

## High Blood Pressure.

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### *Definition :—*

Blood pressure may be defined as the lateral force exerted by the blood on the walls of the arteries into which it is contained. Blood flows owing to the difference or variation of Pressure set up in the vascular system by the contraction of the heart.

### *Measurement and calculations :—*

It is measured by an instrument, the best is probably a modification of the Riva Rocci's instrument. Both the systolic and diastolic pressures are measured, the former represents the maximum work of the heart, the latter indicates the resistance which the heart has to overcome when the aortic valves are opened. The difference between the two is called pulse pressure.

### *ROLLESTON'S RULE FOR B. P. :—*

For adult—"Systolic Pressure is the figure represented by 100 plus half age in years." The maximum physiological pressure is 100 plus the age. An average systolic pressure in early adult is 120 to 130 m. m. Hg. and in women it is usually 10 m. m. Hg. lower than in men; but it should be noted here that there are wide variations consistent with perfect health. Systolic pressure higher than 150 at any age is abnormal. A patient at rest in bed shows a lower B. P. A person may have a blood pressure of 250 m.m. Hg. or more when up and about and yet when he is kept in bed the pressure may fall to 150 m.m. Hg. to rise again when he is active.

Dr. Crowe in his invaluable article on Blood Pressure gives a simple method of measuring hypertension by determining the patient's Energy Index—namely multiply

the sum of the systolic and diastolic pressures by the pulse rate, the normal range is from 13,000 to 20,000. Suppose in a case the systolic were 180, diastolic 110 and pulse rate 90; calculation on this data will give the Energy Index of 26100 i. e. an overload of 6100 which is far more than the cardiac apparatus could sustain without clinical manifestations for a considerable number of years.

*Importance :—*

The chief importance of high B. P. is in diagnosing arterial or renal degeneration with consequent tendency to apoplexy.

*Etiology of High B. P. :—*

Difficulty results from the undoubted fact that several factors may be either the cause or the result of High B. P.

A. PREDISPOSING FACTORS :—

- (1) Heridity plays a most important part.
- (2) Age—More frequent at and past middle life.
- (3) Sex—More common in males than in females. In women it often occurs at menopause.

B. EXCITING CAUSES :—

Exciting causes bring into operation one or more of the following factors.

- (a) Increased peripheral resistance in arterioles.
- (b) Increased force of the ventricular contraction of the heart.
- (c) Rigidity of the middle coats of the large arteries.
- (d) Increased Plethora depending on :—
  - (i) Output of the heart.
  - (ii) Output of the veins.
  - (iii) Capacity of the vessels.

*Exciting causes are :—*

- (1) Sedentary habits, over-eating especially of nitrogenous food. Prolonged over-exertion of

muscles. Prolonged mental strain, anxiety, fear etc.

- (2) Kidney diseases—e.g.
  - (a) Chronic Interstitial Nephritis.
  - (b) Secondary Contracted Kidney.
  - (c) Later stages of Polycystic disease of the Kidneys.
- (3) Lung diseases :—
  - (a) Asthma (b) Emphysema etc. due to deficient oxygenation.
- (4) Heart diseases.
  - (a) Cardiac Hypertrophy
  - (b) Cardiac dilatation
  - (c) Angina Pectoris etc. etc.
- (5) Liver disease e.g. cirrhosis of Liver
- (6) Metabolic Diseases :—
  - (a) Gout.
  - (b) Diabetes
  - (c) Beriberi
  - (d) Epilepsy
  - (e) Obesity etc.
- (7) In certain neurovascular diseases due to dilatation or spasm of the peripheral vessels e. g. Raynaud's disease.
- (8) Chronic Intoxications :—
  - (a) Lead
  - (b) Excess of Tobacco
  - (c) Alcoholic excess etc.
- (9) Auto-intoxications especially from :—
  - (a) The teeth
  - (b) The tonsils
  - (c) Accessory nasal sinuses
  - (d) Gall bladder (e) Appendix
  - (f) Pelvic organs etc.

(10) Other causes are :—

- (a) Intra-cranial Tumours.
- (b) Aneurism
- (c) Later stages of hyperthyroidism or other endocrine disturbances
- (d) Polycythaemia due to increased viscosity of blood
- (e) Ptyalorrhœa
- (f) Abnormal Pregnancy etc. etc.

