

EXPLANATION OF PLATE XXXIII.

DR. DOUGLASS W. MORTON, M.D., F.R.C.S., F.R.C.P., F.R.S.

The faint redness, the swelling, and the dryness of the skin seen in the
plate were all due to an accumulation of scales.
The patches of black crust were the result of the scales being
removed, and the redness was the result of the inflammation of the
leg, and the swelling was the result of the inflammation of the
leg, and the dryness was the result of the inflammation of the
leg, and the black crust was the result of the scales being
removed.



ICHTHYOSIS HYSTRIX.

than even in the severest forms of ichthyosis. Joseph suggests that this keratoma may really be ichthyosis, in which a "moulting" process similar to that which takes place in some patients every summer, has taken place in utero, over all the surface excepting the palms and soles, leaving those parts alone affected.

The atrophic form of ichthyosis resembles somewhat the lesions found in the skin in some cases of scleroderma. It differs from scleroderma, however, in the absence of induration and of interstitial cicatrices, and also in the fact that it does not progress.

There are a number of desquamative inflammatory diseases of the skin, such as psoriasis, pityriasis, exfoliative dermatitis, and the dry eczemas, which differ from ichthyosis both in their course and in the fact that they are accompanied by inflammatory symptoms.

Georges Thibierge at one time demonstrated a case as ichthyosis in which there were immense irregular horny masses distributed symmetrically in various regions of the body, but principally on the face and on the palms. There was almost no hair on the scalp. The buccal and nasal mucous membranes were thickened and furrowed, and there was a grayish infiltration in the superficial layers of the centre of each cornea. Latterly he has concluded that this case was analogous to one in which Giovannini had found the epidermal alterations principally about the orifices of the sweat glands. As the affection was congenital he gave it the name congenital disseminated porokeratotic hyperkeratosis, instead of ichthyosis.

For the diagnosis between ichthyosis and ichthyosis foetalis the reader may consult the article on this latter subject.

Those who are much reduced by some chronic disease or by old age often have a fluffy scalliness of the skin. This is distinguished in the former case from ichthyosis by the fact that it develops and disappears with the development and disappearance of the cachexia.

A number of diseases of the nervous system are accompanied by atrophy and desquamation of the skin similar to ichthyosis. These ichthyotic states are distinguished from ichthyosis by their occurrence only on the skin supplied by the affected nerves.

PATHOLOGIC ANATOMY.—The principal lesion found in ichthyosis is a hyperkeratosis of the superficial layers of the epidermis, with atrophy of the deeper layers. The papillary layer is less developed than normal. The muscle bundles are hypertrophied. The keratosis pilaris can be seen to be due to plugs of cornified epithelial cells in the pilo-sebaceous orifices. Thibierge says the orifices of the sudoriparous glands are free, but the sweat glands themselves and the sebaceous glands are frequently atrophied and cystic. The hair follicles may disappear and the hairs may atrophy. The papillary layer and the superficial layers of the derma show evidences of inflammation, which, however, are nothing more than one would expect from the irritated condition of the skin.

There is a question whether the green color developed in the epithelium in ichthyosis hystrix is true pigment, or dirt caught in the interstices of the epithelium. In the child at present under treatment in the University Clinic the green color is quite vivid, but when the epithelium is peeled off, as it can be in masses, the color is seen to be very superficial. It must also be remembered that when dirt is allowed to accumulate under one's nails, it has the same dirty olive-green color as in ichthyosis hystrix.

TREATMENT.—As ichthyosis is a congenital disease and permanent, all treatment must be directed not toward a cure, but to an amelioration of the condition. Much can be done for these patients, and in many ways, but everything of course is temporary, as they relapse as soon as remedies are withdrawn. Residence in a hot climate would be beneficial, as a spontaneous amelioration takes place in warm weather; but, of course, for many patients this is impossible. Frequent hot baths bring about the same result by increasing the activity of the sweat and fat glands, and in fact hot baths are indispens-

able in any plan of treatment. If a quick temporary effect is desired, jaborandi or pilocarpine may be given on account of their action on the sweat glands, but of course their continued administration would not be advisable.

