OUR PRIZE COMPETITION.

GIVE A DESCRIPTION OF THE VARIOUS DISEASES CONNECTED WITH THE DUCTLESS GLANDS OR ENDOCRINE ORGANS.

We have pleasure in awarding the prize this month to Miss Henrietta Ballard, M.B.C.N., District Nurses' Home, 198, Cable Street, E.1.

PRIZE PAPER.

The organs known as the *Ductless Glands or Endocrines* are those which until recent years have been known very little of, and have now been found to give an internal secretion or "Homone" to the blood in so minute a quantity as not to be detected in the blood, and yet a very essential secretion to health of mind and body, especially to body growth, reproduction and metabolism. Diseases of these organs are due either to deficient or over secretion of this important fluid, and suppression gives fatal results.

The Endocrine disease probably most under discussion at present is Diabetes.

(1) *Diabetes* is caused by deficiency of insulin secretion in the Islets of Langerhaus, or to pituitary deficiency.

The patient is usually of the worrying type, and sugar is found in the urine and in the blood in large quantities, the body instead of burning sugar in its metabolism is burning fats; hence we see usually much *emaciation*.

Great Thirst, due to the kidneys crying out for water to wash away the sugar from their cells.

Dyspnœa and Exhaustion, due to the blood being acid instead of its normal albuminity.

Urine is very acid, and acetone is present in advanced cases in urine, sweat, breath and blood.

Rest is essential, diet according to caloric value of basal metabolism of the patient given, and insulin is often injected in regular dosage—according to amount of sugar in blood content.

Insulin can only be given under the skin, as trypsin changes insulin into a highly toxic substance.

Starvation treatment may be given until blood is sugar-free, and then a diet built up of protein, fat and a small quantity of carbohydrates is given, with small doses of insulin to keep blood sugar within normal limits.

When insulin is given, it must be before a meal, 20–40 minutes, or collapse, convulsions or air-hunger may result, but may be averted by giving a lump of sugar, or injection of adrenalin, at first symptom.

Diseases of Thyroid Gland are manifest by interference with growth of bones in young children, and in older people by slowness and mental dullness, or to over secretion, in which Graves' Disease (or Exophthalmic Goitre) results.

(2) *Cretinism* is a state of stunted growth. As long as baby is breast-fed it is normal, and then, after weaning, remains small and dull, has larger protruding abdomen than is proportional, scant hair, gaping mouth, protruding tongue, lack of intelligence; it has a slow basal metabolism, its flame of life is burning too slowly, but will respond somewhat to thyroid treatment, but can never be quite natural.

(3) *Myxœdema* is a similar state coming on later in life. Patient, frequently a woman, becomes fat, slow in moving, thinking and eating, has a slow pulse, hair falls, hands become spade-like, facial expression alters, and she becomes mentally dull; there is increase of mucin in the thyroid. Thyroid extract helps very much in these cases and keeps them fairly normal, but it must be continually taken or symptoms recur.

(4) *Exophthalmic Goitre* ("*Graves' Disease*") is five times as common in women as men, and endemic in certain districts, the cause lately arrived at is that deficiency of iodine from the sea air affects the thyroid. Most districts affected are robbed of iodine by the mountains, or are far removed from sea air.

The thyroid is obviously enlarged, exophthalmus is usually marked, there is loss of weight, tachycardia and high basal metabolism.

Rest works wonders. Iodine is given in some form. Operative treatment may have to be resorted to. Preventive work is being done in the endemic districts, especially in Switzerland for the children; they are given iodised salt, iodised toffee and chocolate, and results are good.

(5) The removal of the *Parathyroids*, situated by the thyroid, has a more fatal result than that of the thyroid, and any interference with them sets up "*Latent Tetany*," with contractions and tremors. They are not thought to have an internal secretion, but are essential to life.

The Pituitary Body consists of two important lobes. The anterior lobe which influences growth, and we meet dwarfs with functionless anterior lobes, and giants with other defects of secretion.

(6) *Acromegaly* is a disease which creeps on insidiously over years, and produces overgrowth of some bones, especially of hands and face. Mentality is altered, and verges closely on insanity at times, and unless extract is given in time the condition goes on to hideousness.

The posterior lobe gives us the useful secretion for midwives, stimulates plain muscle, especially the uterus, bladder and bowel. Deficiency also affects the sugar content in the blood and brings about glycosuria and thirst.

(7) "*Addison's Disease*," or tubercular infection of supra-renal bodies, is marked by lassitude, bronzing of skin, nervous prostration, feeble action of heart, and loss of tone.

These glands secrete adrenalin, which maintains the normal blood pressure, and is essential to keep up sugar content of blood working with insulin.

Adrenalin gives some relief, but it is an insidious disease, and not much benefit can be permanently given.

HONOURABLE MENTION.

The following competitors receive honourable mention: Miss Amy Phipps, F.B.C.N.; Miss E. A. Noblett, S.R.N.; Sister D. James, M.B.C.N.

Miss E. A. Noblett writes: "The glands conform to a definite histologic type, with a structure peculiar to each gland, manufacturing specific chemical combinations and delivering these to the organism through the blood and lymph channels, producing by means of infinitesimal quantities of these specific substances certain definite effects upon the functions of other body cells without furnishing material for cell building.

"The term used for this chemical combination is 'internal secretion.'"

QUESTION FOR NEXT MONTH.

Give the signs, symptoms, nursing and after-care of a case of pulmonary tuberculosis.

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