Guide to the diagnosis of Hypertension

Patient presents with a blood pressure >135mmHg systolic or >85mmHg on the lowest of 3 readings in the consultation (see note 1)

Arrange Ambulatory Blood Pressure Monitoring (see note 2)

Also arrange:
- Urinary dip test for protein, sugar and blood
- U&Es, LFTs, TFTs, Hba_1c,lipids, cholesterol
- ECG
- Cardiovascular risk assessment using Qrisk2

Ambulatory Blood Pressure Monitoring Results

<135/85	**Normotensive**. Give lifestyle advice and reassess in 3 years
135/85-150/95 no CVD or low risk	**Stage 1 hypertension**. Give lifestyle advice and reassess annually
135/85-150/95 CVD or risk >20%	**Stage 1 hypertension with end organ damage**. Give lifestyle advice and intervene with medication reassess as below
>150/95	**Stage 2 hypertension**. Give lifestyle advice and intervene with medication reassess as below

Note 1:
Ambulatory blood pressure monitor should be set to take two readings an hour during the day and one reading an hour over night. The assessment should use the average of 14 reading taken during the day.

If someone cannot tolerate ABP then home readings should be used.
Using home monitoring to diagnose hypertension:
- Each recording, take two consecutive measurements, at least one minute
apart and with the person seated
- Record blood pressure twice daily, ideally in the morning and evening
- Continue recording blood pressure for seven days
- -Discard the measurements taken on the first day and use the average value of all the remaining measurements to confirm a diagnosis of hypertension.

Note 2:
In those over 80 years of age the target treatment blood pressure is 150/90 however the diagnostic parameters are unchanged

Investigation for a primary cause:
In those under 35yrs who are diagnosed with hypertension (Stage 1 and Stage 2) should have further investigation.

This should include the test already outline but also a Renal MRA, Adreanal MRI and serum renin and aldosterone assessment. The blood test for the renin and aldosterone must be undertaken at the hospital

In those who are obese (BMI>35) a 24hr urine cortisol should be considered

In those of any age with a serum potassium less than 4.0mmol/l should be considered for serum renin and aldosterone levels

Guide to the Treatment of Hypertension

Patient with Stage 2 hypertension or Stage 1 hypertension with end organ damage or coexisting cardiovascular disease

Amlodipine 5mg

Candesartan 8mg & Amlodipine 5mg

Candesartan 16mg & Amlodipine 5mg

Candesartan 16mg & Lercanidipine 20mg

Candesartan 16mg & Lercanidipine 20mg & Indapamide 2.5mg

Candesartan 16mg & Lercanidipine 20mg & Indapamide 5mg

Candesartan 16mg, Lercanidipine 20mg & Indapamide 5mg & Sprionolactone: Check U&Es at 2 weeks, 4 weeks, 8 weeks, 12 weeks then 6 monthly

E-consult with GPwSI re next step

Special Considerations with comorbidities

ARB should be first line in Diabetes

ARB should be first line in CKD

Dilitiazem should be used in CKD over DHP

After ARB a beta-blocker should be second line in those with LVSD

The candesartan should be up titrated to 32mg in those with LVSD

After ARB & beta-blocker an MRA should be third line in those with LVSD

All with AF and hypertension should be advised of the benefits of Anticoagulation in stroke prevention

Treatment Targets

Although the Quality and Outcome Framework suggest a blood pressure of 140/90 mmHg the evidence would now suggest more aggressive management

Affinity Care treatment target is:

130/80mmHg

This will require more medication and again supports the Poly Pill Hypothesis

Clearly this should be supported with lifestyle advice, weight control, exercise and the use of Statin intervention in line with JBS3

Active promotion of Atrovastatin 40mg in addition is supported

As with glycaemic control in diabetes, aggressive management is associated with better outcomes however is at the expense of adverse events

When assessing the treated hypertensive patient it is important to assess for symptoms of hypotension. We do not recommend erect and seated/supine blood pressure assessment as the history of symptoms of hypotension are a more reliable guide to adverse events. Symptoms can include light headedness but also tunnelling of the vision, unsteadiness, erect headache or stiffness/pain in large muscle groups on walking

Treatment and Monitoring Advice

After each dose adjustment the patient should be reviewed 4-6 weeks later

Electrolytes should be assessed at 2 week after ARB initiation and once the maximum dose has been achieved

In those on ARB electrolytes should be assessed 4 weeks after the addition of a thiazide or loop diuretic

In those on a ARB and spironolactone then electrolytes should be assessed at week 2, 4, 8 and 12 before moving to 6 monthly assessment

In those with stable blood pressure they should under go annual assessment with a blood pressure assessment and blood tests to assess
-electrolytes (assessing for development of CKD)
-HBa1c

If the Qrisk2 assessment is in excess of 10% then a atorvastatin should recommended. On going cholesterol assessment is unnecessary as the treatment recommendation will remain the same. There is no evidence that cholesterol reduction through dietary modification reduces CVD events however clearly a low fat (calorie) diet leads to improved body shape which is can reduce CVD events so should be recommended but in addition to and NOT as an alternative to atorvastatin 40mg

Westcliffe Cardiology Service April 2018