The emergency it represents in the clinical setting of: Hypertension

Author: Dr. Edward Tsang (registered Chinese Herbalist & Acupuncturist)
Wu Zhu Metaphysician

Hypertension is quite common and popular for modern society nowadays due to people’s daily diet. Patients with the symptom of diastolic blood pressure over 120 mmHg is defined as hypertensive crisis (Cameron et al 2000). Hypertension can always increase its risk if patients smoke or drink wine. Chinese medicine states that patients who suffer from the hypertension will have stagnation in their orifices, blood vessels and emotional irritability. Biomedicine treats the emergency of hypertension by using antihypertensive medication to reduce the diastolic blood pressure to less than 150 mmHg, while TCM not only can use acupuncture, but also herbals for sedating the hypertension. The prevention of hypertension is aided by reducing or stopping smoking, reducing weight if over-weight, correcting obesity and less alcohol and appropriate exercise is encouraged.

Definition of hypertension crisis

Clinically and medically, a patient whose blood pressure is above 120mmHg is defined as hypertension crisis. (Cameron 2000; Edward 1995; Lombardi 1995). Hypertension is also noticed when the average systolic and diastolic of blood pressure gradually increases with patient’s age. Edwards supported this stating: “Hypertension is defined arbitrarily at levels above generally accepted “normals” for example 140/90 at the age of 20, 160/95 in the age of 50” (p.266). However, Lombardi (1995, p.245) remarked: “A Patient with a blood pressure of 160/90 or higher should be considered hypertensive. A diastolic blood pressure of greater than 130 mm Hg is considered a hypertensive crisis”

It is noticeable that the exact symptom of the acute rise in blood pressure in hypertensive crisis is still unknown, The precipitants and risk factors are chronic hypertension, renovascular hypertension, parenchymal renal disease and acute glomerulonephritis. “The presence of head injury, pregnancy-related hypertension, collagen vascular disease, phaeochromocytoma, renin-secreting tumour and autonomic hyperactivity are also included” (Cameron 2000, p188).

According to the theory of TCM, when there is heat in the blood channel, it reflects a symptom of heart disease and the orifices of certain areas will also be blocked up. The flows of blood and qi will not be stable and smooth. This will create blood stagnation and heart-fire blazing. Patients with these symptoms have what consider to the western hypertensive crisis. Clinically, there are manifestations of palpitations, thirst, mouth and tongue ulcers mental restlessness, feeling agitated, feeling of heat, insomnia, red face, dark urine, blood in urine and bitter taste in the month. The pulse of patient will be full-rapid-overflowing especially the left front position, which is the position showing the channel of heart (Maciocia 1989, p. 208).
Symptoms and signs

As per TCM practice, the sensory orifices are associated with the spirit of our Heart, which in Chinese medicine are said to be closed…Loss of consciousness may be due to either excess or deficiency…due to pathogenic heat or heat toxin sinking into the Pericardium (Bensky 1990).

The symptoms of hypertension can cause headache or polyuria. Family history of hypertension should not be neglected, such as, angina, left ventricular failure, cerebrovascular disease. Careful diagnosis of family history can dig out those patients who are likely to be interested in drug, alcohol and smoking. These induce the potency of hypertension. The paroxysmal headache, palpitations and sweating should not over-look and a prompt careful examination for a phaeochromocytoma. Additionally, recurrent back-ache or urinary tract infection may also be due to chronic pyelonephritis (Edwards, p. 267).

It is noticed that there are signs and symptoms for hypertension and patients are generally suffering from headache, epistaxis, tinnitus, syncope and seizures (Lombardi, p. 246-247).

Complications of hypertension are classified into two groups. Minor complications occur in fundi (vascular spasms, vascular sclerosis, hemorrhage and papilledema); heart (left ventricular, congestive heart, myocardial ischemia and myocardial infraction); vascular (atherosclerosis, aneurysm with or without rupture, dissection of aneurysm and rupture of aneurysm); brain (Cerebrovascular, encephalopathy, cerebral thrombosis and intracranial of subarachnoid hemorrhage) and renal (benign nephrosclerosis, malignant nephrosclerosis, impaired renal function, low specific gravity, proteinuria, hematuria, elevated creatinine and bun) and Major complications occur in cerebrovascular accident, aortic dissection, congestive heart failure, renal insufficiency encephalopathy, grade IV retinopathy, myocardial infarction, cerebral thrombosis, peripheral vascular insufficiency and sudden death, (Lombardi, p.246-247).

Treatment of Hypertensive crisis

It is critical for emergent hypertensive patients to have immediate treatment. Emergency physician needs to define between a hypertensive emergency and a hypertensive urgency. The former is evidence of acute and progressive vascular and or organ damage and it is not present in hypertensive urgencies but progression to an emergency may occur (Cameron, p. 189). Medications of B-antagonists, inhibition of Na reabsorption, Beta-adrenergic blockade can be used for the treatment of hypertensive crisis. (Lombardi, p.248). Treatment of hypertension is also aimed at reducing the diastolic blood pressure to less than 150mmHg.
Withdrawal of centrally acting antihypertensives such as clonidine

B-antagonists and the less commonly used guanethidine, bethanidine and reserpine are adopted. The rebound hypertension may be severe and associated with anxiety, diaphoresis, nausea and abdominal pain. Prompt treatment can always prevent acute vascular or organ damage. Especially examination on the function of renal system can provide accurate evaluation on effective treatment (Cameron, p, 189).

