

opment: only certain symptoms are well marked, while others may be hardly perceptible or even absent. Trousseau calls these instances "*formes frustes*" (*fruste*—abortive), and attributes much importance to them. P. Marie has subjected them to a careful study in his excellent monograph (cf. lit.), and has shown that the goitre as well as the exophthalmos may be wanting, in which case we shall only find the tachycardia, very often accompanied by a symptom to which he has given special attention—namely, the tremor. This tremor shows a great regularity of rhythm, and consists of about eight or nine oscillations in a second. Ernst Cramer, in his observations made in my wards, was generally able to confirm Marie's results. (Ueber das Wesen des Zitterns. Inaug.-Dissert., Breslau, 1886.)

Prognosis.—The prognosis seems to be especially unfavorable in man and in old age. Youth is by no means exempt from the disease, since Ehrlich (Inaug.-Dissert., Berlin, 1890), Kronthal (Berlin. klin. Wochenschr., 1893, 27), and others have reported cases of Graves' disease at the ages of ten, twelve, and thirteen. Female patients have, on the whole, a better chance for recovery, especially if they become pregnant (Charcot).

Ætiology.—We are not yet able to say anything definite about the ætiology of the disease, although it seems fairly certain that heredity and an alteration in the thyroid gland have to be regarded as indispensable for the development of the disease; all other factors, such as emotions, bodily overexertion (mountain climbing), cold, other diseases (e. g., influenza) are certainly less important and are probably never capable by themselves of producing the disease.

Pathological Anatomy.—With regard to the anatomical changes it must be stated that the thyroid gland always shows a peculiar hyperplasia which differs from the ordinary goitre (William S. Greenfield, Brit. Med. Journ., 1893, December 9th). The vascular development was never found to be very striking; microscopically an enormous increase in the secreting tissue was observed. According to Greenfield, this hyperplasia may exist for years before any symptoms of Graves' disease make their appearance. The changes which have been found in the sympathetic nerve of the neck and its ganglia are not constant, and although enlargement and thickening of the ganglia and of the nerve have often been noted, we can not draw any con-

clusions from these results, especially since several cases are on record in which the sympathetic was perfectly normal.

In view of these results the disease must be regarded as due to a supersecretion of the product of the thyroid gland which has a toxic action. This assumption has received strong support from the experiments of Greenfield. By giving dried thyroid extract to healthy individuals he produced tachycardia, irritability, irregular elevations of temperature, and a tendency to perspiration. George R. Murray (Lancet, 1893, ii, 20, November 11th) also favors this view, and Joffroy looks upon Graves' disease as a direct affection of the thyroid gland (Progr. méd., 1893, 2, s., xviii).

Treatment.—The most important part of the treatment consists in the (total or partial) removal of the thyroid gland, though there is by no means a general agreement in regard to this point, and it is still doubted by some whether a complete cure ever follows surgical interference. It seems certain, however, that operation at any rate gives relatively the most favorable results. It often happens that only certain symptoms are removed by such procedures. Thus, I have seen a case in which half a year after the operation the exophthalmos still persisted, while the subjective symptoms, especially the very disagreeable tachycardia, had completely disappeared. In every grave case of exophthalmic goitre, therefore, the question of operative interference should be carefully considered.

Hack, Hoppmann, and others, have reported cases in which destruction of the swollen erectile tissue of the nose by the galvano-cautery brought about an improvement in some of the symptoms; thus the exophthalmos at once disappeared on the side of the operation. In view of such cases, a rhinoscopic examination is always indicated. In other respects Graves' disease is treated as all other general diseases of the nervous system or of the entire organism. Cold-water treatment has been warmly recommended, be it in the form of wet packs or of prolonged douches; patients in good circumstances should be sent every year to a hydrotherapeutic establishment, since such courses are frequently followed by an appreciable though perhaps a not very marked improvement. Another procedure which deserves attention is the galvanization of the neck. The cathode is placed over the angle of the lower jaw, while the anode is applied over the lower cervical vertebræ (on the opposite side); the current should be weak, and only applied

for a minute to a minute and a half at a time; often the symptoms diminish steadily after ten or fifteen *séances*, usually after twenty or thirty, an improvement follows which may last for years (Erb, Benedikt, Guttmann, Mor. Meyer, and others). Whether this result is to be attributed to an action upon the vagus or the sympathetic can not be decided, since both these nerves are influenced by the current in the galvanization of the neck.

Internal remedies are of comparatively little value. The tincture of strophanthus (two to ten drops every six hours for four weeks), which has been recommended by Brower, often leaves us in the lurch, and belladonna and iron are only of value in those mild cases occurring in young female patients which are apt to show well-marked remissions. In these an improvement of longer or shorter duration may occur under various drugs, but since this also happens when none at all are given, we have no right to attribute it to any particular medication. The marked improvement which sometimes occurs during pregnancy has already been spoken of.

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II. MYXŒDEMA (GULL AND ORD), CACHEXIE PACHYDERMIQUE (CHARCOT).

