Case reports

A commentary on the following two case reports appears on pp 448–9.

Co-existing conjunctival non-Hodgkin's lymphoma and pulmonary sarcoidosis

PJ Ryan, P Stableforth, DT McLeod

Abstract

A 55 year old woman with a conjunctival non-Hodgkin's lymphoma was found to have pulmonary nodules on a thoracic computed tomographic scan which were initially thought to be lymphomatous deposits. A subsequent biopsy specimen demonstrated granulomas consistent with sarcoidosis. The relationship between sarcoidosis and malignancy, in particular lymphoma, is discussed.

(*Thorax* 1996;51:444–445)

Keywords: non-Hodgkin's lymphoma, sarcoidosis, orbit.

Department of Respiratory Medicine
PJ Ryan
DT McLeod

Department of Haematology
P Stableforth

Sandwell General Hospital, West Midlands, UK

Correspondence to:
Dr P Ryan, Department of Respiratory Medicine, Birmingham Heartlands Hospital, Bordesley Green East, Birmingham B9 5SS, UK.

Received 17 May 1995
Returned to authors 20 July 1995
Revised version accepted 29 August 1995
Accepted for publication 4 September 1995

Case report

A 55 year old woman presented with a five year history of a subconjunctival swelling at the outer canthus of her right eye. The lesion was not painful and there was no history of a change in size. There were no other complaints except for occasional exertional dyspnoea on walking up hills. On examination there was a pink fleshy mass under the lateral bulbar mucosa, the posterior edge of which was not seen (fig 1a). There were no other ocular abnormalities and the general examination was normal. Biopsy specimens of the mass demonstrated a low grade non-Hodgkin's lymphoma of the B cell type (fig 1b). Subsequent investigation for evidence of systemic dissemination demonstrated normal results for full blood count, erythrocyte sedimentation rate, direct Coomb's test, lymphocyte blood markers, liver function tests, lactate dehydrogenase, uric acid, and immunoglobulins. A computed tomographic (CT) scan of the pelvis was also normal, as were pulmonary function tests including spirometry, lung volumes, and carbon monoxide transfer factor. A chest radiograph showed some vague soft nodular shadows and a thoracic CT scan revealed bilateral upper zone nodules (fig 2a). These were initially thought to be lymphomatous deposits but histological examination of thoracoscopic lung biopsy specimens dem-

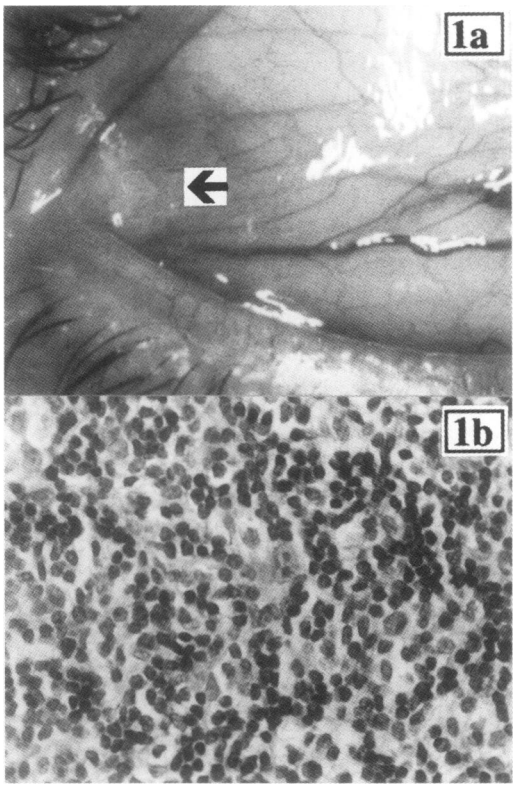

Figure 1 (a) Conjunctival mass at presentation. (b) Haematoxylin and eosin stain demonstrating non-Hodgkin's lymphoma (magnification × 400).

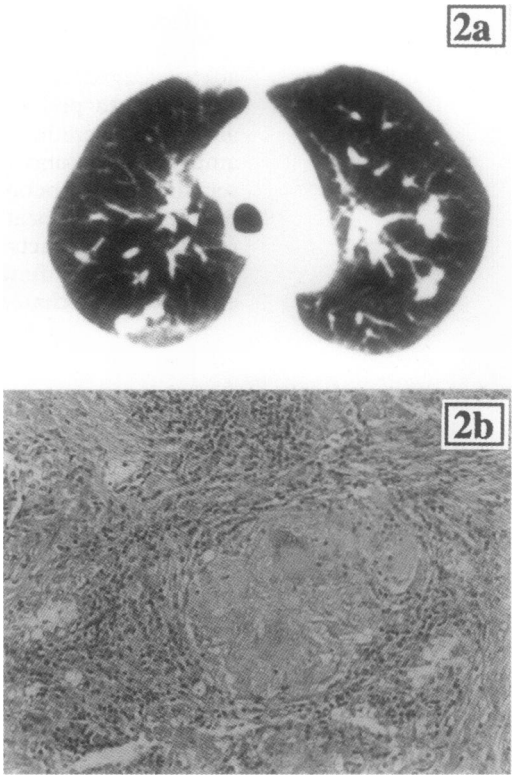

Figure 2 (a) Computed tomographic scan of thorax demonstrating nodular lesions. (b) Haematoxylin and eosin stain of thoracoscopic lung biopsy specimen showing granuloma (magnification × 160).

onstrated areas of fibrosis and multiple non-necrotising granulomas containing giant cells and epithelioid cells. There were no acid fast bacilli or foreign bodies and the features were consistent with a diagnosis of sarcoidosis (fig 2b). A diagnosis of pulmonary sarcoidosis was supported by a positive Kveim skin test.

