Subclinical Rejection

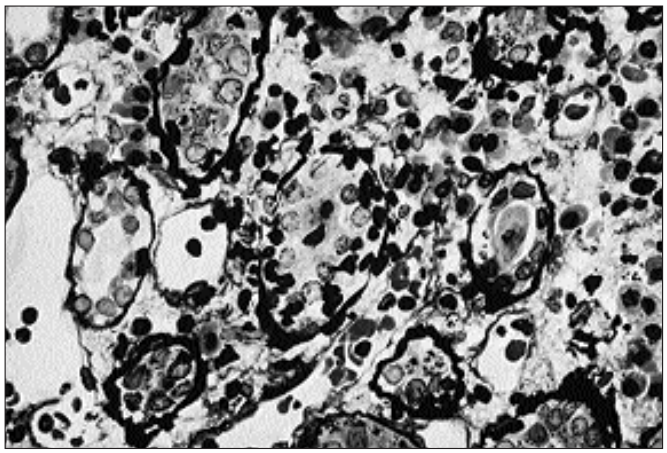

FIGURE 10-18 (see Color Plate)
Subclinical rejection. Subclinical rejection characterized by moderate to severe tubulitis may be found in as many as 35% of normally functioning grafts. Far from representing false-positive readings, such findings now appear to represent bona fide smoldering rejection that, if left untreated, is associated with increased incidence of chronic renal functional impairment and graft loss [10,11]. The important debate for the future is when to perform protocol biopsies to identify subclinical rejection and how best to treat it. This picture shows severe tubulitis in a normally functioning graft 15 months after transplantation. In the tubule in the center are 30 lymphocytes (versus 14 tubule cells). A year and a half later the patient developed renal functional impairment.

Thrombotic Microangiopathy

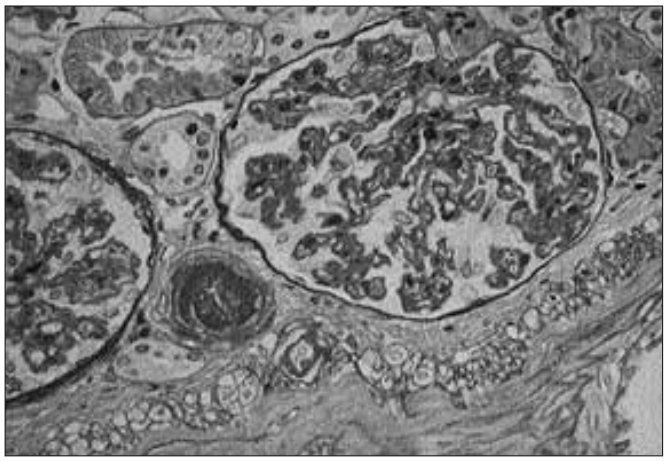

FIGURE 10-19
Thrombotic microangiopathy in renal allografts. A host of different conditions and influences can lead to arteriolar and capillary thrombosis in renal allografts and these are as various as the first dose reaction to OKT3, HIV infection, episodes of cyclosporine toxicity, and antibody-mediated rejection [2, 12, 13]. It is hoped that further study will allow for more accurate diagnosis in patients manifesting this lesion. The figure shows arteriolar thrombosis and ischemic capillary collapse in a case of transplant thrombotic microangiopathy.

Peritubular Capillary Basement Membrane Changes in Chronic Rejection

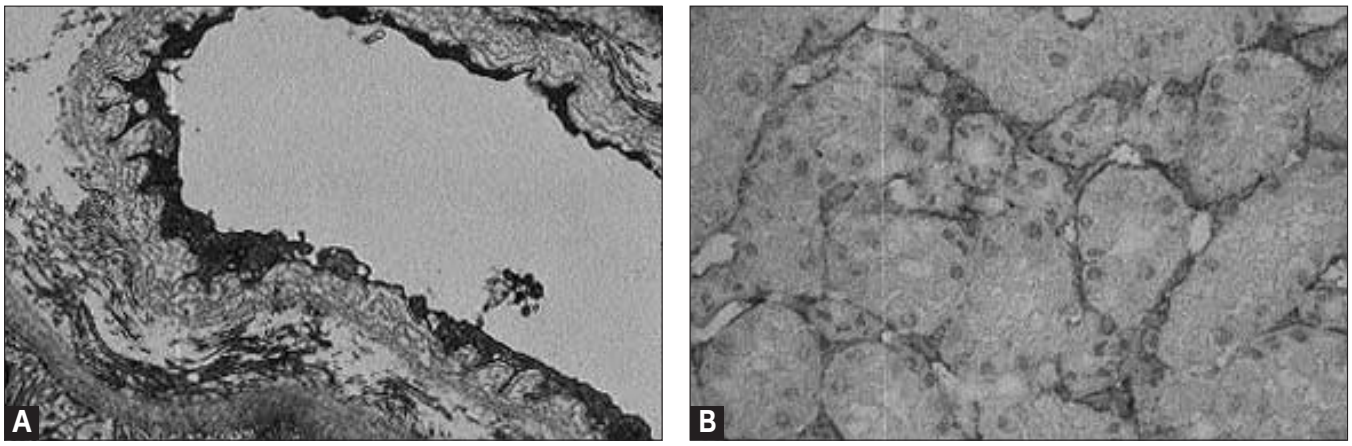

FIGURE 10-20 (see Color Plate)
Peritubular capillary basement membrane ultrastructural changes, **A**, and staining for VCAM-1 as specific markers for chronic rejection, **B** [14–16]. Splitting and multilayering of peritubular capillary basement membranes by electron microscopy holds promise as a relatively specific marker for chronic rejection [14,15]. VCAM-1 staining by immunohistology in these same structures may also be of diagnostic utility [16]. Ongoing studies of large numbers of patients using these parameters will test the value of these parameters which may eventually be added to the Banff classification. **A**, Multilayering of peritubular capillary basement membrane in a case of chronic rejection; **B**, shows staining of peritubular capillaries for VCAM-1 by immunoperoxidase in chronic rejection.

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