Besides pilocarpine and jaborandi the internal use of many remedies has been advised, but they have very little effect on the malady, with the exceptions perhaps, of cod-liver oil and arsenic. Sulphur, the balsams, mercury, and many other drugs have been recommended but have been found to be of no avail. In some instances it is rational to suppose, and is by many believed, that arsenic in small doses does good. Arsenic in the form of Fowler's solution may be given in cod-liver oil emulsion.

As some cases of ichthyosis have been reported in which the thyroid gland has been found much diminished in size, and as roughness and desquamation of the skin are symptoms of cachexia strumipriva, it naturally follows that thyroid extract may be given with some hope of success.

Ehrmann, following out the idea suggested by Tommasoli that ichthyosis is due to an autointoxication, gave menthol internally in one case. He reported that under its influence the desquamation ceased, but the criss-cross lines persisted.

External treatment is of course what one must rely on. Hot baths, soft soap, and a good nail brush to get rid of the superfluous epithelium, and after the bath the inunction of a lubricant well rubbed in to assist in maintaining the skin soft and supple, constitute the principles of treatment. The hot baths must not be given too frequently and their effect on the patient must be watched, as in some cases they are debilitating. The choice of the lubricant is also not a matter of indifference; for instance cod-liver oil is acknowledged to be one of the best softeners of epithelium we have, yet its odor makes the patient more disagreeable to a larger circle of his acquaintance than the disease itself.

The treatment advocated by Lailler is one of the most effective and pleasant, and deserves the praise that Georges Thibierge has given it. This treatment consists in the giving of a hot bath with soft soap and plenty of friction three times a week in order to remove the epidermal masses, and morning and evening prolonged and light massage of all the affected parts with glycerole of starch made in the following way: \mathcal{R} Amyli pulv., 15.00; Glycerini, 150.00. Mix and heat in a porcelain dish over a slow fire, stirring all the time until the mass is about to jelly, when 15 gm. of cherry-laurel water is added.

One can add to this one or two per cent. of salicylic acid, which has the effect of still further softening the skin and aiding desquamation. After a time one inunction a day will be sufficient, and when the skin has assumed its normal appearance Lailler says that one hot bath with soft soap a week, followed immediately with an inunction of the above glycerole of starch, or even of pure glycerin, is enough to maintain a normal suppleness of the skin.

It is important in using the glycerole of starch or pure glycerin that only a moderate amount should be applied so that the skin on finishing is supple and unctuous, but not gluey to the hands. Neutral glycerin only should be used. The advantages of the glycerin treatment are: That the glycerin itself is favorable to maintaining the moistness of the skin through its affinity for water; that even the slightly flat odor that glycerin has can easily be overcome by the odor, say, of cherry-laurel water; that it does not soil the clothing as the greases do, and does not render the clothing difficult to wash; and that it does not become rancid. Instead of using glycerin in the form of glycerole of starch, pure glycerin may be added directly to the bath. About six or eight ounces of glycerin may be added to each bath, and two or three baths a week may be taken.

Instead of adding glycerin to the bath, bicarbonate or baborate of sodium may be added, say one or two tumblerfuls of the powder, to each bath. Vapor baths are

enjoyed by some patients, and they are efficacious. Starch poultices with boracic acid added to them, a heaping teaspoonful of boracic acid to a small bowl of starch paste, are an excellent means of loosening up epithelial masses.

PROGNOSIS.—Ichthyosis as a deformity is not dangerous to life. As, however, it represents an extensive developmental fault in an important organ, it indicates a corresponding lack of resistance. As a matter of fact people so afflicted are frequently puny and illy developed in many directions. Usually they have not the normal quantity of subcutaneous fat. They easily become chilled and catch cold, and many of them end with tuberclosis (Lewin).
Douglass W. Montgomery.

ICHTHYOSIS FETALIS.—**DEFINITION.**—Ichthyosis foetalis is an independent anomaly of development of the skin in the foetus, accompanied by consecutive malformation of certain parts of the face. Ichthyosis foetalis must not be confounded with ichthyosis vulgaris, with which it has nothing whatever to do. It is for this reason that the word ichthyosis in the name of this disease is unfortunate and leads to confusion. Very probably a better name would be hyperkeratosis foetalis.