Discussion

Eye lesions and pulmonary lesions are seen in patients with sarcoidosis and also in patients with lymphoma, but the presenting features of the lesions in this patient were not typical of either disease. The unexpected lung biopsy result raised the possibility of dual pathology. A review of papers by Brennan has suggested that cases reporting sarcoidosis and lymphoma should only be accepted if biopsy specimens are reported independently from unrelated anatomical sites and appropriate clinical, radiographic, and biochemical features of each disease are present.[1] It was also suggested that sarcoidosis should be demonstrated in two or more systems. Lymphoma may induce a sarcoid-like granulomatous reaction, although this is usually found at a site adjacent to the lymphoma.[2] In previous studies this type of reaction has caused some confusion leading to over reporting of sarcoidosis in cases of lymphoma. In our patient the tissues from which biopsy specimens were taken were anatomically unrelated and a subsequent positive Kveim skin test confirmed sarcoidosis. The converse scenario where sarcoidosis affecting the eye could be mistaken for lymphoma seems unlikely. Both specimens were reported independently by pathologists expert in their respective fields and histological slides have subsequently been exchanged with agreement on both sides. Furthermore, immunological cell surface marker analysis of the eye lesion has confirmed a non-Hodgkin's lymphoma.

There has been much discussion as to whether, in sarcoidosis, there is an increased risk of primary neoplasms in general and of lymphomas in particular.[4] The association was noted by Brincker and Wilbeck who found 48 cases of cancer in 2544 Danish patients reported to have sarcoidosis.[4] Malignant lymphomas occurred 11 times and lung cancer three times more frequently than expected. However, these findings were later challenged when, on re-examination, 14 of the cases were excluded on the grounds of inaccurate diagnosis or sarcoid-like reactions.[5,6]

Sarcoidosis and lymphoma both show granulomas on histological examination and both are associated with abnormalities of the immune system. The concept of T cell dysfunction causing both sarcoidosis and reduced immunological surveillance leading to lymphoma is attractive but as yet unproven. The prolonged use of corticosteroids in patients with sarcoidosis has been suggested as a cause of increased incidence of lymphoma but is unlikely to explain the preponderance of Hodgkin's disease.

Ocular adnexal lymphomas are rare and often occur as secondaries. When they occur as primaries they tend to be confined to the orbit for a long time, as in this case. Delayed metastasis may be explained by them arising from reactive lesions before malignant change occurs, the absence of lymphatic drainage and, as has been found in other extranodal lymphomas, by their cells tending to home back to their original site if they enter the general circulation.[7] The main therapeutic approach to ocular adnexal lymphomas is low dose radiotherapy[8] which achieves good local control at the cost of lens opacity in approximately 10%.[9]

Conjunctival non-Hodgkin's lymphoma and pulmonary sarcoidosis occurring in the same patient have not been previously reported. The combination presented an interesting diagnostic challenge that was resolved by assimilating all the clinical and histological information available. This case illustrated the need to investigate assumed lymphomatous deposits if possible, especially where the overall management would be radically altered. Whether the association between sarcoidosis and lymphoma is more than a coincidence remains unclear.

We are grateful to Dr FB Brook at the Department of Histopathology, Birmingham Heartlands Hospital for her help in preparing the photographs, and Dr J Newman of Birmingham Heartlands Hospital and Dr Harry of the Birmingham Eye Hospital for their co-operation.

1 Brennan NJ, Fennelly JJ, Towers RP, Fitzgerald MX. Sarcoidosis and lymphoma in the same patient. *Postgrad Med J* 1993;**59**:581–5.
2 Brincker H. Interpretation of granulomatous lesions in malignancy. *Acta Oncol* 1992;**31**:85–9.
3 Leatham EW, Eeles R, Sheppard M, Moskovic E, Williams MP, Horwich A *et al*. The association of germ cell tumours of the testis with sarcoid-like processes. *Clin Oncol* 1992; **4**:89–95.
4 Brincker H, Wilbeck E. The incidence of malignant tumours in patients with respiratory sarcoidosis. *Br J Cancer* 1974; **29**:247–51.
5 Romer FK. Case 7, 1982: sarcoidosis and cancer. *N Engl J Med* 1982;**306**:1460.
6 Romer FK. Is there a causal relationship between sarcoidosis and malignancy. *Sarcoidosis* 1990;7:80–2.
7 Garner A. Orbital lymphoproliferative disorders. *Br J Ophthalmol* 1992;**76**:47–8.
8 Knowles DM, Jakobiec FA, McNally L, Burke JS. Lymphoid hyperplasia and malignant lymphoma occurring in the ocular adnexa (orbit, conjunctiva and eyelids). *Hum Pathol* 1990;**21**:959–73.
9 Bessell EM, Henk JM, Wright JE, Whitelocke RA. Orbital and conjunctival lymphoma treatment and prognosis. *Radiother Oncol* 1988;**13**:237–44.