many of the cases have occured in persons of deficient intelligence, some of them epileptics.

Anatomy.—Under the microscope the entire tumor is seen to be composed of larger and smaller masses, which bear the closest resemblance to the acini of normal sebaceous glands. It is indeed only in the great number, extent, and complex arrangement of the lobules that an abnormal condition becomes apparent. In some cases solid epithelial buds are given off from existing sebaceous gland acini, and the cells of these buds later undergo the peculiar fatty changes indicative of the glands from which they take their origin. Unna, who draws a very sharp distinction between hypertrophy and adenoma of the sebaceous glands, regards all the published cases with one exception as examples of hypertrophy.

The *treatment* of the condition is indicated only for cosmetic purposes. When the lesions are few in number they may be removed by excision, by scarification, or by electrolysis. When they are very numerous, any form of operative interference is inadvisable.

ADENOMA SUDORIPARUM.—(Synonyms: Adenoma of the sweat glands; Spiradenoma; Syringadenoma; German, *Schweissdrüsenadenom;* French, *Adénome sudoripare.*)

The disease which has been described under the various names of hydradénomes éruptifs, syringocystadenoma, epithelioma or acanthoma adenoides cysticum, etc., and which was formerly regarded as an adenoma of the sweat glands, is now known to have no connection with these structures. The reader is referred to the article on *Epithelioma of the Skin* for an account of this condition.

In view of the fact that the sweat gland is an approximately uniform cylindrical tube, the distinction between hypertrophy and adenoma of these glands can readily be made. Any deviation from the typical structure in the form of lateral budding or outgrowth suffices to constitute adenoma, providing, of course, that the new formation does not break through the membrana propria of the gland. From this point of view adenoma of the sweat glands is by no means a rare occurrence. It is frequently found in connection with other diseases of the skin, especially in association with tumors and malformations of the blood-vessels of the cutis and hypoderm, and with cancers of the skin. Under these circumstances, however, the adenoma contitutes merely an interesting microscopical condition without giving rise to any clinical symptoms. In these cases the adenomatous formation affects only the coiled portion of the gland, and it is a noteworthy fact that in all the observations hitherto recorded there has been a sharp distinction between adenoma of the coil and adenoma of the duct. This distinction has given rise to the terms spiradenoma and syringadenoma. Adenomata of the sweat glands occurring independently are of extremely rare occurrence.

Unna in his "Histopathology" was able to cull only six cases of *spiradenoma* from the literature, to which he added a seventh. The tumors varied in size in the different cases from a small chestnut to a hen's egg; were found on the head, neck, or extremities in middle-aged or elderly people (one case in a child); and presented no characteristic clinical features. The diagnosis can be made only with the microscope. The proliferation occurs in the form of solid epithelial buds, which usually show a tendency to grow in curved lines as they increase in length, and to become canalled like the structures from which they took their origin.

Of the *syringadenomata* there is but a single undoubted case on record, that of Petersen. It was in the form of a papillary *nævus unius lateris* on the neck, trunk, and thigh of a girl of twenty. The adenomatous proliferation was confined strictly to the ducts of the glands, which appeared considerably widened shortly above the coil, the cubical epithelium became cylindrical, and outgrowths developed which were sometimes solid and sometimes canalled. These outgrowths divided repeatedly like the branches of a tree, and produced thus the semispherical or mushroom form of the tumors. The new-formed tubes were lined with a distinct membrane and showed no signs of colloid degeneration.

Sigmund Pollitzer.

ADIPOCERE.—(*Adeps*, fat, and *cera*, wax. French, *adipocere, gras des cadavres;* German, *Fettwachs, Adipocire.*) As the name suggests, adipocere is a material resembling in its gross appearances fat and wax. It is a semitranslucent, white, or slightly yellowish substance of about the consistency of cheese at ordinary temperatures; has a greasy feel, and yields slightly when pressed between the fingers. If a piece be rolled between the fingers for a few minutes it becomes much softer. When rubbed with water it forms a lather. Its composition is that of a soap, being made up of the calcium soaps of palmitic and stearic acids and also of acid ammonium soaps. Examined under the microscope it shows, occasionally, very numerous scales having a crystalline form; more commonly nothing but fat globules are to be seen. If it be melted and again allowed to cool, it is found, often, to have crystallized in round masses made up of needle-shaped crystals, radially arranged; hence like stearin.

