Notes

ON

DISEASE IN ADVANCED LIFE.

Being the Presidential Address delivered before the Shropshire Branch of the British Medical Association.

By GEORGE HAWSON KEYWORTH, M.B.LOND.,
M.R.C.S.ENG.,
Wem, Salop.

It is certain that many of the ailments of old age are due to more food being taken than the eliminating organs can get rid of, and a reduction in the amount of food should always be made as maturity glides into senility. If an old man has a good appetite and can digest well, let him have his usual three light meals a day; but as a rule the healthiest old people are the spare eaters. The case of "Old Parr" of this county may be cited as an instance of long life with very simple diet. He was supposed to be 150 years old when brought from Shropshire to see Charles I. in London, where he died. His ordinary diet consisted of subrancid cheese, milk, coarse bread, and small drink, generally sour whey. When brought to London he was tempted to eat more than customary and also, Dr. Harvey said, to partake of strong drink; these things soon ended his long life.

Few people realize how easy it is in most instances to avoid stomach derangements and their results as shown in upsetting the health of old people by adopting food appropriate to their age and activity. Brain workers can enjoy a fair degree of health by living on light food which does not require much force to digest or much muscular activity to assimilate. On a diet of well-made bread in variety, vegetables and fruits, with a fair quantity of eggs and milk, very little animal food, and without alcoholic stimulants, many disorders of old age may be avoided and life prolonged. Indigestion denotes, not a disease, but an admonition; it means that the individual thus admonished is not taking appropriate food. For inactive and aged persons three-fourths of the nutrient matters consumed should be derived from vegetable, cereal and milk produce, and one-fourth only from the animal kingdom, and many men of 60 and upwards corroborate this statement.

The typical man of 80 or 90 years, still retaining a respectable amount of energy of body or mind, is lean and spare, and lives on slender rations. The writings of Cornaro, who came of a noble family at Venice, show the extent to which some old men have reduced their food with great benefit, and he gives us facts and hints which ought not to be forgotten. He wrote his first essay on diet when 83 years old, and his object was to show that with increasing age and diminished powers a corresponding decrease in quantity of food must be observed to preserve health. After a wild and restless youth which destroyed his health, he restored himself after the age of 40 to perfect health by a most rigid diet. His food was regularly weighed and measured, amounting daily to 12 oz. solid food and 14 oz. wine. The solid food consisted of bread, meat, and eggs, and the wine was the usual weak wine of North Italy. He lived on this frugal fare till he was nearly 100 years old, in the enjoyment of excellent health both of body and mind. As age advances beyond fifty years, a man must reduce his "intake," because a smaller expenditure and less active elimination are enforced conditions of his existence, otherwise he will in time inevitably poison and undermine his general health with an accumulation of effete matter conducive to gout, uraemia, or apoplexy. Such a condition not uncommonly occurs when a diarrhoea has been too quickly checked in an elderly person. Take a common condition where there is imperfect renal action; excrementitious matter collects in the blood, Nature sets up diarrhoea as a compensatory process of elimination, which may need control, but should not be unwisely stopped.

Just as there is a process of evolution of the brain as the child grows and development of faculties takes place, so there is a waning of the power in old age, till at last a helpless dotage or bedridden condition is reached—a true involution of the nervous system. The highest centres are the last developed, and they are often the first to go. Mental impairment manifests itself comparatively early in some persons, as is shown by the clinical symptoms indicative of cerebral embolism and brain softening or disseminated sclerosis. Straited means and a failing brain often go hand in hand—

ill-fed body and brain—especially as busy anxious men too often forget Nature's call for bodily sustenance, and the first unnatural stimulant to hand is resorted to temporarily to bridge over the lapsed food interval. The intimate association of brain, nerve, and digestion cannot with impunity be disarranged in manhood or old age. At other times the decay of the nervous system in elderly persons assumes another aspect, and has other features. There is not such a marked impairment of the intellectual processes as a decadence of the motor powers. The condition is one of cerebro-spinal sclerosis or locomotor ataxy.

One hears sometimes of a man being of "an apoplectic habit," meaning a red face, short thick frame, and a bull neck. But it is a great mistake to assume that such persons alone are liable to apoplexy. Small active beings without an ounce of fat on them die of apoplexy, and very often there are no premonitory symptoms. During a sudden spell of cold weather many elderly people are stricken with it; the cold contracts the multitude of cutaneous vessels, and so limits the vascular area, with the consequence of sending up the blood pressure in the internal arteries; then a brittle encephalic artery may snap and effusion of the brain follows; or the heart, if weakened by dilatation or commencing fatty degeneration, may fail, being unable to overcome the opposition offered to its contraction. Bright's disease, with granular kidney, high blood pressure, and a large left ventricle are common predisposing causes of cerebral haemorrhage.

A pulse with high tension in renal disease is a danger signal, and persons of full habit should keep the skin active and warm, take a sharp purge pretty often, and a spare dietary as preventive measures. Especially is it necessary in this condition to avoid meat and malt liquors, filling the blood with an excess of excrementitious products which defective kidneys cannot get rid of, for I believe that quite as much, if not more, disease in old people is the result of erroneous habits in eating than of the habitual use of alcoholic drink, great as the evil of that is. High arterial tension in one part of the body may be compensated for by a dilatation of vessels in some other part—the liver and also perhaps the pancreas; and thus glycosuria may be induced, as is sometimes found in cases of granular kidney and angina pectoris. The late Sir B. W. Richardson was once asked: "When a patient has sugar in the urine, how do you decide whether he is glycosuric or diabetic?" He fixed his eyes on the inquirer, and said, "I look at him." In patients over 60 years of age, if there be a history of gout, if the general health is good, and if the thirst be slight and flow of urine moderate and not exceeding specific gravity 1030, the patient is most likely the subject of glycosuria, and not diabetes. In such cases (and they are not uncommon in advanced life) there is no special danger of life, and the ordinary diet should not be much restricted beyond avoiding sweets. Warm clothing is necessary; cream and sodium salicylate are beneficial.

Again, in advanced life, the reactions and remarkable sympathies between different organs which interest the practitioner and aid him in his diagnosis are much less constant. Vomiting is less generally present in disease of the brain, liver, or kidney than in the adult, and it may be absent even in organic disease of the stomach itself. It will scarcely be credited how latent an attack of pneumonia or empyema may be in some old people who frequently die suddenly and unexpectedly. An increase in the bronchial secretion is a normal state in the very old, and this has been regarded as a compensation for the arrested skin action. The transition from this to severe bronchitis is both easy and frequent, and is favoured by the liability to lung congestion and by the enfeebled heart power. When a generally ill-defined illness is present in an old person, this latent pneumonia should be looked for. Sir James Paget and Mr. Howard Marsh have described a senile tuberculosis sometimes met with in persons over 60 years of age. Its general features are similar to those in youth, but slower and more destructive, as shown by recorded cases of iliac abscess due to tuberculous disease of the spine, or of joints leading to suppuration and complete disorganization, tuberculous epididymitis at 65, suppurating cervical glands at 68, disorganization of wrist-joint at 75, requiring amputation; discharge of axillary glands, imitating carcinoma, at 62; and phthisis frequently.

Cancer rarely manifests itself for the first time in old age. When present it generally runs a slow course, and has been known to disappear. Sir James Paget gives some general rules for diagnosis in these cases. Doubtful discharges from bones or doubtful swellings not glandular, if tuberculous, are

generally more or less red and inflamed; if cancerous, not so. Tenderness and heat indicate tuberculosis rather than cancer.

In the diagnosis between tuberculous and primary cancerous lymph glands in old people the chief indications of cancer are hardness, close-clustering, deep-seated attachments and quick increase. In the cervical glands, which in old persons are the most frequent seats of both tubercle and cancer, the lower glands are generally tuberculous, the upper cancerous; the soft primary cancerous disease is very rare in the old. Cancerous disease in the old is often secondary to some comparatively trivial primary disease, tuberculous is very rarely so.

As age advances rest and warmth and nourishing food become more important than any treatment by cod-liver oil or iron or iodine, or even sea or mountain air.

It is remarkable that many persons have attained a great age under very insanitary conditions—in defiance of them, as it were. We sometimes hear the great ages of certain persons in a district quoted as evidence of the good sanitary state of the village or town, whereas a large proportion of the inhabitants may have died young, while some survivors, inured to the evil surroundings, may have attained to great age, thus exemplifying the ability of the human body to adapt itself to varying and even unfavourable conditions.

The power of repair after injury and disease which is shown by some very old people is interesting and remarkable. Fractures (excepting the well-known fracture of the neck of femur) often unite as quickly as in younger persons, and wounds and ulcers often heal rapidly. It seems as though the nutritive efforts requisite for the work of healing may possibly take place more quietly and smoothly, with less of that nerve irritation and of haste which is incompatible with good speed or safe progress.

It is always of the greatest importance to ensure regular and efficient action of the bowels by attention to diet and the administration of laxative drugs with tonic action, for example, cascara, colocynth, or aloin, with belladonna and strychnine. Saline aperients are as a rule too "cold" for the aged, and when administered must be combined with aromatics.

A dose of calomel may frequently be given with much benefit to the old and those who are not very unsound. Its marked antiseptic qualities are very beneficial in purifying the alimentary tract, and so clearing out noxious bacterial toxins of gastro-intestinal origin which give rise to many cases of chronic toxæmia ending even in general paralysis or tabes dorsalis. Few remedies are more useful in many cases of bronchitis with dyspnoea and inefficient expectoration in old people than a good purge, for example, the pulv. jalapa co.; it not only produces copious serous motions, but also acts on the kidneys, and thus, so to speak, drains the lungs.

Diuretics, especially potassium acetate, are valuable where the skin is altered in structure with advancing years, and does not perspire. They seem to take the place of diaphoretics, which often fail in old people. Digitalis is apt to impair appetite, but with blue pill and squill it is a highly satisfactory diuretic and tonic in the bronchitis and heart failure of the aged. Asthma in old people is often the consequence of retrocession of gout, the disappearance of skin eruptions or cessation of discharges, especially in thin persons of neurotic disposition. The association of angina pectoris with gout and atheroma is well known; both conditions are generally relieved by sodium nitrite or nitroglycerine.

It must be remembered that emphysematous and bronchitic old persons are a chilly race who make little heat because of the impairment of chemical interchanges in their lungs; consequently their body heat must be preserved to the utmost by nourishing food and wine, by a warm atmosphere and light warm clothing. The value of ammonia, strychnine, and ipecacuanha as stimulants to the respiratory centre is now fully realized. Another very useful help in this condition is the inhalation of strong turpentine vapour off boiling water.

Quinine has been called the iron of old age, and no doubt it is useful, but it should be given with aromatics or it may cause some discomfort to the urinary system.

Good wine is among the best of tonics for debility accompanying disease in advanced life. As "Milk is the wine of infancy, so wine is the milk of old age."

In that painful malady of old men, prostatic enlargement and its consequences, antiseptics and regular use of the catheter are paramount, and where any residual urine remains, washing out the bladder with a solution of boric acid or quinine or iodoform-emulsion (also requisite in cases of para-

plegia where the bladder becomes foul), the internal administration also of urotropine, sodium salicylate or salol and benzoates are necessary. Lately the simple operation of vasectomy has led to more or less atrophy of the prostate and considerable relief, and the more formidable operation for complete removal of the prostate itself is full of promise, and has in recorded cases been most successful.

I will not occupy time by speaking of gangrene, passive hæmaturia, and prurigo senilis except to say that this last may be due chiefly to retention of urine solids or bile acids in the blood, and is common in persons with gouty kidneys. A blue pill at bedtime, and saline aperient the following morning will often give great relief to the intolerable itching, if followed by the use of uric acid solvents and the reduction of nitrogenous food.

A word about exercise. Long livers have usually been early risers and good walkers. Nothing so effectually promotes the more equable distribution of the blood and averts the constant tendency to local congestion in the brain or abdomen as walking exercise. Its salutary influence on the functions of the lungs and skin is well known, and a good walker can generally do without the stimulus of alcohol; so that a healthy old man may say:

Therefore my age is as a lusty winter—
Frosty, but kindly.

PRELIMINARY NOTE ON THE PARASITES OF SMALL-POX AND CHICKEN-POX.

BY
R. S. THOMSON, M.D., D.Sc.Glasg., F.R.S.Edin.,
Visiting Physician of the City of
Glasgow Small-pox Hospital,
Belvidere; Professor of
Medicine, Anderson's College
Medical School, Glasgow.

and
JOHN BROWNLEE, M.A., M.D.Glasg., D.P.H.Camb.,
Physician Superintendent, City of
Glasgow Fever and Small-pox
Hospitals, Belvidere.

INVESTIGATIONS carried on during the past five years upon the morphology and development of the parasites of small-pox and chicken-pox have led us to formulate the following tentative conclusions:

1. There are present in the blood of persons suffering from hæmorrhagic small-pox small spherical bodies, highly refractive, and in general appearance simulating small globules of fat. These do not stain, however, with osmic acid, nor with any of the usual basic or acid stains. In hæmorrhagic cases they were found in considerable numbers from the third or fourth day till death. Similar bodies were found, though in much smaller numbers, in cases of confluent small-pox from the third or fourth day, till the end of the first week or occasionally even later and abundantly in the prodromal stages of both small-pox and chicken-pox. These bodies were quite unlike, both in appearance and staining reaction, any of the ordinary histological or pathological constituents of the blood, and are much larger than hæmoconia (size 1-5 μ).

2. In sections of the skin containing hæmorrhages similar bodies are found among the extravasated blood corpuscles, but these seem to differ from the objects just referred to as being found in the blood stream, in so far that they stain, though very faintly, with both basic and acid stains.

3. In the lymph spaces and in some of the smallest blood vessels of the skin, subjacent to the cells of the epithelial layer are found groups of small spherical bodies considerably larger than staphylococci and staining with considerable difficulty. Their affinity for the ordinary stains seems to vary considerably, as in some cases the staining is comparatively faint though more distinct than that of the bodies found in the hæmorrhages while in other cases the staining is decided and comparatively deep.

4. In the lymph spaces of the skin and especially in those immediately adjacent to the basement membrane of the epithelium, which are often much dilated in cases of hæmorrhagic small-pox, there are found considerable numbers of small spherical bodies more closely grouped in certain situations than in others; these are larger than streptococci and stain with comparative ease with most basic dyes. These commonly assume a peculiar purplish tint different from the green presented by cocci and nuclei when Ehrlich's triacid stain is the reagent employed. The deeper groups of these bodies are often very conspicuous even in parts where there is no evidence of cellular or nuclear degeneration.

5. In sections of the skin taken from cases where the eruption is moderately advanced bodies such as are described are present and can be recognized in large numbers in the