*Pathological Effects of High B. P.*

When faulty dilatation of vessels exist there ensues an imperfect elimination of the toxæmic products of metabolism—which act on the vessel walls and on the vasomotor nervous system causing thickening and spasmodic contraction of blood-vessels and consequent scanty flow of blood.

As elimination of toxin is dependent upon the rate of renewal of blood in the emunctory organs, such a decrease in the vascular supply serves to cripple depuration still more.

The increased resistance to the vascular current leads first to hypertrophy especially of the left ventricle and later to the dilatation of the heart.

Failure of heart may ultimately result from mitral stenosis due to partial asphyxia acting upon the vasomotor centre.

When high B. P. continues for sometime, degenerative changes take place in the muscular coats of the blood vessels resulting in :—

- (a) Atheroma of larger arteries e. g. of Aorta etc.
- and (b) Sclerosis of smaller vessels which may lead to granular kidney, cirrhosis of liver etc.

Hæmorrhages from anywhere may occur due to rupture of the blood vessels under hypertension e. g.

- (a) Rupture of the Arteries of the brain
  - (b) Rupture of retinal arteries
  - (c) Epistaxis
  - (d) Bleeding from gums
  - (e) Hæmatemesis
  - (f) Hæmoptysis
  - (g) Hæmaturia
  - (h) Metrorrhagia
  - (i) Bleeding from Piles
- etc. are all common.

*Prognosis.*

- (a) The Prognosis with diastolic pressures which are constantly above 135 m. m. Hg. or over is very grave.
- (b) Abnormally low diastole with a high systole is found in aortic regurgitation.
- (c) High pulse pressure is associated with hyperthyroidism.
- (d) Normally pulse pressure falls when the patient changes from the horizontal to the standing position, if it rises it indicates cardiac hypertrophy.
- (e) Valvular disease may be suspected if the diastolic pressure falls on standing.
- (f) If the changing from supine to erect position causes a fall of systolic, diastolic and pulse pressures—it would probably mean cardiac dilatation.
- (g) When the kidneys are affected and blood pressure remains well over 200 m. m. Hg. with well marked albuminurie retinitis—death usually occurs within 6 months.

*Symptoms.*

Following symptoms are generally met with, when we investigate a case of Hypertention.

The patient is often plethoric and well nourished.

*Mind.*—Patient is nervous, fearful and anxious. Intellectual apathy. Mental depression. Irritable. Intolerant to contradiction. Mistakes in writing. Loss of memory. Aversion to sun, and loud noise.

*Head.*—Headache of a throbbing and bursting character, generally in the occipital region. Pain starts from nape of neck and spreads upwards. Heat at the top of the head with heaviness. Tight feeling as from a band. Giddiness and fullness. Headache in place of menses. Vertigo as if everything is turning in a circle especially on standing or walking. Falling of hairs, Orbital neuralgia, Cerebral haemorrhage.

*Eyes.*—Dim vision, Retinal haemorrhage with loss of sight. Retinal arteries are thickened and ophthalmoscopy shows "silver wire" arteries. Pain, lachrymation and photophobia, Recurrent styes. Chromatic alterations of objects looked at. Myosis, Hemiopia. Soreness in and about the eye balls. Agglutination of lids in the morning.

*Ears.*—Noises in the ears. Ear-ache. Hardness of hearing. Throbbing. Full feeling. Offensive otorrhœa. Whizzing and buzzing.

*Nose.*—Obstruction, sneezing, coryza, profuse watery thin discharge. Epistaxis.

*Face:*—Pain in Zygoma. Facial paralysis. Flushings. Sweaty face.

*Mouth:*—Foul breath. Ulcerated gums which bleed easily. Pyorrhœa. Pulsating toothache. Salivation.

*Throat:*—Stitches when swallowing. Hoarseness. Pharyngitis. Spasm of Pharyngeal muscles. Tenacious mucous in the throat. Suppurative tonsillitis. Submaxillary glands swollen. Dysphagia.

*Stomach* :—Appetite increased or anorexia. Desire for tobacco, alcohol, meat, bread and cold drink. Thirst usually increased. Hiccough, Eructation. Nausea. Acidity. Pain in the stomach after eating, Indigestion. Pressure of cloth intolerable. Great accumulation of gas in the gastro-intestinal canal. Faint feeling in the stomach.