The disease is very rare, and even of those children who are born with it, but few come under the observation of men interested in skin diseases, as they usually die shortly after birth, and are therefore seen only by the accoucheur. Only a few of these cases have been reported, and of those few, it has several times occurred that one mother has had more than one child afflicted with this malady, so that ichthyosis foetalis, like ichthyosis vulgaris, is a family disease. Excepting this fact of its being in many instances a family disease, very little is known of its etiology. Bowen thinks the disease may be due to the persistence of the epitracial layer of epithelial cells. The epitracial layer of epithelial cells occurs in some animals, and Bowen's hypothesis is that it is present at one stage of human foetal development, but is, under normal conditions, shed. He supposes that in ichthyosis foetalis it is for some reason not shed, but grows and forms the hard resistant coating seen in these cases.

SYMPTOMS.—The epidermis has a dirty yellow, leathery appearance, and is thickened, and the skin looks too small to contain the infant. In fact it looks as if the infant as a foetus had been covered by a much thickened and inelastic epidermis, and that in growing it had burst this inelastic coating, forming cracks in it running into one another at all angles. These fissures or cracks are more or less red, and about a centimetre wide, and they may or may not be covered by a thin epidermic layer; when not so covered the raw surface lies exposed, and it soon suppurates abundantly.

In addition to the deformity of the skin there are other deformities present, such as congenital ectropion in which the lids look like red projections hiding the globes of the eyes completely. There are neither eyelashes nor eyebrows, and in fact the whole pilary system is very badly developed. The hair, however, though thin, grows very quickly, as do the nails (Thibierge). The nose is flat to the face, and is represented by two rounded holes, and the cartilaginous septum is entirely lacking. The lips are thickened and are cut by radiating fissures, or they are entirely absent and the skin of the face may run over directly to the gums. The ear shell is represented by a flattened plateau with a central rounded hole, the external auditory meatus. There are no nipples on the breast, the anus may be imperforate, and the external genital organs are imperfectly developed. The fingers and toes are often bent and clawed, and give the impression of being hidebound. The fingers and toes may be more or less soldered to one another, or they may be entirely absent, the extremities terminating in rounded masses.

The reasons for thinking that the foetus at one stage of its existence is completely covered with this inextensible horny envelope, which afterward is burst open, are that the direction of the fissures is in all cases about the same,

and is such as would be occasioned by the growth of the enclosed foetus; that the furrows at birth are partially or entirely covered with a thin epidermal layer, which represents the healing process after the bursting has taken place; that the hair follicles are entirely absent from the centre of the furrows, while on the sides the hair follicles are directed outward as would result from tearing the plastic foetal skin asunder (Peukert); and that the deformities at the orifices of the body, the absence of the eyelids and of the lips, the flattening of the nose and of the ears, as well as the deformities of the hands and feet are such as would be occasioned by the foetus being hidebound.

Infants with such severe lesions die inevitably, and usually in two or three days after birth. They may not be able to take food at all, because of the malformation of the lips, or they may die from the suppuration in the cracks of the skin, or from bronchitis or pneumonia. Attenuated forms of the disease have been reported, however, in which the patients have lived for years. The mouth seems to be the chief factor in determining the prognosis, as those having a badly formed mouth die of inanition.

DIAGNOSIS.—Ichthyosis foetalis differs from ichthyosis vulgaris in the time of its appearance, ichthyosis foetalis being apparent in the foetus and in the new-born babe, while ichthyosis vulgaris is rarely evident before the second or third year of life. Ichthyosis foetalis is almost always associated with malformation of the ears, eyes, and lips, and frequently with other malformations. It is rare for ichthyosis vulgaris to be associated with any other malformation whatever. Ichthyosis vulgaris has its regions of greatest development, and it rarely affects the folds of the articulations, but if it does affect them the disease in such situations is very mild. In ichthyosis foetalis, on the contrary, the disease is as severe in the articular folds as anywhere else. Furthermore, in ichthyosis foetalis the epidermis is not alone thickened, but it is also abnormally resistant and inextensible. In ichthyosis vulgaris the absence of sweat is a marked characteristic, while in ichthyosis foetalis the secretion of sweat takes place (Thibierge). The diagnosis between hereditary syphilis and ichthyosis foetalis has only to be remembered to be made. Ichthyosis sebacea is simply a temporary exaggeration of the normal physiological desquamation of the new-born, and has nothing whatever to do with ichthyosis foetalis.