Myxœdema should be considered immediately after Graves' disease, because it may be regarded clinically as well as anatomically as the direct opposite of the latter affection (Greenfield). While in Graves' disease we have a hyperplasia of the tissue of the thyroid and a hypersecretion, we find in myxœdema an atrophy and replacement of the secreting tissue by hard fibrous tissue—myxœdema atrophicum. Myxœdematous symptoms have also been observed in cases in which the thyroid gland had been removed by operation—myxœdema operativum. The cause of the spontaneous degeneration is not known; the fact that the disease has been known to occur a number of times after exposure to wet and cold is, of course, not sufficient to establish the ætiological importance of these factors.

The general swelling has been found to be not an œdema, but to depend upon the development of a mucin-containing myxomatous new formation; in the skin, the connective tissue, in the saliva and the blood, mucin can be demonstrated in considerable amount. Kraepelin has observed an increase in the diameter of the red blood-corpuscles, as well as an increase in the specific gravity of the dry residue of the blood (Deutsches Arch. f. klin. Med., xlix, 6, p. 587). Symptomatically the disease manifests itself by a peculiar swelling of the whole face, the skin, especially in the region of the eyelids and the cheeks, appearing œdematous. The lips are not completely closed, and the saliva dribbles from the corners of the mouth. Owing to the stumpy thick nose and half-opened eyes the face becomes somewhat uncouth and common-looking, and, later, expressionless and cretinlike (cf. Fig. 160). The patients, especially if they are females, grow to look so much alike that they appear as if they all belonged to the same family. The color

of the face is pale, the skin is waxlike, but does not pit on pressure. The œdema of the rest of the body has the same character as that of the face. The skin of the neck forms folds, the hands are thickened. On the hard wrinkled skin circumscribed thickenings can be seen, hair and nails fall out, the teeth become carious, the secretions diminish and dry up. Amenorrhœa is common. The lungs, heart, and large vessels present no abnormalities. On examination the urine is found to be negative, while the temperature is subnormal. Among the concomitant symptoms must be mentioned sensory and motor disturbances, uncertainty in the gait, and general lassitude. Such patients get easily fatigued, and their mental faculties deteriorate (*Idiotie myxœdémateuse*, Fig. 161).



Fig. 160.—CASE OF MYXŒDEMA. (After CHARCOT.)

The disease is not easily mistaken, but Lassar has called attention to the fact that certain erysipelatous swellings may give to the face an expression similar to that seen in myxœdema.

The modern treatment of myxœdema is very satisfactory. The principle is to replace the missing or degenerated thyroid

gland. This can be done either by implanting a gland into the peritoneal cavity (Horsley), by injecting thyroid juice (Murray), or by giving it by mouth (Wichmann). The best thyroid to be used for the purpose is that of the sheep. Burroughs, Welcome & Co., in London, have made compressed tablets of



Fig. 161.—“IDIOTIE MYXŒDÉMATEUSE.”
(After BOURNEVILLE; Arch. de Neur., 1890, xix, 56.)

powdered thyroid, each one of which contains five grains of the substance. Wichmann has obtained excellent results from their administration (*Deutsche med. Wochenschr.*, 1893, 43). P. Marie has also spoken very favorably of the thyroid treatment (*Deutsche Med.-Ztg.*, 1894, 29, p. 335).

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SECOND GROUP.

NEUROSES IN WHICH THE ENTIRE ORGANISM IS MORE OR LESS SEVERELY IMPLICATED.

CHAPTER I.

NEURASTHENIA—NERVOUS PROSTRATION.

NEURASTHENIA (*a*, privative; *σθένος*, force) or nervous exhaustion is an affection of the nervous system with which the general practitioner meets very frequently, and is one of those diseases which may give rise to a good deal of error in diagnosis and prognosis. At the same time it makes the most boundless demands upon the forbearance of the physician and upon the patience of the sufferer. The disease is a child of the modern mode of living, of the desire to become rich as soon as possible, and we look for it in vain in the old text-books. Although it may in earlier times have occurred now and then, the neurologists had neither opportunity nor occasion enough to study it intimately. This has only become possible quite recently, and it is certainly a fact of significance that neurasthenia has been "discovered" in that continent, the inhabitants of which have the reputation of working the quickest, of living at the highest pressure, and therefore of being—of course with exceptions—more nervous and aging sooner than those of the Old World, to wit, in America. Beard, to whom we owe so many excellent observations, so many splendid hints for therapeutics, described it first and gave it the name it bears. Whereas the disease prior to Beard's publication was unknown, it soon began to prevail in such a striking manner and to be diagnosticated so frequently that one is almost led to think that this diagnosis is often arrived at in cases where something else exists, some organic affection possibly more difficult to recognize. The disease in question is not organic and not associated with any demonstrable anatomical alterations. Nobody has ever succeeded in finding any characteristic anatomical changes in individuals who have suffered for