attended by increase of secretion (catarrh of the middle ear), but by a proliferation of tissue, which does not tend to suppuration but to thickening of the drum-head, and to adhesions between the ossicula and the walls of the tympanum. Wilde[1] described this affection under the name of "syphilitic myringitis," and he believed that it was characterized by the relative insignificance of the pain, in comparison with that felt in the same disease when not due to syphilis. Bumstead,[2] however, thinks that the absence of local pain is not a characteristic of the malady. Roosa[3] believes that there are no peculiar aural symptoms in this form of disease. He remarks, however, that "a syphilitic diathesis seems to cause the proliferation of tissue to be more rapid." He agrees with Schwartze, of Halle, who thinks that periostitis of the middle ear is at the basis of these cases.

Local bloodletting, the warm douche, and opium for pain, will, with the ordinary anti-syphilitic treatment, usually master the affection, if employed during the early stages. It will probably also be necessary to inflate the ear by Politzer's method, in order to prevent the formation of adhesions in the tympanic cavities.

Young children affected with congenital syphilis may be attacked by a catarrh of the middle ear, which resists local and constitutional treatment, very obstinately—that is to say, intra-auricular adhesions occur, the drum-head becomes sunken, the nerve is secondarily involved, and the impairment of hearing often remains permanent.[4] The mouth of the Eustachian tube is sometimes, but rarely, the seat of ulceration, and thus impairment of the hearing may be caused. Permanent loss of hearing is sometimes due to cicatrization of the pharyngeal orifice of the tube.

The portio mollis of the seventh pair may be the seat of special disease, and periostitis of the labyrinth, as well as gummy tumors, may occur. The results of treatment of syphilitic disease of the labyrinth or nerve are often unsatisfactory. The use of the tuning-fork will be an efficient aid in the differential diagnosis of cases in which there is doubt as to whether the loss of hearing depends upon disease of the middle or internal ear. If the middle ear be affected, the sound of a tuning-fork, the handle of which, while the instrument is in vibration, has been placed upon the forehead or teeth of the patient, will be intensified in the diseased ear; while, if the internal ear be the seat of disease, the intensity of sound will be much diminished, or the vibrations will not be at all perceived on the affected side.

[1] "Aural Surgery," English edition, p. 260.
[2] "Venereal Diseases," p. 590.
[3] *Loc. cit.*, p. 286.
[4] Roosa, *loc. cit.*

CHAPTER X.

SYPHILIS OF SPECIAL TISSUES AND ORGANS.

Syphilis of the Nails.—Dactylitis.—Syphilis of Tendons, Sheaths of Tendons and Aponeuroses.—Syphilis of Muscle.—Syphilis of Joints.—Syphilis of Bone.—Syphilis of Cartilage.—Syphilis of Lymphatic Glands.—Syphilis of the Mammary Gland.

Syphilis of the Nails.—Mucous patches are sometimes seen under the free border of the nail. A whitish or brownish, badly-smelling, characteristic secretion, is furnished by such patches. With the earlier eruptions on the skin, the nails are liable to lose something of their lustre. They are apt to become seamed by slight longitudinal furrows, brittle, friable, cracked, and shaling off at their extremities, sprinkled with an abundance of white points showing an imperfect epithelial formation. This dry form of onychia may cease at any period of its progress, healthy nail growing out from the matrix, or it may go on, very rarely, to a complete shedding of the nail. Instead of these changes, occasionally the nail becomes thickened, rough, discolored (Fournier).[1]

Onychia.—During the secondary period of syphilis, specific onychia is sometimes encountered upon the fingers, more often upon the toes. It is not uncommonly symmetrical, the same toe on each foot being involved. Spontaneously, or after slight injury, pain is felt somewhere about the border of the nail. The painful point becomes swollen and of a reddish-brown color. This goes on to ulceration at the edge of the nail, and spreads around it. The surface of the ulcer is moist, brownish, fungous; the secretion ichorous, fetid. The nail loosens, superficial ulceration progresses beneath it. The nail, with the progress of the affection, sometimes softens and falls away, its place being supplied by the ulcer, only a small portion of nail remaining at the point occupied by the lunula. The whole end of the toe or finger becomes engorged, violet-colored, very painful; deep inflammation, with necrosis of the ungual phalanx, may follow. Instead of reaching this extreme, the affection sometimes remains confined to a portion of the circumference of the nail. Here the skin is swollen, livid, ulcerated; the nail seeming to act like a foreign body, preventing repair. All the forms of syphilitic onychia progress very slowly, but terminate habitually in recovery.

Diagnosis.—The dry form of secondary syphilitic onychia must be distinguished from the somewhat similar condition found in eczema,

[1] *American Journal of Dermatology and Syphilography*, 1873, translation.

psoriasis, and parasitic affections, by the history and concomitant symptoms. The ulcerated form of secondary onychia is distinguished from ordinary in-growing nail, run-round, etc., by this, that in it, ulceration and inflammation take place primarily in the matrix of the nail, while in the latter affection it commences first in the outlying tissues. Tertiary onychia is a gummy, destructive inflammation of the matrix in a more severe form. It has the same general characters as the secondary affection, only more severely. It usually commences in the matrix, at some point along the lunula, the nail thickens and softens, finally falls, while destructive ulceration is slowly advancing, involving the deeper tissues in an irregular manner, perhaps attacking the bone.

Treatment.—The constitutional treatment is regulated accordingly as the disease partakes more of the secondary or tertiary type. Locally cleanliness, removal of nail and loosened portions of nail which act as foreign bodies, nitrate of silver for exuberant granulations, iodoform pure or diluted for ulcerated surfaces, or black or mild yellow-wash.

SYPHILIS OF THE FINGERS AND TOES.

Dactylitis (*δάκτυλος, a digit*—finger or toe).—This rare affection requires a special description. But few cases of it are on record.[1]

Dactylitis is gummy in character, and hence belongs to the later stages of syphilis. Taylor makes two varieties:

1. Subcutaneous and articular, the bone not being much affected.
2. Nearly confined to the bone and joint.

1. The first form comes on rapidly or slowly, diffuse gummy infiltration takes place subcutaneously, involving the periosteum upon the first phalanx (most often), but perhaps including the whole fingers. The swelling usually terminates abruptly, as a more or less perfect ridge at the articulation of the finger or toe with the hand or foot, and is most marked on the dorsum. The swelling is sometimes very great, so as mechanically to impede motion, but there is no complaint of pain. The skin is natural or slightly bluish, from venous obstruction. The swelling is firm, resistant to the touch. The fibrous structures around the joint next become also involved. The synovial membrane seems to escape, there being no effusion into the joint unless the bone is also implicated. After a variable time crepitation (rather rough) may be observed in the joint. Disintegration of the joint is possible, the skin ulcerating over it. The bones, especially near the affected joint, also enlarge slightly, participating in the disease. The malady runs a slow course, perhaps relapsing several times after apparent efforts at repair, but yields in the long-run to specific remedies, leaving behind more or less disturbance about the function of the joint, according to the degree to which the disorganization of its tissues has progressed. In bad cases anchylosis would follows.

[1] Its whole history, clinical as well as literary, is comprised in a recent able paper by R. W. Taylor, of New York, published in the *American Journal of Dermatology and Syphilography*, January, 1871. Dr. Taylor's essay is based upon two new cases of the disease.

2. In the second form, the phalanx, usually the first, is primarily attacked in its bone as a gummy osteo-periostitis, or an interstitial gummy osteo-myelitis.[1]

The swelling is sometimes very considerable. In Berg's[2] case the finger had a circumference of five inches (Fig. 133).

