OUR PRIZE COMPETITION.

DESCRIBE BLOOD PRESSURE—ITS CAUSE AND TREATMENT.

We have pleasure in awarding the prize this month to Miss Amy Phipps, S.R.N., Longmarton, Ashford, Middlesex.

PRIZE PAPER.

Blood pressure is a term describing the pressure exerted by the blood on the walls of the arteries, during the passage of the blood through these vessels.

Its importance as a factor in the incidence of good health or ill health is now firmly established, and the condition of the blood pressure assumes a prominent place in both diagnosis and prognosis in connection with disease. Blood pressure is estimated by the use of an instrument known as the sphygmomanometer, which consists of a rubber bag, which can be inflated, attached to a mercurial apparatus and dial, by which the pressure is registered and from which it is read.

The use of the sphygmomanometer is easily acquired, but can only be learned and appreciated by practical instruction and demonstration.

Roughly, the normal systolic pressure is estimated at the age of 100, but for useful purposes a more detailed consideration and estimate are necessary.

Blood pressure is governed chiefly by four generally accepted factors, viz. :— (1) The volume and viscosity of the blood ; (2) The elasticity of the vascular walls ; (3) The cardiac energy ; (4) Peripheral resistance.

Certain influences which have a marked effect upon the blood pressure include :—The position of the body when the pressure is estimated, muscular exertion, nerve tension or excitement, digestion, mental disturbance from any cause, certain drugs, age, many general and specific diseases, and the usual conditions and social habits of the subject. It is probable that heredity and constitution have a considerable bearing on the individual concerned.

The two methods of estimating the blood pressure are by (*a*) oscillation and (*b*) auscultation, the latter being generally accepted as giving the most accurate results. The systolic or maximal pressure is first ascertained, followed by the securing of the diastolic or minimal pressure. In certain cases it is necessary to resort to the oscillatory method, especially where aortic insufficiency or vascular dilatation exists.

By obtaining the accurate estimate of the systolic and diastolic pressure, it is possible to detect any hypertension or hypo-tension, and collect valuable information as to the driving power of the heart and the condition of the vaso-motor.

The value of the estimation of the blood pressure in abnormal conditions will be appreciated when it is remembered that the sphygmomanometer will reveal the initial symptoms of cardiac or kidney disease before a trace of albumen is found, or the heart murmur heard, the toxic condition leading to these conditions being in evidence.

To obtain the full value of examination of the blood pressure, it is necessary that certain principles be observed. See that the instrument is in perfect working order. The patient should be at rest, if possible, and the reading should be taken about two hours after a meal.

It should be remembered that readings are higher when standing than when sitting. As far as possible, the patient's mind should be at rest.

The reading, when a series are to be taken, should be taken as nearly as possible at the same time and under the same conditions each day, an accurate and detailed chart being kept. Anyone assisting at blood pressure estimation should obtain an intelligent appreciation of the work in hand.

Amongst the diseases causing great variance in the blood pressure may be mentioned :— Intestinal nephritis, arterio-sclerosis, certain diseases of the eye, shock and haemorrhage, certain surgical conditions, pulmonary tuberculosis, certain specific fevers, pneumonia, asphyxia, certain form of poisoning, general diseases such as syphilis, diabetes, alcoholism, mental diseases, and probably many others. It would appear that frequent cause of abnormal blood pressure is abnormal functioning of the kidneys in their important work of removing the toxic results of waste products in the body at a perfect ratio.

Treatment is largely concerned with early diagnosis and the detection and removal if possible of the cause of the altered blood pressure.

Amongst the agents employed for reducing blood pressure may be mentioned :—

(*a*) Baths,

(*b*) Auto-condensation.

This is carried out by electrical application, the d'Arsonval current being used. This has been found to give excellent results without any cardiac depression, in many cases, the amount of reduction being registered at each treatment.

(*c*) Medication. The drugs in common use are sodium nitrite, veratrine and potassium iodide.

Nitro-glycerine has been used in many cases, but although it usually acts immediately, its action is not maintained. In all treatment, the individual patient's circumstances and habits must be taken into account, and very careful instruction given as to any simple rules of hygienic living by which he can aid in effecting a satisfactory cure, and this applies very particularly in relation to diet.

By the early detection of abnormal blood pressure a valuable aid to the prevention and cure of disease is in our hands.

QUESTION FOR NEXT MONTH.

What precautions should a Nurse take to avoid infecting herself and others when nursing : (*a*) Enteric Fever, (*b*) Gonorrhœa, (*c*) Erysipelas, (*d*) Ringworm.

THE BRITISH COLLEGE OF NURSES.

NOTICE OF ELECTION.

The Notice of Election to the Council appears on page iv of cover.

There are vacancies for Two Fellows and for One Member.

Nomination papers will be obtainable on April 18th, from the Secretary, British College of Nurses, 39, Portland Place, London, W.1, and must be returned in order by May 16th, 1934.

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