Most of the specimens of adipocere with which one is familiar come from the macerating troughs of anatomical departments and from museum jars which have long contained specimens immersed in dilute alcohol. It thus represents the results of a metamorphosis of dead animal tissues placed under peculiar circumstances.

The only special point of interest in connection with adipocere lies in the fact that it is occasionally found in dead bodies which have been buried a considerable time. In fact, nearly all the structures of the body, except the bones, have been found converted into this material. For centuries its presence had been noted in disinterred corpses, but no opportunity was afforded for studying it on a large scale until 1876, when, upon the removal of the bodies from one of the cemeteries in Paris, a considerable proportion of those buried in the common grave were found by Foucroy to have been converted, to a greater or less degree, into this peculiar, fatty, wax-like material, and to it he gave the name by which it has since been known.

The conditions favoring its formation in buried corpses are still unknown. Doubtless moisture is always necessary; but why, of six or eight bodies buried in close proximity, and hence presumably under like conditions of soil and moisture, one should undergo almost complete change into adipocere, while the others undergo ordinary putrefaction, as has been observed, is at present inexplicable.

At one time it was thought that adipocere might be of medico-legal importance in helping to determine the length of time a corpse had been buried. Foucroy believed that thirty years was required for its formation. Later, this was reduced to one year; and Caspar mentions finding adipocere in the body of a new-born child which had lain for three months in a house cesspool. It is therefore impossible to establish an idea, from the presence of adipocere in a corpse, as to the length of time it has been buried.

Artificially, adipocere can readily be produced, either by soaking muscle in dilute nitric acid for two or three days and then washing it thoroughly in warm water, or by allowing the muscle to soak for months in a trough supplied with running water.

Adipocere is probably closely allied to cholesterin.

W. W. Gannett.

ADIPOSIS DOLOROSA.—At a meeting of the American Neurological Association, held in New York in June, 1892, the writer presented the histories and photographs of three cases of an affection which up to that time had not been recognized. The first of these cases had been under the writer's care since 1887, and recently she has died. The second and third were discovered in the wards of the Philadelphia Hospital in 1891. These cases also died, and, including the first, came to autopsy.

The histories of these cases are briefly as follows:

CASE I.—M. G——, aged fifty-one, female, widow, a native of Ireland, and a domestic. Her father had died at forty-five of erysipelas. Her mother, who had had

FIG. 42.—Author's First Case, Showing Large Masses of Fat on Back and Upper Arm.

eighteen children, died at forty of some affection incident to the menopause. Of her brothers and sisters, seven died in childhood, one in adult life of pleurisy, one sister in childbirth, a brother and two sisters of phthisis, while the remaining five are living and apparently in good health. None of the patient's relatives have ever suffered, so far as she knew, from symptoms similar to her own, nor had any of them ever had any nervous or mental affection.

As a child she had had measles, whooping-cough, and scarlet fever. Menstruation began normally at fifteen. At eighteen she married. Some years later she had an attack of pneumonia, but made a good recovery. She had in all seven children and one miscarriage. Five children died in early childhood: one from cholera infantum, two from measles, one from "congestion of the brain," and the fifth from spasms. The menopause set in abruptly at thirty-five. From this time up to within two or three years her health had continued good. She had undergone some increase in weight, but beyond this nothing worthy of mention could be elicited. Syphilis was denied, as was also alcoholic excess. However, the condition of the patient on several occasions, upon her return to the hospital after furlough, was such as to throw more than doubt upon her denial of alcoholic abuse.

When forty-eight or forty-nine years of age she noticed that her arms were becoming very large. The upper arms and shoulders appeared swollen. The swelling continued steadily to increase, and was for about a year unattended by any other symptom.

In November, 1886, she was admitted to the surgical wards of the Philadelphia Hospital for the rupture of a varicose vein of the leg. In the following February she was transferred to the medical wards for a severe attack of bronchitis. Later she had an attack of severe pain and swelling in the right knee, attended by chill and fever. She was treated for rheumatism and obtained prompt relief. Two weeks after this she complained of a sharp darting pain in the right arm. It began on the outer aspect above the elbow and gradually increased in severity and extent, spreading upward to the shoulder and neck, and downward to the forearm and hand. It was shooting and burning in character. She felt at times as though hot water were being poured upon the arm, and again as though the hands and fingers were being torn apart. No rise in temperature was noted. The pain was often paroxysmal, but it was never absent. On June 4, 1887, she was transferred to the nervous wards of the hospital and came under the care of the writer.

