Response to Comments

Reply to 'The link between pulmonary hypertension and adverse renal transplant outcome may be renal venous hypertension'

Sir,

We thank Dr. Grocott for the comment 'The link between pulmonary hypertension and adverse renal transplant outcome may be renal venous hypertension' on our recently published retrospective study.[1]

Mechanisms of development of delayed graft functioning (DGF) in patients with pulmonary hypertension (PH) by haemodynamic alterations and disturbances of vasoactive substances are well described in a study where thermodiffusion probes were inserted into the renal cortex of renal transplant recipients. Patients who developed DGF had evidence of lower renal microperfusion compared to patients with immediate graft function.[2,3]

There is generally an inverse relationship between pulmonary artery systolic pressure and cardiac output. Furthermore, in most patients during the first 24–48 h after transplant, mean arterial pressure is maintained on higher side to assist with graft perfusion and this causes further stress on the pulmonary vasculature and perhaps, paradoxically, leads to low overall cardiac output and decreased renal perfusion.[3] Studies also showed that decrease in renal microperfusion may be, in part, the result of increased renovascular resistance from vasoconstriction.[4,5]

So while we agree with the author's comment that DGF after renal transplant in patients having PH may be because of poor renal blood flow due to elevation in renal venous pressure that can result from PH-associated right ventricular dysfunction, it may not be the sole or principal cause of DGF in patients with PH.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Sohan Lal Solanki, Vipin Kumar Goyal[1], Birbal Baj[1]

Department of Anaesthesiology, Critical Care and Pain, Tata Memorial Centre, Homi Bhabha National Institute, Mumbai, Maharashtra, [1]Department of Anaesthesiology and Critical Care, Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, India

Address for correspondence:
Dr. Sohan Lal Solanki,
Department of Anaesthesiology, Critical Care and Pain, 2nd Floor, Main Building, Tata Memorial Hospital, Parel, Mumbai-400012, India.
E-mail: me_sohans@yahoo.co.in

REFERENCES

1. Goyal VK, Solanki SL, Baj B. Pulmonary hypertension and post-operative outcome in renal transplant: A retrospective analysis of 170 patients. Indian J Anaesth 2018;62:131-5.
2. Angelescu M, Kraus T, Wiesel M, Hergesell O, Haberkorn U, Klar E, *et al.* Assessment of renal graft function by perioperative monitoring of cortical microcirculation in kidney transplantation. Transplantation 2003;75:1190-6.
3. Zlotnick DM, Axelrod DA, Chobanian MC, Friedman S, Brown J, Catherwood E, *et al.* Non-invasive detection of pulmonary hypertension prior to renal transplantation is a predictor of increased risk for early graft dysfunction. Nephrol Dial Transplant 2010;25:3090-6.
4. Perico N, Cattaneo D, Sayegh MH, Remuzzi G. Delayed graft function in kidney transplantation. Lancet 2004;364:1814-27.
5. Inman SR, Plott WK, Pomilee RA, Antonelli JA, Lewis RM. Endothelin-receptor blockade mitigates the adverse effect of preretrieval warm ischemia on posttransplantation renal function in rats. Transplantation 2003;75:1655-9.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.IJA_179_18

How to cite this article: Solanki SL, Goyal VK, Baj B. Reply to 'The link between pulmonary hypertension and adverse renal transplant outcome may be renal venous hypertension'. Indian J Anaesth 2018;62:325.