angiographic observations we conclude segmentation in the fluorescence intensity corresponds to segments of erythrocytes and cell-free plasma. The figures of Ben-nun and Constable do not necessarily confirm our assumption. The segmentation of fluorescence intensity seems to correspond to packed cells. The interpretation of the postmortem findings could be clarified if the illumination was changed from white to green light. With green light illumination the contrast between red blood cells and plasma is best, owing to the maximum of absorption of haemoglobin.

The fluorescent blood cell angiography mentioned is very interesting. Those findings may clarify the interpretation of our report. Recently Tanaka et al.12 observed fluorescent dots in perifoveal capillaries. They proposed that these dots correspond to leucocytes and platelets in the circulating blood. We do not agree with their conclusion. They are using the automatic gain control in the set-up of the scanning laser ophthalmoscope which leads to decreased signal-to-noise ratio.

In conclusion, we think that our interpretation of the observed phenomenon (Fig 2) seems to be acceptable. In addition until now our method is the only one that measures flow velocities and morphological parameters in the perifoveal capillaries objectively.

Periorbital necrobiosis lipidica

Str.,—I read with interest the case reported by Mr Lavy and colleagues.1 An important differential and possible alternative diagnostic to that suggested which does not appear to have been considered is that of necrobiotic xanthogranuloma (NXG). This now well described condition is a non-X histiocytic disease characterised by palisading histiocytes with a particular predilection for the peribulbar tissues. Prior to its description in 1980 by Kossard and Winkelmann,2 it had previously been described in a variety of ways including atypical necrobiosis lipidica.

As in the case discussed NXG presents with painless non-pruritic papules that progress to nodules and plaques which may vary in appearance but usually have a xanthomatos element. These lesions may remain subclinical for extended periods but can pursue an aggressive course with recurrent severe ulceration of the skin lesions. These usually have pronounced telangiectasis in the ulcerative phase.

The importance of this alternative diagnosis is that NXG is invariably associated with a dysproteinæmia, usually a monoclonal para-proteinæmia of the IgG class. This may follow a benign course but malignancies, typically multiple myeloma and chronic lymphatic leukaemia, may develop. The lesions may also involve the orbit posing a potential threat to vision.3

The histopathological findings in the case described could be consistent with a diagnosis of NXG. The features found in NXG of a non-specific lymphocytic and plasma cellular infiltrate with palisading granuloma formation, together with areas of collagen necrobiosis and giant cell formation are similar to the biopsy illustrated. More specific features of NXG would be xanthogranulomatous panniculitis, and distinct palisading cholesterol cleft formation.

In view of this, further investigation of this patient that may be warranted would include serum protein and lipoprotein electrophoresis, urinary analysis for Bence-Jones protein, and a computed tomographic scan of the orbits to rule out any intraorbital pathology. Other less consistent findings in NXG that may be of limited value are a cryoglobulinaemia, a positive rheumatoid factor, depressed serum complement levels, and a reduced level of C1 esterase inhibitor. (If a review of the histology were carried out monoclonal antibody studies may identify the presence of T-helper cells within the granulomas which has been described in NXG.)4

The increasing recognition of NXG as a specific clinicopathological entity with serious systemic associations means that this diagnosis must be considered in any case of a necrobiotic process affecting the periorbital region.

References


Reply

Str.,—I note with interest Mr Luck's suggestion that a diagnosis of necrobiotic xanthogranu- loma should be included. This is a condition that I was not previously familiar with and I am grateful to him for drawing my attention to it.

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BOOK REVIEWS


In 1989 the first international meeting devoted to thyroid eye disease was held in Montreal. In addition to endocrinologists and ophthalmol- ogists there were immunologists, pathologists, radiotherapists, otolaryngologists and oculoplastic surgeons, geneticists, biochemists, and statisticians.

Despite such an array of expertise the first 78 pages, which are devoted to trying to explain the pathological processes, are far from conclu- sive. Autoantibodies to eye muscle can be demonstrated, but they show incomplete specificity, with some cross reactivity with diaphragm muscle and with thyroid antigens. Connective tissue antibodies and cell mediated immunity are also considered. Wall proposes a working hypothesis that Graves' ophthal- mopathy follows the reaction of a primarily thyroid-directed cytotoxic antibody with an antigen present on the surface of the eye muscle membrane. Studies of T-lymphocyte reaction to retrobulbar antigens is emerging as one of the key areas. However, the very protracted natural history of the condition and the prob- lem of unilaterality of the proposal in many patients are questions that will have to be answered by any proposed pathogenic mechanism.

The remaining 109 pages cover the problems of clinical management. Unfortunately there is still no universally agreed scheme to describe the various forms and levels of involvement of the eye and orbit in this condition. There is a useful chapter on the structure and mode of action of cyclosporin, but another chapter is given over to plasmapheresis, though most workers have abandoned this as a mode of treatment.

The long term follow-up of patients treated by orbital radiotherapy at Stanford under the direction of the late J P Kress confirms the value of 2000 GY of megavoltage irradiation in fractionated doses over a two-week period. Recent results from (West) Germany claim that...