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A Rare Cause of Pulmonary Hypertension: It is the Arteriovenous Fistula to Blame

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In renal transplant recipients, high-flow functional arteriovenous fistula (AVF) has effects on the pulmonary and cardiovascular system. High-flow AVF (>2L/min) may cause renal allograft dysfunction through cardiovascular dysfunction and high venous pressure. At the same time, type 5 pulmonary hypertension (PHT) and high-flow cardiac failure may occur. We present four patients who were found to have dyspnea in the follow-up period after renal transplantation and had pulmonary hypertension of unknown etiology. Four patients who were in the hemodialysis program before renal transplantation and who had AVF, had presented with dyspnea, increased serum creatinine levels, peripheral edema and unexplained pulmonary edema, at different times after transplantation. Etiological investigations were performed. None of the patients had PHT in the past. No signs of rejection were detected. Echocardiography showed a significant increase in pulmonary artery pressure (PAP). Detailed investigations did not reveal any cardiac, pulmonary or metabolic findings to explain PHT. Doppler ultrasonography revealed AVF flow measurement>> 2 L/min. It was classified as Type 5 PHT. Clinical, biochemical and echocardiographic findings improved significantly after closure of the AVF. The summary of the demographic data and ultrasonographic, echocardiographic and biochemical data of the cases. As a result, the presence of high-flow AVF in renal transplant recipients may cause PHT. In patients with functional AVF after renal transplantation, high flow rate AVF should be kept in mind if there is volume overload, pulmonary edema, PHT and allograft dysfunction. With the closure of the fistula, significant improvement is observed in the dramatic picture, and clinical and functional findings are improved, thus appropriate treatment approach is life-saving.

Keywords: Pulmonary hypertension, renal transplantation, arteriovenous fistula