In this second class of casses the swelling is mainly confined to the phalanx (most markedly its dorsal surface), and to the joint affected, as there seems to be little, sometimes no disease of the more superficial structures. The affection may run an acute or a chronic course. The

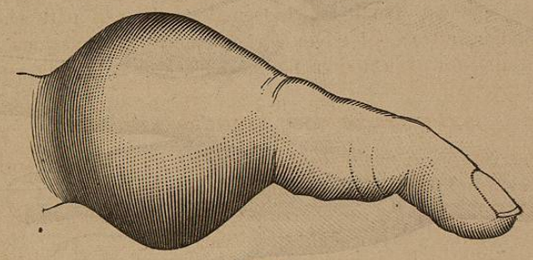

Fig. 133.

integument becomes stretched and tense by the subjacent swelling. Its color grows pink or red, and it may be for a time sensitive, the result of continued pressure. The nail does not suffer, even when the last phalanx is involved. Appearances similar to those found in dry caries have been encountered after death in the affected phalanges. The gummy deposit, after producing great swelling of the bone by its infiltration, undergoes absorption without suppuration, as in dry caries, and results in loss of substance of the bone, which is not replaced by new tissue. If very rapidly formed, the gummy deposit, here as elsewhere, may undoubtedly break down, and be eliminated externally. In this second form of the disease, changes sometimes occur in the joint similar to those already described for the first variety. Considerable effusion may take place. The amount of pain complained of is very slight, as in other syphilitic joint-affections.

[1] Sometimes many bones on both hands are involved in different stages of the bony changes, constituting dactylitis. In a patient, brought for advice by Dr. Wylie, several of the first and some of the second phalanges, as well as several of the metacarpal bones of both hands, showed the characteristic changes. In another (personal) case, the metacarpo-phalangeal joint of the thumb and great-toe, on the right side, were alone involved.

[2] "Fall von gummöser (syphilitischer) Dactylitis." "Arch. of Derm. and Syph.," No. 2, 1870, and Taylor, *loc. cit.*

As a final result of the absorption of the gummy deposit, the shaft of the bone becomes shortened, or slightly attenuated. In McCready's case (Fig. 134), a whole phalanx, its joint, and a portion of the metacarpal bone disappeared. From these changes great deformity may result, the fingers or toes becoming shortened and distorted. False joints form between the two ends of a phalanx, which have been separated by absorption of the portion of the shaft of the bone. The integument in such cases contracts, and adapts itself to the altered condition of affairs,

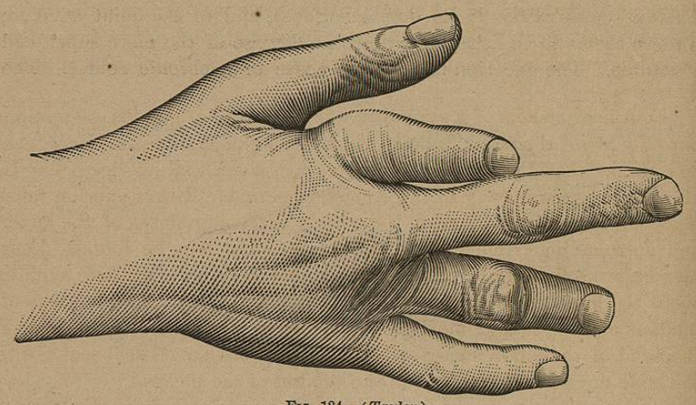

FIG. 134.—(*Taylor.*)

thus materially strengthening any false joint that may form. The sheaths of the tendons have not been involved in any of the recorded cases.

Diagnosis.—Absence of pain distinguishes the earlier stages of dactylitis from whitlow and from gout. In rheumatic arthritis the sheaths of the tendons suffer, generally the flexors, distorting the fingers, and tophi are deposited about the joints and often in the cartilages of the ears. The crepitation in the joints is dry and harsh. Enchondroma grows slowly as a hard, well-defined tumor, prefers the palmar to the dorsal surface, dactylitis occupying more often the dorsum. The characters of dactylitis as described, together with the syphilitic history, would serve to distinguish it from ordinary periostitis, and from strumous disease of the bone.

The prognosis is good if taken early, although the ordinary course of the disease is slow.

Treatment is that of tertiary syphilis. Local inunction of twenty per cent. oleate of mercury, combined with iodide of potassium internally, seems to act promptly. Local measures are, as a rule, unnecessary, except rest and soothing applications to meet inflammatory manifestations.

SYPHILIS OF THE TENDONS, SHEATHS OF TENDONS, AND APONEUROSES.

Verneuil[1] first called special attention to serous effusions into the sheaths of tendons (extensors) on the dorsum of the carpus and metacarpus, on both or on one side, due to syphilis. Effusion comes on promptly, fluctuation can be distinguished, there is no change in the color of the integument. The shape of the swelling is triangular, with the base toward the fingers. It does not extend beyond the dorsal ligament. There is slight pain on pressure, with a little weakness and inconvenience of movement. The affection is secondary, and a few days of internal mercurial treatment causes it to vanish. Verneuil calls it dorsal hygroma.

Fournier[2] speaks of a syphilitic affection of the sheaths of tendons not only about the wrist, but also about the ankle, foot, knee, elbow, etc., and thinks that the sheath of any tendon, superficial or deep, may be affected by syphilis early in the secondary period. Either effusion takes place without any redness of the cuticle or some redness of the latter, and surrounding œdema with considerable pain may be found. Fournier believes that many of the pains found early in secondary syphilis about the knee, and especially about the elbow, are due to affections of tendons of deep-seated muscles, laying stress particularly upon pain in the bend of the elbow increased by pressure, having its real seat not in the bone nor in the joint, but in the tendon of the biceps.

Both *tendinous* and *aponeurotic* tissue may also become the seat of syphilitic lesion, either as interstitial thickening from hyperplasia of connective-tissue elements in a diffused manner, capable of thorough organization, or as a distinct gummy tumor. The tendons are more often involved than the aponeuroses. Gummy tumors of tendons sometimes are absorbed and calcify without destroying the function of the tendon. The more dense and resisting the tendon the more exposed does it seem to be to gummy tumor—tendo achillis, tendon of quadriceps extensor femoris, etc. A tumor of this latter tendon is noticed by Arrzomann,[3] which lighted up hydrarthrosis, and might have passed readily for a white swelling.

CASE LIII.—In 1871, ——, aged forty-three, called for an opinion about an affection of the knee, which forced him to employ crutches. A little over two months previously, from no traumatic cause, he noticed a feeling of weakness and insecurity in the right knee, with no pain. He soon took to his bed from inability to walk, not on account of pain. This was believed by his surgeons to be due to threatening abscess. It subsided, to be replaced by a general swelling, with distinct puffiness above and about the joint. There was total inability to use the leg for locomotion. In this condition, ten weeks after his

[1] "De l'Hydropisie des Gaînes tendineuses des Extenseurs des Doigts dans la Syphilis secondaire." *Gaz. Hebdom.*, 1868, p. 609.

[2] "Note sur les Lésions des Gaînes tendineuses dans la Syphilis secondaire." *Gaz. Hebdomad.*, 1868, p. 645.

[3] Thèse de Paris, 1858.

attention was first called to the disease, he was seen. Examination revealed that he had long been subject to stiffness of muscles and joints, called rheumatism; that he had milk (scaly) spots on the tongue, and nodes on the ulna, skull, and tibia. The right knee was swollen, white, insensitive, slightly warmer than its fellow, containing fluid. There was a distinct amount of induration and thickening, with general puffiness above the patella and a tender spot toward the outer upper side. Syphilitic arthropathy was diagnosticated, and iodide of potassium in increasing doses employed. Under this treatment all the symptoms disappeared. The fluid was absorbed from the joint; the puffiness vanished, the indurated thickening diminished, then became easily movable, and was felt as a broad lump as large as a flattened pullet's egg, situated transversely above the patella in the median line, and seeming to have started in the tendon, and then to have involved a portion of the upper part of the capsule of the knee-joint. The nodes got well, and the patient went on to a speedy and entire recovery, regaining perfect use of the joint.

This case had not been diagnosticated (although under the best of observation), and would have readily passed for white swelling.