TREATMENT.—In a case observed by Sherwell, in which the infant lived an unusually long time, it was kept soaked in olive oil.
Douglass W. Montgomery.

ICTERUS. See *Jaundice.*

IDAHO HOT SPRINGS.—Clear Creek County, Colorado.

POST-OFFICE.—Idaho Hot Springs. Hotel.

ACCESS.—Via Colorado Division of the Union Pacific Railroad, the route lying through the famous Clear Creek Canyon. These springs are situated in the Rocky Mountains at an elevation of 7,500 feet above the sea level. The location is exceedingly picturesque, and the climate of a wholesome and salubrious character. Invigorating mountain breezes prevail throughout the summer. The facilities for bathing form a special attraction at these springs. Three immense swimming pools have been constructed, besides numerous private baths, the water ranging in temperature from 85° to 115° F. A natural tunnel furnishes excellent conveniences for a ready-made vapor bath, and is largely resorted to. The following analysis of the Idaho Hot Springs water has been made by J. G. Pohle, analytical chemist:

ONE UNITED STATES GALLON CONTAINS:

Solids.	Grains.
Sodium carbonate.....	30.80
Calcium carbonate.....	9.52
Magnesium carbonate.....	2.88
Iron carbonate.....	4.12
Sodium sulphate.....	29.36

Solids.	Grains.
Calcium sulphate.....	3.44
Sodium chloride.....	4.16
Calcium and magnesium chlorides.....	Trace.
Sodium silicate.....	4.00
Magnesium sulphate.....	18.72
Total solids.....	107.00

Within five minutes' walk of the Hot Springs there is a cold spring of sparkling, effervescent water, excellent for drinking purposes. A good carriage road leads to the summit of Bellevue Mountain, less than three miles distant, which it is said to afford the most majestic mountain view in Colorado.
James K. Crook.

IDAN-HA SPRING.—Bannock County, Idaho.

POST-OFFICE.—Soda Springs.

Hotels: Idan-ha, Carriboo, Stock Exchange, and Williams.

The Idan-ha Spring is located two miles from Soda Springs, from whence it is reached by a good roadway. The situation of the spring is 5,886 feet above the sea, and the surrounding mountain scenery is of a grand and impressive character. The climate is very salubrious, the weather being, as a rule, clear and bright. The town of Soda Springs has long been known as a health resort. Within the town limits are the following named springs: the "Horseshoe," "Octagon," "Williams," "Soda," "Mount" and "Blanche" springs. In the outlying districts are the "Mammoth," "Steamboat," "Hooper," "Jews-harp," and "Fresh-Water" springs. The latter supplies the town with water by a pipe line. Close to the Idan-ha (which is known as the "90-per-cent.") are the "100-per-cent.," the "80-per-cent.," and the "Champagne" springs. An extensive bottling establishment has been built in connection with the Idan-ha Spring, and the waters are shipped and sold in all parts of the country. It is charged with carbonic-acid gas from the Mammoth Spring, two and one-half miles east of Idan-ha, which supplies an immense amount of this substance. The following analysis was made by Prof. Charles F. Chandler:

ONE UNITED STATES GALLON CONTAINS:

Solids.	Grains.
Sodium chloride.....	13.19
Sodium bromide.....	Trace.
Lithium bicarbonate.....	1.27
Sodium bicarbonate.....	7.34
Magnesium bicarbonate.....	62.40
Calcium bicarbonate.....	57.96
Strontium bicarbonate.....	Trace.
Barium bicarbonate.....	.08
Manganese bicarbonate.....	1.73
Iron bicarbonate.....	.12
Potassium sulphate.....	1.72
Sodium sulphate.....	1.96
Sodium phosphate.....	.88
Sodium borate.....	Trace.
Alumina.....	.05
Silica.....	3.56
Organic matter.....	Trace.
Total solids.....	152.06

This water also contains an excess of free carbonic acid gas. The analysis shows an excellent alkaline-saline water, with ferruginous properties. It should possess valuable properties as a diuretic, mild aperient, and tonic. It is very pleasing to the taste, and possesses the desirable quality of blending with wines and liquors, without giving discoloration or precipitation.
James K. Crook.