*Abdomen* :—Heat and painful distension of abdomen with wind. Gripping pain with rumbling. Wants abdomen uncovered.

*Rectum* :—Constipation with hard knotty stool. Obstructed evacuation from impacted faeces. Painful and bleeding hæmorrhoids which protrude during micturition and defæcation. Copious diarrhœa for a long time in old people without any obvious cause. Burning and itching in the anus lasting for a long time after stool.

*Urine* :—Burning in the urethra. Painful constriction of the neck of the bladder. Renal colic. Profuse hæmaturia. Urine turbid, scanty, flows drop by drop and of dark colour, or profuse flow of limpid urine. Frequent desire especially at night. Urine may contain albumin and casts. There may be a great increase of uric acid and diminution of chlorides in the urine.

*Male* :—Diminished desire. Enlarged Prostate. Pain and swelling of the testicle. Nightly emission.

*Female* :—Prolapsed and enlarged uterus. Sterility, sensation of pain and tension in the pelvis. Shooting pain in the breast. Painful and scanty menses. Dysmenorrhœa with profuse dark menses. Sudden cessation of menses. Fibroid tumour. Climacteric disorders. Aching pain in hips and loin. Hyper-sensitive condition of the genitals.

*Heart* :—Pulse rapid, feeble and irregular. Whip cord arteries especially the radial and temporal arteries. Sensation as if heart would stop beating. Sensation as if heart were compressed. Dyspnoea. Cyanosis, Cardiac asthma, Cardiac uraemia. Angina Pectoris. Fatty heart. Mitral insufficiency. Myocardial degeneration. Heart's action tumultuous and forcible; second sound in the aortic area is much accentuated. Rheumatic soreness and anxious pressure on the whole chest. Pre-cordial pain radiates from centre towards the sternum. Trembling and fluttering in the heart extending to the back. Any exertion brings on rush of blood to the heart and fainting spells. Tachy-cardia when lying on the left side.

*Respiratory* :—Dry, teasing, suffocative or wheezing cough with haemoptysis; cough aggravates on lying down. Chest seems to be full of mucus but expectoration is difficult. Dyspnoea on ascending and at night. Frequent deep breathing. Oppressed breathing inducing cough. Awakes choking. Stitching pains through lungs to back. Lungs feel full of smoke. Chronic Bronchitis. Emphysema. Passive congestion of lungs with bloody sputum due to failure of myocardium.

*Back* :—Bruised pain between scapulae and in the arms and shoulders. Stiffness on moving shoulders. Paralytic pain in the small of back. Stiffness in the sacrum. Weakness of spine.

*Extremities* :—Rheumatic drawing pain in the limbs. Pain in the ankles and heels while walking. Aching pain in the left arm. Trembling and numbness of the limbs. Intermittent lameness. Cramps in calves more marked while walking, Sciatica. Swelling and tenderness of finger and toe joints. Oedema of feet, ankles and legs. Transient paralysis may occasionally be

met with due to spasm of hypertrophied arteries.  
Hemiplegia.

*Skin* :—Tettery eruptions on hands, head etc. Rough rash all over the body. Moist, burning, itching eruptions over the extremities. Perspiration at night. Hands are alternately hot and cold. Urticaria. Cold clammy skin. Fœtid foot sweat.

*Sleep* :—Hypertension may cause insomnia by preventing the establishment of the degree of cerebral anæmia that is requisite for sleep. Frightful dreams with wakefulness. Patient feels too hot.

*Modalities* :—Worse after exercise, sun, fire, warm room, warm clothing, left side, smoking, noise, afternoon and night.

Worse after emotional disturbances and thinking of symptoms. During menses. Better walking in open air, when the stomach is empty, uncovering, taking brandy.

( to be continued )

*N. B.*—Treatment of Hypertension with references to books and periodicals will appear in the next issue.

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These characteristics are unquestionably the most important element in the choice of the most appropriate remedy ; and nothing attests more surely and conclusively the skilful readiness of a homœopathic practitioner than the faculty of bringing to light, in his examination of the patient, those symptoms which, while they are of rare occurrence and belong to but few remedies—yet and for that very reason, furnish definite and unquestionable indications for the selection of one single drug.—BOENNINGHAUSEN, 1866.