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Clinical Records

B-cell lymphoma of the external auditory meatus

B. M. Fish, F.R.C.S., (Orl-Hns), R. Huda, M.B., Ch.B., S. A. C. Dundas, F.R.C.Path., T. H. J. Lesser, M.S., F.R.C.S.

Abstract
A 53-year-old female presented with a painful swelling within her external auditory meatus. Biopsies revealed this to be a B-cell lymphoma and she underwent surgical treatment followed by chemotherapy. This is the first reported case of non-Hodgkin's lymphoma of the external auditory meatus in an human immunodeficiency virus (HIV)-negative patient.

Key words: Ear, External; Lymphoma, Non-Hodgkin

Case report

A 53-year-old female presented with pain in her left ear radiating to her jaw. In the preceding five months she had been treated twice by her general practitioner for left-sided otitis externa. She had a past medical history of psoriatic arthropathy and osteoarthritis for which she took analgesics. Seven years previously she had had an episode of agranulocytosis, that had resolved with steroid treatment. Examination showed her to have an inflamed lesion within the external auditory meatus posteriorly, not extending as far as the tympanic membrane (Figure 1).

A biopsy was taken under general anaesthetic, which was reported as being a benign granulation tissue polyp.

Conservative treatment failed to improve her clinical condition and a further biopsy was taken under local anaesthesia. Histological examination was inconclusive and a second opinion was sought from the Imperial Cancer Research Fund (ICRF) histology panel. Their report was suggestive of a benign reactive inflammatory response but a lymphoma could not be excluded. A computerized tomography (CT) scan (Figure 2) showed opacification of the left mastoid air cells but no bony destruction.

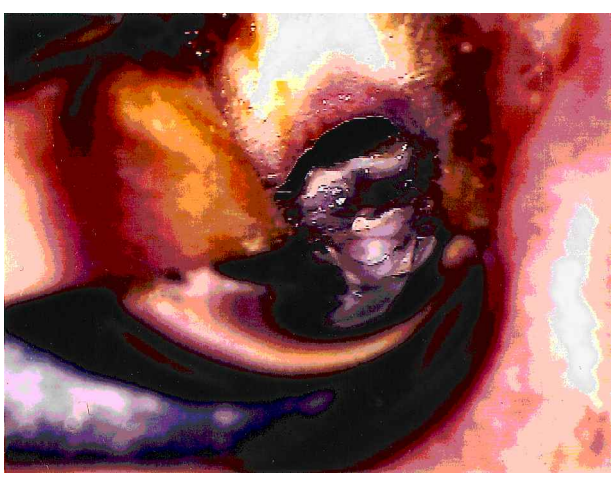

Fig. 1
Lesion arising from posterior canal wall of left ear.

Fig. 2
CT scan of lesion.

From the Department of Otorhinolaryngology, Fazakerley Hospital, Liverpool and The Department of Pathology*, Southport General Hospital, Southport, UK.
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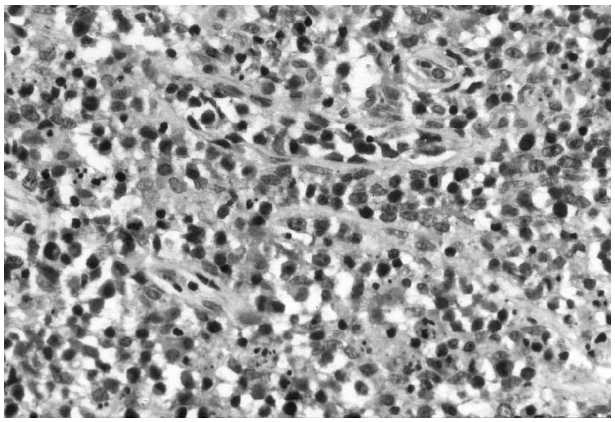

FIG. 3

Diffuse infiltration of the dermis by intermediate to large-sized lymphoid cells with round, ovoid or indented vesicular nuclei containing prominent nucleoli (H & E; ×50).

The lesion recurred and a further biopsy under local anaesthetic was taken. Histological examination suggested non-Hodgkin's lymphoma classified under the Revised European-American Lymphoma (REAL) system as diffuse large B-cell lymphoma. This was confirmed by the ICRF histology panel.