Gummy tumors of tendons are not painful. Sometimes they are so, when the muscle contracts, hence such a muscle usually refuses to act at all after a time. The tumors can generally be felt under the skin upon the tendon as hard, circumscribed masses. If they go on to soften, the skin reddens, breaks, and a gummy ulcer is left. These tumors are important, from their liability to be mistaken at first for the little serous swellings found often upon the tendons of the fingers, called ganglia. The history and progress of the affection are the only means of making a diagnosis. Ganglia may be ruptured by a blow, not so a gummy tumor.

Treatment of tertiary syphilis is usually speedily curative.

SYPHILIS OF THE MUSCLES.

Syphilis affects the muscles in two ways:

(*a.*) Diffuse connective-tissue hyperplasia.

(*b.*) Gummy tumor.

(*a.*) Diffuse Form.—This form here, as elsewhere, consists in a hyperplasia of connective-tissue elements. It takes place between the muscular fibres. The new connective tissue atrophies, draws together in its contractions upon the muscular elements, and thus causes their wasting and destruction. Virchow[1] has made a profound study of this condition. He compares the muscular atrophy to the same result following rheumatic inflammation. Any muscle may suffer, but the flexors of the forearm and the biceps cubiti are especially liable to attacks of interstitial myositis. Buisson believes that stricture of the rectum may be caused by syphilitic myositis.

Symptoms.—There is no spontaneous pain in this affection. The muscle gradually shortens without at first diminishing in size and texture (apparently). Forcible extension of the muscle or pressure on the tendon may occasion pain (Notta).[2]

[1] "Archiv. für Path. Anat.," IV., p. 271. [2] "Archiv. Génér.," 1850, p. 413.

Treatment commenced early has great power over this affection; later, during the atrophic stage, none whatever. Total atrophy of the muscle, with shortening and consequent distortion of joints, is the final result of interstitial syphilitic myositis unrelieved by treatment.

(*b.*) Gummy Tumor of Muscle.—This condition differs from the preceding only in this: that the new material is circumscribed instead of diffused, and is much more prone to soften and discharge externally. Such tumors, commencing in a muscle, may subsequently involve other more importants parts, as gummata of the tongue, palate, pharynx, larynx, which may primarily originate in muscular tissue, or rather its interstitial connective-tissue elements, and, again, gummata of the heart, stomach, etc. Gummy tumor of muscle, however, is usually found in a large muscle, such as the gluteus, trapezius, sterno-mastoid, and pectoralis major.

Symptoms.—A lump appears in the affected muscle, with no pain. It is usually large when discovered, and then continues to grow until it may reach the size of an orange, and interfere greatly with the contractile function. The swelling, not very hard at first, is found to be fixed when the muscle containing it is contracted; movable, when it is relaxed (Nélaton).[1] If cut into early, the appearance is as of a grayish plastic effusion around the muscular fibres, which have lost their color. The skin is not discolored; there may be some pain, especially at night. The tumor now sometimes goes on to grow rapidly and to soften. Perhaps it is opened as an abscess, or discharges spontaneously, in exceptional cases, a thick, mucilaginous mass, perhaps slightly bloody. Interstitial organization and absorption sometimes take place, leaving a hard, cicatricial nodule, perhaps encysted, fibrous in character, possibly calcified.

A muscular gumma may be alone, or may have companions. Usually there are other syphilitic manifestations present to assist the diagnosis. Section of gummy tumor, at its different periods, shows it as a grayish-red, gelatinous substance, or as a yellowish-white, hard mass, looking like the section of cicatrix, perhaps calcareous, or if softened (not organized) it may resemble thick gum, or show any of the stages of cheesy degeneration.

Treatment is that of tertiary syphilis. Local measures are not required.

SYPHILIS OF THE JOINTS.

Early after infection, often with the syphilitic fever, there is complaint of pain in the joints, some of which perhaps become congested, swell, contain an excess of fluid, and are painful on movement. This inflammation is usually insignificant, but occasionally intense enough to pass for mild inflammatory rheumatism. It may attack the joints sym-

[1] *Gazette des Hôpitaux*, 1861.