Her appearance at this time was striking. She was a tall, large-framed woman who looked as though she had at one time presented a fine physical development, but she seemed unnaturally broad across the back and shoulders. On removing the clothing an enormous enlargement of these parts was disclosed. The enlargement affected both shoulders, the arms, the back, and the sides of the chest. It was most marked in the upper arms and back, forming here huge and somewhat pendulous masses. It was elastic and yet comparatively firm to the touch, and it was impossible to produce pitting. In some situations it felt as though finely lobulated, and

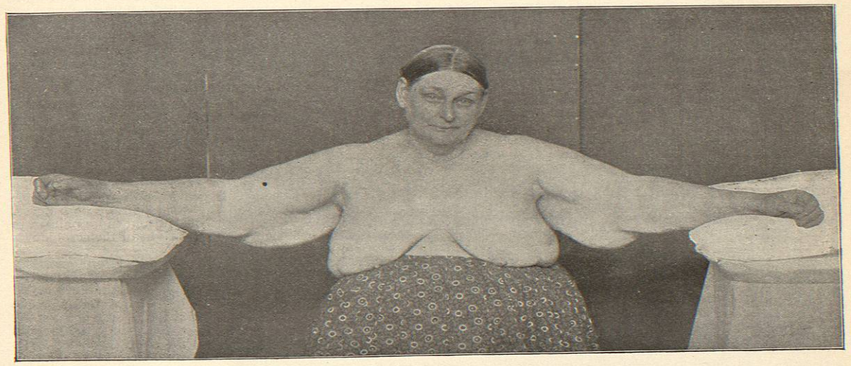

FIG. 43.—Another View of Author's First Case.

in others, especially on the insides of the arms, as though the flesh were filled with bundles of worms. The skin was not thickened; it did not take part in the swelling, and it was not adherent to the subjacent tissues.

In addition the swelling was very painful to pressure. Pronounced pressure appeared to be absolutely unbearable. The nerve trunks also were exquisitely sensitive, but this painful condition was not by any means limited to them, but permeated the swollen tissue as a whole.

The muscles were not involved in the swelling. The affected parts were, however, quite weak. Examined electrically the muscles of the shoulders and arms yielded a negative result, partly because of the great resistance caused by the intervening tissue. Slight qualitative and quantitative changes were noted in the muscles of the forearms, while in the hands distinct reaction of degeneration was noted in the thenar and hypothenar groups, more evident on the right side.

Cutaneous sensibility was much diminished. On the right arm various areas existed in which no response whatever was given to the æsthesiometer. They were large and irregular in shape, and very sharply defined, and were present on both the inner and outer aspects. In the finger tips the points could not be at all separated. In the left arm, some impairment of sensation was detected on the outer aspect of the forearm, and in the finger tips sensation was decidedly below normal. Sensibility to heat and cold appeared also to have been lessened.

An examination of the legs showed that cutaneous sensibility was distinctly lessened on the right, while little or no impairment was discoverable on the left. There was no alteration of the gait, but both knee-jerks were lost. She complained of a "velvety feel" in the soles of both feet and also in the tips of the fingers.

No enlargement was noted at this time in any part of the body save in the arms and shoulders. The face was pale, as were also the mucous membranes. There was, however, a little color in the cheeks, more noticeable at times. Her features were well formed and intelligent. Her hair was dark and fine. Her mind was unimpaired, except that at times she was much abstracted. Sometimes she gave conflicting answers to questions, so that the latter had often to be repeated.

Ten days after her admission to the nervous wards she had a chill, followed by fever and a painful herpetic eruption over the upper portion of the left arm and anterior portion of the left side of the chest. Some five or six days later another crop of vesicles made its appearance on the back and on the front of the chest.

Nothing further worthy of note occurred until October 13th, when the patient had another severe attack of bronchitis, which was accompanied by much dyspnœa.

In the latter part of the following December it was noted that during one of her paroxysms of pain the swelling of the right arm became more decidedly lobulated. The arm became more sensitive than ever, and on examination hard, cake-like masses were felt, resembling, as the resident physician expressed it, the caking of milk in a breast. This caking or more pronounced lobulation was afterward repeatedly noticed during paroxysms of pain. At this time also she suffered from an attack of pain in the right knee, and in the popliteal space a diffuse swelling was felt which exhibited the same nodulated feel as did the swelling elsewhere. It was also very painful.

At various times subsequently paroxysms recurred, during one of which swelling was noticed in the posterior triangles of the neck. The latter seemed later to be permanently fuller than normal. Bronchitis also recurred, accompanied by dyspnœa, and at one time by free expectoration of bloody mucus.

In the following April she experienced an attack of pain of unusual severity. The latter, which involved the right arm and shoulder, right side of trunk and back of neck, now for the first time spread to the face and head. The right side of the face became distinctly swollen, and presented to the touch the same nodulated feel so characteristic of the swelling in other portions. At the same time the tongue and pharyngeal tissues appeared to become swollen. Her tongue, she said, felt much too large for her mouth. In addition her voice was very hoarse, and she spoke with great difficulty. This condition persisted for upward of a week, and then slowly subsided. For some time subsequently, she spat blood, the source of which was not determined, though it appeared to come from the throat. The reddish color in the cheeks also became more pronounced, until it covered the entire forehead like an intense blush. This blush was afterward observed to occur with other paroxysms of pain.

During the summer of 1888 the patient's condition underwent some change. The paroxysms became less frequent and less severe. Hand-in-hand with this improvement, sweating became much more marked. However, paroxysms occurred from time to time, and upon one occasion a thick welt-like swelling, exquisitely painful, was observed extending from the upper and inner angle of the scapula, perpendicularly down the back to very nearly the lumbar region. Upon another occasion swelling again made its appearance in the right popliteal space, as well as on the inner aspect of the knee. In the latter locality the swelling became permanent, and the tissues presented the same peculiarities as noted elsewhere. Pain also occasionally appeared in the left arm. Prolonged attacks of cardiac dyspnœa occurred every week or two, and apparently independently of bronchitis.

An examination of the eyes by Dr. de Schweinitz revealed contraction of the fields of vision for form and colors, most marked in the left eye. The other special senses, hearing, taste, and smell, appeared to be somewhat obtunded. An analysis of the urine yielded a negative result. A blood count failed to reveal an increase of white blood corpuscles.

Upon a number of occasions the patient during paroxysms of pain vomited blood; upon several occasions this was observed by the writer himself. The quantity could not be accurately estimated, but while it was never large at a single emesis it was constantly brought up in repeated vomiting during an entire night or day.

Measurements were made of this patient at various times, and these have shown a steady increase in the bulk of the enlarged parts.

Of late the patient has not suffered as intense pain as formerly. Cardiac dyspnœa, however, is a frequent and distressing symptom. The face is still flushed. Recently, shooting pains have appeared in the abdominal region, and examination discloses in this region an extensive deposit of tissue to which the pain is referred. A large longitudinal wheal, especially sensitive, is found in the left lumbar region.

Swelling has also made its appearance over the left hip, and to some extent over the right. The thighs and buttocks do not seem enlarged in proportion, but soft masses are now found on the inner sides of both knees, the right being larger than the left and more painful to pressure. A small nodule to the right of the scrobiculus is especially painful.*

Case II.—E. W——, female, aged sixty-four, married, a native of England. Her father had died of alcoholism at middle life; her mother of œdema of the brain (verified post mortem). An elder brother and sister and one younger brother are still living. The younger brother, when a child, was peculiar; he would run to people in a fright and say that he was drowning, and the like. He is now in average health, but drinks heavily. He has a contracture of the ring finger; has nine children, all of whom

* While this article was passing through the press, Case I. came to autopsy and a microscopical examination of the tissues was made. The results can be briefly summarized as follows: Marked degeneration of the postero-median columns of the cord, degeneration with proliferation of the connective tissue of the peripheral nerves, and also striking abnormalities in the thyroid gland. The gland, which was somewhat below normal in size, presented acini very irregular in shape, many of them greatly distended with retained colloid material. In other situations there were numerous small acini with marked proliferation of cells, the appearance being that of a hypertrophy of glandular tissue. The results will shortly be published in detail.