Staging of the disease was performed including a bone marrow biopsy and CT scanning of her skull, neck, chest, abdomen and pelvis. No further disease was found and hence she was Stage I. She had a history of night sweats and hence the final staging was Stage IB. (Ann Arbor staging). The patient commenced chemotherapy and consisted of three cycles of CHOP (cyclophosphamide, doxorubicin, vincristine and prednisolone). She then underwent a lateral temporal bone resection. Two months later recurrence was suspected clinically, and further biopsies were taken. These were reported as benign granulation tissue only.

A CT scan of her skull base showed a soft tissue mass in the mastoid region with local bony destruction An HIV test performed at this stage was negative. She was treated with high-dose chemotherapy with an autologous peripheral blood stem cell transplant and a follow-up CT scan four months later showed that the mass had resolved and there was no evidence of bony destruction. She remains disease-free one year after her further treatment.

Histopathology

Five pieces of soft white tissue measuring up to 0.5 cm in maximum diameter were received for examination. The largest of these showed diffuse infiltration of the dermis by intermediate to large-sized lymphoid cells with round, ovoid or indented vesicular nuclei containing prominent nucleoli (Figure 3). The histopathological differential diagnosis is between a benign reactive lymphoid infiltrate and lymphoma.

Benign lymphoid infiltrates usually are composed of a heterogeneous population of small to large lymphoid cells admixed with plasma cells and polymorphonuclear leucocytes. The monotonous composition of the infiltrate together with the diffuse growth pattern are features strongly in favour of lymphoma. Immunochemistry showed that the large lymphoid cells were CD20, CD79a and CD30 positive indicative of large B-cell lymphoma.

Discussion

Non-Hodgkin's lymphoma is an increasingly common condition in the non-HIV positive population as well as those who are HIV positive and initial presentation in the head and neck region has been widely reported. This, however, is the first reported case of a B-cell lymphoma of the external auditory meatus in an HIV-negative patient.

In a series of 287 patients with non-Hodgkin's lymphoma reported in 1987, there was one case of the temporal bone being the site of initial presentation but none of the ear canal.[1] Non-Hodgkin's lymphoma has been reported in the temporal bone,[2,3] usually associated with facial nerve paralysis and hearing loss.[4] In both HIV-negative and HIV-positive patients there have been reports of non-Hodgkin's lymphoma of the pinna.[5,6] There has been one report of non-Hodgkin's lymphoma presenting in the external auditory meatus of an HIV-positive patient.[7] This, however, originated in the infratemporal fossa and grew up through the eustachian tube to present in the ear canal. Also in HIV-positive patients there have been reports of non-Hodgkin's lymphoma arising in the mastoid[8,9] and involving the tympanic membrane.[10] Non-Hodgkin's lymphoma, once diagnosed, is usually treated primarily by haematologists and oncologists but given its increasing incidence in both HIV-positive and negative patients the initial presentation is likely to be to other specialities. A diagnosis of non-Hodgkin's lymphoma of the head and neck is more likely to be suspected with nodal disease than with extranodal presentations that can mimic more common conditions such as squamous cell carcinoma or in this case, otitis externa. The head and neck is second only to the abdomen as the commonest site of presentation of extra nodal lymphomas.[11] The histopathological diagnosis is often difficult to make since the diagnosis of lymphoma is traditionally based on nodal disease. Many of the diagnostic criteria normally used to differentiate between benign and malignant lymphoid infiltrates such as diffuse effacement of nodal architecture, monotonous lymphoid infiltrate and absence of follicular polarity are not readily applicable to small extranodal biopsies. Therefore, the diagnosis is likely to depend on the use of immunohistochemistry and other specialized techniques. The small amount of material obtained by the otorhinolaryngologist/head and neck surgeon is therefore precious and it is important for the clinician to liase with the histopathologist pre-operatively so that the material obtained can be handled optimally. The otorhinolaryngologist/head and neck surgeon should consider the diagnosis of non-Hodgkin's lymphoma in atypical lesions of the head and neck and be prepared to repeat biopsies if the clinical picture does not conform with the histological diagnosis.

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Address for correspondence:
Mr B. M. Fish,
SpR in Otorhinolaryngology,
Aintree University Hospitals NHS Trust,
Fazakerley Hospital,
Longmoor Lane,
Liverpool L9 7AL, UK.

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