There are lot of antihypertensive medications (Lombardi, p.248):

Thiazide diuretics – common brand name: diuril (dose : 0.5-2g); hydroid-uril (25-50mg); Esidrix (25-100mg); Zaroxyolyn (5-10mg). The major action for these medications is mainly for renal sodium and water increase by inhibition of Na reabsorption in distal tubule. However, there also common side effects for these medications, such as hypokalemia, decreased glomerular filtration rate, increased uric acid and unique problems, such as further compromise of impaired renal or hepatic functions, severe hyperglycemia.

Alpha-methyldopa – common brand name: Aldomet (does : 1-2g). The major action for this medication is mainly for central effect most profound. However, there are also common side effects of sedation, postural hypotension, retention of sodium and water and impotence common and unique problems, such as positive direct Combs’ test (20%), haemolytic anemia, reversible liver damage and drug fever.

Propranolol – common brand name: Inderal (does : 80-160mg “may be much higher). The major action for this medication is mainly for Beta-adrenergic blockade. However, there are also common side effects of exacerbates congestive heart failure, exacerbates asthma, many central nervous system side effect and unique problems are masks signs and symptoms of hypoglycemia.

Reserpine – common brand name: many preparation such as Serpasil (dose : 0.1-10mg. The major action for this medication is mainly for depleting catecholamine status leading to decreased peripheral resistance and cardiac output. However, there are also common side effects of depression (do not use if patient is depressed). Gastrointestinal and unique problems are extrapyramidal tract signs and gastrointestinal bleeding.

Examination of hypertension

Practitioner’s examination of hypertension on patients must carry on the detection of the delay between radial and femoral pulses characteristics of coarctation of the aorta, and examination for enlarged kidneys in polycystic disease (Edwards, p.268). Examinations of the quantities and colour of urination should be carried on and blood pressure and pulses should also be checked for each 15 minutes for the emergent hypertensive patients.
There are various types of hypertensive emergencies: Hypertension with neurological complications are (Cameron, p. 189):

**hypertensive encephalopathy** – the autoregulation of cerebral is lost, in result of cerebral oedema, severe headache, visual problem, tiredness, nausea and vomiting. Altered mental status acute retinopathy, neurological deficits and convulsions may be shown.

**Hypertension with cardiovascular complications** is listed as acute myocardial ischaemia or infections; acute left ventricular disorder and thoracic aortic problems.

**Hypertension with renal failure** is resulting in acute renal failure or exacerbation of chronic renal failure.

**Hypertensive emergencies in pregnancy** – pre-eclampsia is the prediction of hypertension (140/90 mmHg or an increase larger than 30/15 mmHg. Oedema and proteinuria after 20 weeks after 20 seeks of gestation. When there is symptom of convulsion, eclampsia is present.

**Phaeochromocytoma** – is a symptom of adrenal medulla catecholamine-secreting tumour. Initially hypertension is episodic and associated with headache anxiety, palpitations, diaphoresis, nausea and vomiting.

As per the practice of TCM, acupuncture is keen to treat the acute symptom of pain and hypertension. There are acupuncture points, such as Fengchi GB-20 can eliminate wind, smooth the channel, clear head wind, headache, dizziness, visual dizziness, hypertension and insomnia (Deadman, p.436); Quchi L.I.-11 can clear heat, cool the blood, eliminate wind and drain damp. It also can regulate the qi and blood (Deadman, p.112); Zusanli ST-36 can clear fire and calm the spirit, activate the channel and stop pain (Deadman, p158); Taichong Liv-3 can spread liver qi, reduce liver yang and expel wind, clear the head and eye.(Deadman,p.477).

In the meantime, using herbal medicine can further soothe and calm the hypertension by using formulas of **Tian ma gou teng yin**, which not only calms the liver, expels wind, clears heat, but also invigorates the blood and nourish the liver and kidney and **Zhen gan xi feng tang**, which settles the liver, expels wind, tonifies the yin and anchors the yang for feverish sensation in the head, headache. (Bensky, p 402 & 405).

**Prevention of hypertension is better than curing**

Daily food diet is the primary treatment to prevent or reduce chances of getting the hypertension. Correcting obesity and less intake of alcohol is the best way for this. Not only is it important to avoid excessive salt consumption intake, but also need to reduce or stop smoking if patients are smokers. Weight reduction is the measure for overweight patients and appropriate exercise is encouraged for all patients (Edwards, p.269-270). Regular examination of blood pressure should also not be forgotten.
Conclusion

Hypertension has become common in society nowadays. However, there is no exact method to detect the acute rise in blood pressure in hypertensive crisis and is still unknown where is sourced from. Patients with the symptom of diastolic blood pressure over 120 mmHg is defined of hypertensive crisis. It is also noticed that the average systolic and diastolic of blood pressure gradually increases with age. Various symptoms of hypertension are classified as angina, left ventricular failure, cerebrovascular disease, etc. Immediate treatment of the emergent hypertensive treatments can be adopted by Western and Chinese Medicines. There are a lot of commonly used medications from Western Medicine, while acupuncture and herbal medicine can be used from Chinese Medicine. However, using a lifestyle of health diet, reduce or stop-smoking, and appropriate exercise can reduce the chance of having hypertension. Prevention is the most effective cure for any illness.

References:


