randomly dispersed. The sarcomere pattern of most cells seemed to be normal, but focal fragmentation of the myofilaments and focal distortion of the Z-line were common. Rinnen fibrils were found. The sarcolemma was widened and sometimes reached the thickness of 0.5 μm. The amount of endomysial collagen fibrils was increased and in some places the fibrils were attached to the sarcolemma.

The most striking change seen in the capillaries was an extremely wide basement membrane whose diameter varied between 0.5-1.5 μm and was seen in about 90% of all capillaries. Usually the basement membrane appeared in a single homogenous layer (fig 1). Collagen fibrils were closely associated with the external side of the basement membrane. Except for widening of the basement membrane about the small venules, another important finding was the presence of subendothelial deposits. The deposits were of irregular shape, varied in size, and were composed of dense, fine granular material (fig 2). The deposits were situated between the endothelial layer and the smooth muscle layer of the venular wall and could be interpreted as immune complex deposits.

Several recent studies have suggested that the immune system is closely involved in the pathogenesis of Churg-Strauss syndrome due to the finding of an increased amount of IgE in the blood vessels of these patients' or IgM vascular deposition.3

The changes described in the present case raise the possibility of an immune complex mediated disorder in the pathogenesis of Churg-Strauss syndrome.

Fig 2 Dense, fine granular deposits (D) are seen in the subendothelial layer of a small venule.

Fluorescence in pigmented basal cell carcinoma caused by formaldehyde

The diagnostic importance of fluorescence induced by formaldehyde (FIF) on formalin fixed, paraffin wax embedded tissue sections has been studied in melanomas and other lesions.1 This technique helps to differentiate malignant melanoma, which shows yellow green fluorescence, from Paget's disease of the skin, undifferentiated carcinomas, histiocytic lymphomas and from benign melanocytic lesions. Fluorescence occurs because of the reaction of formaldehyde with intracellular biogenic amines such as dopamine, epinephrine, and norepinephrine. Morishima et al recently used the touch fluorescence method for the quick diagnosis of malignant melanoma and related lesions.5 It is worth noting that they observed weak sporadic fluorescence in two out of three cases of basal cell carcinoma included in their study. Earlier, Inoshita et al reported negative FIF in all 10 cases of basal cell carcinoma studied. They did not mention, however, whether they included the pigmented basal cell carcinomas in their study.

We investigated 26 cases of basal cell carcinomas from the files of this department to determine FIF on formaldehyde fixed, 5 μm thick tissue sections, cut from paraffin wax embedded blocks. Out of 26 basal cell carcinomas in our collection, 14 were pigmented. Of these, 11 showed positive fluorescence, the specificity of which was confirmed by treatment with sodium borohydride. The biogenic amines in these 11 cases were probably similar if not identical to the melanin in malignant melanomas. The three cases with negative results indicate that in some pigmented basal cell carcinomas, the pigment molecule is non-fluorescent. It must be mentioned here that this is also true for melanomas.1 This is because the nature of the fluorescent moiety is not fully determined yet, although the conversion of intermediary metabolites in the biosynthesis of these amines to 3-4-dihydrosoquinolines has been implicated.4 Our observations indicate that positive FIF for basal cell carcinoma suggests that the basal cell carcinoma in which it is detected could be of the pigmented variety.

Letters to the Editor

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References


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