
31. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
32. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
33. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
34. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
35. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
36. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
37. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
38. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
39. Victor Tchertkoff, Bok Y. Lee and Bernard M. Wagner,
(1963) Plasma Cell Granuloma of the Lung: Case Report
and Review The Journal of Clinical Endocrinology &
Metabolism 89(4):1534–1537
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