Intranuclear Inclusions in Renal Tubular Epithelium in a Case of Generalized Wegener’s Granulomatosis

Sir,

Recently, I had the opportunity to examine autopsy material from a case of generalized Wegener’s granuloma in which, by electron microscopy, I found numerous intranuclear inclusions in renal tubular epithelium.

The patient, 57-year-old Peruvian female was admitted to our hospital because of 3-month history of severe cough with blood-tinged sputum, chest pain, headache, fever and night sweats. At the time of admission chest X-ray revealed bilateral confluent multinodular infiltrates. Bacteriologic examination of sputum was negative. Urinalysis revealed cloudy urine with specific gravity 1.010, albumin 2 + , sugar and acetone negative, WBC 20-30/HF and RBC 30-40/HF. BUN was 26, creatinine 3.4. Patient went into pulmonary edema and expired 7 h after admission to the hospital.

Fig. 1. E. M. of kidney. Note the numerous tubular epithelial cells containing intranuclear inclusions composed of whorls of concentric rings of fine fibrous tissue enclosing fine electron dense granules.

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Autopsy revealed presence of necrotizing granulomatous lesions in lungs, both kidneys and spleen. They were composed of fibroblasts, lymphocytes, polymorphonuclear leukocytes and multinucleated giant cells of foreign body type and of Langhan’s type. There was also evidence of severe vasculitis in affected organs with occasional necrosis and obliteration of the vascular lumina by granulomatous tissue or by blood clots.

In kidneys, in addition, there was focal and segmental proliferative and necrotizing glomerulonephritis with crescents. Immunofluorescence studies of kidneys showed presence of massive coarse granular deposits of IgG, IgA, IgM, complement fraction C3 and fibrinogen along the basement membranes of glomerular capillaries and in walls of blood vessels.

Electron microscopy of kidneys (fig. 1) revealed that numerous tubular epithelial cells contained intranuclear inclusions composed of whorls of concentric rings of fine fibrous material enclosing fine electron-dense granules.

Intranuclear inclusions of that type were reported in numerous neoplasms and viral diseases [1-3]. They were also found in normal peritoneal macrophages and in peritoneal macrophages following injection of BCG or Histoplasma capsulatum [4,5], but were never reported in Wegener’s granuloma or other disease regarded as manifestation of hyper-sensitivity.

It is of interest that no inclusions were present in lungs despite severe lung involvement in disease process in this case.

References


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