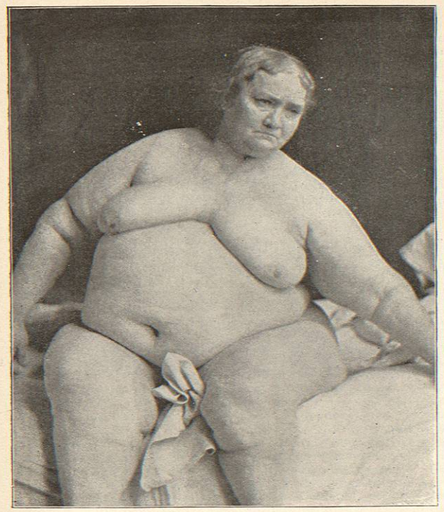

Fig. 44.—Author's Second Case.

appear to be well. The older brother suffers periodically from violent headache; also, since a young man, he has suffered from constantly cold feet, this being so severe as to disturb sleep and cause great distress. He has had five sons and two daughters. One son died of tetanus (traumatic); the others are well. One daughter has a contracted middle finger of the right hand; has never suffered pain in the finger. Patient's sister is living, sixty-five years old; she has no children.

The patient herself does not remember having had the ordinary diseases of childhood. In early infancy she had convulsions, which recurred with great frequency for a time. On her being relieved of lumbricoid worms, however, the convulsions ceased.

At seventeen she was married. She had two sons, the older of whom is now forty, and who has seven healthy children. The younger son died, at two years of age, of hemorrhagic diarrhœa. The patient had no miscarriages and no still-births. She left her husband because of venereal disease which he had contracted. She was told by a doctor that she had escaped infection. A year later, however, she had sore throat, with white patches. For many years she was an immoderate drinker. For weeks at a time she was intoxicated every night.

Menstruation began at eleven and ceased abruptly at thirty-five. She lost habitually an unusual quantity of blood, but never suffered any discomfort.

Her present malady began about fifteen years ago, when she was forty-nine years old. At that time she was living in California. The first thing noticed was a constant feeling of coldness about the knees, followed by swelling, which gradually increased. At first she thought that the swelling was due to her growing fat, but later she was astonished to see that there was a localized mass on the inner aspect of each knee. At the time there was dull aching pain in the affected parts. Later, the right arm became involved, a mass making its appearance on the outer aspect. Her body, as she then observed, had also become larger, as her stays were too small for her. During this time, while still in California, inability to perspire freely, except at the Turkish bath, was marked, and was part of her reason for coming East. Since she has been in Philadelphia the lack of perspiration has not been as marked as before. Various plans of treatment were tried, but did not influence the progress of the disease, *i.e.*, the growth of the swelling. Five or six years ago, injections of chloroform were made into the swellings on the inner sides of the knees, but no good was accomplished. Painful ulcerations were the result, and scars of considerable size mark their location.

About five years ago a slight swelling appeared in the epigastrium. This gradually increased in size until it resembled the breasts in shape, and afterward spread so as to involve nearly the whole abdomen.

From the knees the process extended to the thighs, and gave rise to large masses on their outer side and about the hips.

At various times she had suffered with pains apparently situated in the enlarged tissues, or running down the limbs. Sometimes these attacks were fairly well localized in one limb, in one side, or about a joint.

Five years ago her attention was called to a peculiar condition of the right hand. The last phalanx of the second finger began to be fixed in a flexed position, while the end of the finger appeared to be growing somewhat smaller. Later, the remaining fingers of this hand became involved, and all the phalanges deformed. The deformity, as seen now, consists of flexion of the first phalanx, of marked overextension of the second, and of half-flexion of the third. The thumb is also stiff, but all of its joints are flexed. For some time past she has

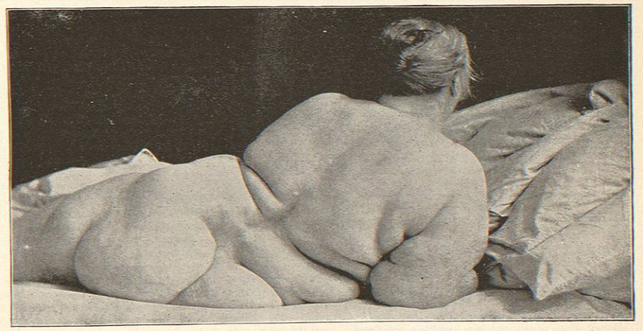

Fig. 45.—Rear View of Author's Second Case.