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Pulmonary veno-occlusive disease

Yung-Hsiang Hsu*

Department of Pathology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan

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A 57-year-old woman with end-stage renal disease received a kidney transplant using a kidney from a cadaver. The post-operative creatinine level gradually recovered from 9.6 mg/dL to 2.8 mg/dL. A kidney biopsy was performed 9 months post-transplantation because of worsening renal function and pathology revealed tacrolimus nephrotoxicity. Her immunosuppressant was switched to sirolimus. Ten months after the biopsy, she was admitted to hospital because of pulmonary hypertension with a systolic pressure of 90 mmHg and right ventricle overload. She died of sepsis 4 days later. After autopsy, histopathology of the lungs confirmed changes in the pulmonary venous system with the lumina narrowed by extensive intimal fibrosis diagnostic of pulmonary veno-occlusive disease (PVOD; Fig. 1).

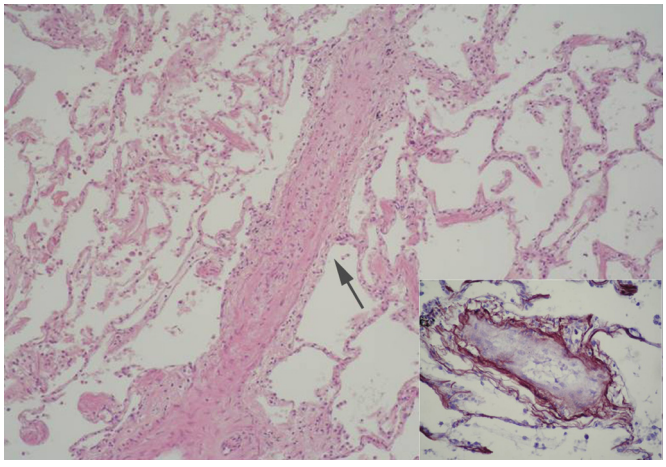

Fig. 1. Histopathology shows fibrotic tissue occluding the pulmonary venules in the septum (hematoxylin and eosin stain, magnification ×100). Venous wall occlusion is demonstrated by an orcein stain (inset, orcein stain magnification ×200).

PVOD is currently classified as a subgroup of pulmonary artery hypertension (PAH) and accounts for 5–10% of cases initially considered to be idiopathic PAH. The cause of PVOD is not known. PVOD is associated with respiratory infections (especially virus infections), exposure to toxins, (chemotherapy), bone marrow transplantation, and renal transplantation. Only one case of PVOD following renal transplantation has been reported. Pathologists suggest the obstructive changes in the pulmonary veins are thrombotic in origin, such as in our case. PVOD is characterized by a poor prognosis and the possibility of developing severe pulmonary edema with specific PAH therapy. Lung transplantation is the treatment of choice.

Further reading

[1] Bjornsson J, Edwards WD. Primary pulmonary hypertension: a histopathologic study of 80 cases. Mayo Clin Proc 1985;60:16–25.
[2] Williams LM, Fussell S, Veith RW, Nelson S, Mason CM. Pulmonary veno-occlusive disease in an adult following bone marrow transplantation: case report and review of the literature. Chest 1996;109:1388–91.
[3] Canny GJ, Arbus GS, Wilson GJ, Newth CJ. Fatal pulmonary hypertension following renal transplantation. Br J Dis Chest 1985;79:191–5.

Conflict of interest: none.

* Corresponding author. Department of Pathology, Buddhist Tzu Chi General Hospital, 707, Section 3, Chung-Yang Road, Hualien, Taiwan. Tel.: +886 3 8565301x2190; fax: +886 3 8574265.
E-mail address: yhhsu@mail.tcu.edu.tw.

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