IDIOCY AND IMBECILITY. See *Insanity: Idiocy and Imbecility.*

IDIOSYNCRASY.—This term (from *ιδιος, σύν, κράσις*, literally, a personal or individual commingling) is applied medically to those mental or constitutional peculiarities of an individual which separate him from the majority of men. To those peculiarities which are shared by classes of individuals, on the other hand, the term temperament is given.

One should not include under the term idiosyncrasy

qualities due to pathological conditions, as, for instance, the absence of reflexes in tabetic subjects or sensory aberrations like color-blindness, lack of smell or taste perception. But while idiosyncrasies are usually congenital, they may be, as we shall see later in the case of drug and poison addiction, acquired.

The most important idiosyncrasies which fall under the attention of the physician are included under (a) sensations, (b) reflexes, (c) infections, (d) foods, (e) drugs and poisons.

(a) **Sensations.**—One of the most marked idiosyncrasies has to do with response of a given individual to pain. This is shown, for a common illustration, in the matter of vaccination. The actual insult to terminal sensory nerves in a series of patients submitting to this little operation is about the same; but while some of them will notice no hurt whatever, others will shrink and cry out in evident acute pain. Some few will faint. This varying personal factor of pain susceptibility must receive due consideration by the physician in interpreting the symptoms which a patient describes. Other minor discomforts, which yet from a nosological standpoint may be important, receive very varying attention from different people. For example, the writer has observed a large scrotal tumor in an elderly bookworm who said, on his attention being called to it, that he had never noticed its presence at all. Or, again, a woman is found with a completely proident uterus to which she had never given any thought; whereas most women with a far less pronounced degree of prolapsus would have early sought medical advice.

Auditory sensations have a peculiarly unwelcome effect on certain people. The squeak of a file, of a saw, or of a slate pencil are familiar examples. Shylock emphasizes these sensory idiosyncrasies when he says:

"As there is no firm reason to be rendered
Why he cannot abide a gaping pig,
Why he, a harmless, necessary cat,
Why he, a swollen bag-pipe
So can I give no reason, nor I will not
More than a lodged hate and a certain loathing."

(b) **Reflexes.**—These are perhaps more important medically than the class just considered.

Sea-sickness deserves first mention here, from its wide prevalence. In fact it is perhaps the absence of this reflex susceptibility that constitutes the idiosyncrasy. Certainly there is no way of foretelling which individuals will prove able to resist it. Freedom from it is to some extent cultivable, though it is well known that some sea captains and naval officers even lose what they have gained in that direction after a short residence ashore.

Hay fever doubtless belongs in this category, for while a pathological lesion exists in a certain proportion of cases, a reflex idiosyncrasy to certain irritants is also a factor. Whatever this irritant may be, it is doubtless similar in its action to ipecac upon another sort of idiosyncrasy. The writer knows a druggist who is so susceptible to the reflex irritation of this drug that he not only cannot dispense it himself, but is obliged to leave his store when any of his assistants is doing so.

Asthma probably owes a part at least of its etiology to a similar reflex idiosyncrasy. For while we have a determining cause in some pathologic state of the respiratory tract, and an exciting cause in an acute inflammation of the bronchi, or elsewhere, we must assume in asthmatics a predisposing cause in a peculiar reflex irritability; for not all persons possessing the first two conditions have asthma.

Another reflex idiosyncrasy is that which enables the rigger and the steepie-climber to ascend to high places without giddiness or fear of falling.

It is a failure of natural reflex response to cold baths and cold affusions which explains the idiosyncrasy noted in some people at water-cure establishments. On the other hand, those untoward results of batlis which include skin eruptions, eczema, furunculosis, etc., are, in so far as they are not due to uncleanly methods, to be classed in the following section among therapeutic idiosyncrasies.