Tricky Hypertension case

Jasmine Tan

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54 yo Mr MA

- Referred for labile blood pressure with significant hypertension
- Admitted under General Medicine for syncope
- Reports of occasional palpitations, occasional hot flushes and takes a while to “cool down”. No significant family history
- ESS 1/24
- 24 hour ABPM:
  - Overall average BP 180/118 mmHg
  - Awake average BP 189/126 mmHg
  - Asleep average BP 159/101 mmHg
  - Significant lability noted

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Background

1. Hypertension (2016)
2. Non-ischaemic cardiomyopathy (2017) with severe LV dysfunction (EF 25-30%) with normal LV size. Mild-moderate RV impairment.
3. MVA (1998) with chronic neck pain and migraines following whiplash, requiring 2 cervical surgeries
4. Migraines on Rizatriptan and Sumatriptan
5. Previous opiate and benzodiazepine dependence in the context of chronic pain syndrome
6. Ex smoker with previous 20 pack year history
7. Previous significant alcohol intake over 2 years

Medications

Spironolactone 25mg mane
Cilazapril 2.5 mg mane
Carvedilol 6.25mg mane
Amitriptyline 75mg nocte
Rizatriptan 10mg daily
Diazepam PRN
Sumatriptan injections

<u>Medication intolerance</u>
NSAIDs renal impairment
Valproate, Gabapentin, Nortriptyline and Amitriptyline >75mg sedation

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Examination findings

Weight 87.3kg; BMI 25.5kg/m^2

Seated BP 165/122 mmHg (no interarm variability); standing BP 154/110 mmHg

HR 92 - 101 regular

No hypertensive changes on fundoscopy

Heart sounds dual, tachycardiac

Clinically euvolemic and chest clear

No renal artery bruits audible

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Laboratory findings

Potassium 4.1 mmol/L; creatinine 117 umol/L; eGFR 61 ml/min

HbA1c 34 mmol/mol; Hb 137 g/L

Urine ACR 1.8 mg/mmol; bland urine microscopy

TSH 2.0 mU/L; adjusted calcium 2.4 mmol/L

Aldosterone 840 pmol/L; renin 30 mU/L (4 – 46); ARR 28 (before Spironolactone)

Serum metanephrine 383 pmol/L (N <500); normetanephrine 2,381 pmol/L (N < 900)

Urinary 5-HIAA 31 umol/day (N 0 – 50)

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Mr MA’s hypertension

- Symptomatic labile hypertension
- Interacting agents which exacerbate hypertension
- Elevated serum normetanephrines

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Hypertension service at GLMS

- Initial Specialist consultation and follow ups
  - Assessing for secondary causes
  - Individualizing antihypertensive agents and reviewing tolerability
  - CV risk modification
  - Patient education and discussing target BP
- 24 hour ABPM
  - Diagnosis, assessment of treatment response & maintenance
- Dietician consultation and follow up
  - Reduction in dietary salt intake, addressing metabolic risk factors
- Package for non-insured patients to enable holistic approach and cost savings

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Referrals

- Difficult to control hypertension (on 3 or more agents)
- Patients with diabetes
- Suspected secondary cause for hypertension
  - Onsite confirmatory testing of Primary Aldosteronism

- Referral with baseline laboratory bloods will be helpful
  - Aldosterone: renin ratio (ARR) [non-fasting and after 1-2 hours of ambulation]
  - Serum electrolytes and renal function
  - Serum calcium, TSH
  - Urine albumin: creatinine ratio
  - Lipid profile, HbA1c

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Management and progress

- Pseudopheochromocytoma
  - 24 hour urine catecholamines normal
- Addition of Doxazosin
- Bisoprolol replaced Carvedilol
- Wean of tricyclics and referred for Neurology opinion for alternative management of migraines

- Repeated 24 hour ABPM
  - Average overall blood pressure: 101/67mmHg
  - Average awake blood pressure: 106/71mmHg
  - Average asleep blood pressure: 87/54mmHg

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