

A Case of Flash Pulmonary Edema Caused by Iliac Artery Stenosis

Grace Chong DO

Lehigh Valley Health Network, Grace.Chong@lvhn.org

Joseph Moran DO

Lehigh Valley Health Network, Joseph.Moran@lvhn.org

Fnu Vikram MD

Lehigh Valley Health Network, Fnu.Vikram@lvhn.org

Benjamin Sanchez MD

Lehigh Valley Health Network, Benjamin.Sanchez@lvhn.org

Follow this and additional works at: <https://scholarlyworks.lvhn.org/medicine>

 Part of the [Cardiology Commons](#)

Published In/Presented At

Chong, G. Moran, J. Vikram, F. Sanchez, B. (2018, May). *A Case of Flash Pulmonary Edema Caused by Iliac Artery Stenosis*. Poster Presented at: Pennsylvania Osteopathic Medical Association, King of Prussia, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

A Case of Flash Pulmonary Edema Caused by Iliac Artery Stenosis

Grace Chong, DO,* Joseph Moran, DO,* Fnu Vikram, MD,** Benjamin Sanchez, MD,**

*Department of Medicine and **Division of Cardiology, Lehigh Valley Health Network, Allentown, Pa.

INTRODUCTION

- Flash Pulmonary Edema (FPE) secondary to renal artery stenosis is a well-known phenomenon first described by Pickering et al in 1988.
- It is precipitated by renal hypo-perfusion which activates the renin-angiotensin-aldosterone system resulting in increased water and sodium retention.
- Despite advances in medical therapies since its recognition, in-hospital mortality from FPE remains significant.
- We present a case of FPE caused by an iliac artery stenosis in a patient with a transplanted kidney.

METHODOLOGY/CASE PRESENTATION

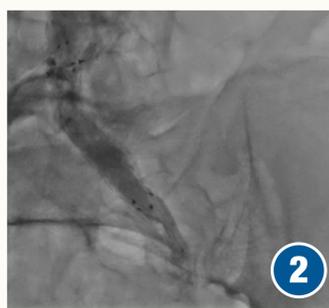
- A 69-year-old female with a history of kidney transplant and peripheral arterial disease complicated by severe claudication s/p prior iliac artery stenting, presented with acute hypoxic respiratory failure and hypertensive emergency with mean arterial pressure (MAP) of 176.
- Labs revealed elevated NT-proBNP at 135,442 and creatinine of 2.43 (baseline 1.2).
- She was treated for FPE secondary to hypertensive emergency with noninvasive positive pressure ventilation, diuresis, and anti-hypertensives; however, there was no improvement in MAP and creatinine worsened to 3.15.
- Meanwhile, a transplant renal ultrasound revealed decreased blood flow to the transplanted kidney.

RESULTS

- Urgent renal angiography revealed a 95% stenosis of the patient's left iliac artery proximal to the anastomosis site of the transplanted renal artery (Figure 2).
- Successful percutaneous trans-luminal angioplasty of the lesion was performed, resulting in revascularization of the kidney and immediate improvement of symptoms and creatinine (Figure 3).



Angiography of the transplanted kidney reveals no stenosis within the renal artery (Figure 1).



However, angiography of the left iliac artery proximal to the anastomosis site of the transplanted kidney shows significant stenosis resulting in decreased blood flow to the transplanted kidney (Figure 2).



Successful percutaneous trans-luminal angioplasty of the lesion was performed, resulting in revascularization of the kidney (Figure 3).

CONCLUSION

- This case highlights the importance in maintaining a broad differential diagnosis for FPE especially when patients do not respond in an anticipatory manner.
- Our differential did include acute transplant rejection, prompting the ultrasound which revealed the iliac artery in-stent restenosis, prompting revascularization.
- Early recognition and consideration of uncommon causes of FPE is important given the high mortality rate and potential for reversibility of the condition.

REFERENCES

- Chen, W., Kayler, L.K., Z. and M.S., Muttana, R., Chernyak, V., Deboccardo, G.O. Transplant renal artery stenosis: clinical manifestations, diagnosis and therapy. *Clinical Kidney Journal*. 2015;8(1):71-78.
- Fiutowski, M., Waszyrowski, T., Krzeminska-Pakula, M., Kasprzak, J.D. Pulmonary edema prognostic score predicts in-hospital mortality risk in patients with acute cardiogenic pulmonary edema. *Heart & Lung: The Journal of Acute and Critical Care*. 2008;37(1):46-53.
- Lacombe, M. Arterial Stenosis Complicating Renal Allotransplantation in Man. *Annals of Surgery*. 1975;181(3):283-288
- Roguin, A., Behar, D.M., Ami, H.B., et al. Long-term prognosis of acute pulmonary oedema - an ominous outcome. *European Journal of Heart Failure*. 2000;2(2):137-144.