A series of two haemorrhage-associated pheochromocytoma crises precipitating cardiogenic shock requiring extracorporeal life support.

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Introduction:
Cardiogenic shock induced by catecholamine excess in pheochromocytoma affects 2.9-7.1% of new presentations, in whom 1.5-5.7% require mechanical circulatory support [1][2]. Of patients in crises requiring veno-arterial extracorporeal membrane oxygenation (V-A ECMO) mortality is 7% [3]. Haemorrhagic pheochromocytoma is a known but rare precipitant of crisis [3].

Methods:
We included patients presenting to MMUH Jan 2016 – Dec 2019 in cardiogenic shock requiring V-A ECMO with new diagnosis of pheochromocytoma.

Results:
Case 1 – 30 year old female presented with abdominal pain & flash pulmonary oedema. Transthoracic echocardiography (TTE) demonstrated inverse Takotsubo’s cardiomyopathy. CT abdomen revealed a haemorrhagic left adrenal mass. Phentolamine precipitated cardiac arrest and following successful resuscitation peripheral V-A ECMO commenced for worsening cardiogenic shock. Decannulated from ECMO after four days, she subsequently underwent uneventful robotic adrenalectomy.

Case 2 – 58 year old female with chest pain and ischemic ECG. TTE revealed Takotsubo’s cardiomyopathy. CT revealed haemorrhage into right adrenal mass. Peripheral V-A ECMO commenced for cardiogenic shock. She awaits surgery following 6 day uncomplicated ECMO course with successful decannulation, extubation, and up titration of alpha blockade.

Conclusion:
Cardiogenic shock is well described in newly diagnosed pheochromocytoma, and crisis may be precipitated by haemorrhage into tumour. V-A ECMO represents a rescue therapy in a subset of these patients refractory to medical management, facilitating cardiac recovery and subsequent definitive surgery.

References: