lis. Syphilis attacks the mamma in the same two ways in which it affects all glands:

(1.) As a diffuse interstitial parenchymatous inflammation.

(2.) As distinct gummy tumor.

(1.) *Diffuse syphilitic mastitis* is observed in both sexes. Ambrosoli[1] reports three cases; one in a male, the others in females. The gland swells, becomes slightly painful and tense. The skin remains unchanged. No separate tumor is formed. All the cases observed have occurred during the secondary period shortly after cutaneous eruptions. A few indolent ganglia may be found in the axilla. The affection disappears without leaving any trace.

(2.) *Gummy Mastitis.*—Richet[2] mentions a tumor of the breast which he believed to be scirrhous. He prepared to extirpate it, but, finding by accident a tumor in the patient's calf, he paused, reflected, administered the iodide of potassium, and both tumors disappeared. Gummy tumor is rare in the breast, and when found there usually coexists with gummy tumors or ulcers elswhere. It forms with little or no pain, may attain a large size, and then degenerates and discharges externally (when it is liable to be mistaken for cancer), or is aborted. Mastitis is usually bilateral. The course of the disease and its attendant specific history serve to distinguish it from other benign or cancerous mammary enlargements.

CHAPTER XI.

VISCERAL SYPHILIS.

Syphilis of the Vascular System.—Syphilis of the Respiratory System.—Syphilis of the Digestive System, including the Tongue and the Great Abdominal Glands.—Syphilis of the Peritonæum, Thyroid, and Thymus.—Syphilis of the Genito-Urinary System.

Syphilis of the Vascular System.—Of the circulatory organs, the heart most frequently suffers, the arteries next, while no authentic case of syphilitic lesion originating in the veins has been reported.

Syphilitic Pericarditis has been very rarely observed. Wilks, Virchow, and Lancereaux, have seen cases. The affection is tertiary, and is either a diffuse pericardial infiltration or a circumscribed gummy tumor. It rarely occurs except in connection with specific myocarditis. It does not seem to occasion any considerable febrile or other disturbance, and the diagnosis is usually made after death.

Myocarditis due to syphilis is either diffuse or circumscribed (gummy tumor). The two forms may occur separately, but usually

[1] Quoted by Lancereaux.

[2] "Traité d'Anatomie Medico-Chirurgicale," fourth edition, 1873, p. 330.

coincide. The diffuse form consists in cell-proliferation, attended by hyperæmia and formation of new connective tissue, then destructive metamorphosis with absorption. A yellowish coloration in patches is produced by the fatty changes in the new growth; finally portions of the muscular tissue disappear by absorption.

In the gummy form circumscribed tumors of small size appear, preferably in the ventricles where the muscular wall is thickest. The surrounding tissue is the seat of diffuse myocarditis; the walls of the heart thicken; its cavities enlarge; its muscular power is impaired. The valves usually escape. The endocardium and pericardium may both be involved. These heart-lesions are rarely detected during life. Lancereaux diagnosticated a case which got well under the use of iodide of potassium. The course of the disease is long, its beginning insidious.

Symptoms are: increase of size in the heart, enfeeblement and irregularity of its action, palpitation, finally asystole; sometimes præcordial pain and distress, a little dyspnœa, some turgescence of the vessels of the neck, sometimes slight œdema of the lower extremities, rarely any valvular murmur.

Diagnosis.—A syphilitic history, the coincidence of other tertiary phenomena, the usual absence of evidence of valvular lesion, are the main features of a differential diagnosis. Sudden death is the most common termination, but, if treatment be commenced before the muscular tissue of the heart has been materially altered, there is every reason to believe that a cure may be effected.

Treatment is that of late syphilis.

Syphilitic Arteritis.—The arterial walls are subject to gummy infiltrations, either diffused between the coats of the artery for some length, thickening the same and thus decreasing the calibre of the vessel, or developing as a distinct tumor in the vessel-wall. Both forms have been observed. In the larger vessels fatty metamorphosis of the new tissue occurs, with calcification leading to atheromatous patches; in the smaller vessels obliteration of the calibre may ensue. Aneurism may owe its origin to the weakening and softening of the arterial wall by degeneration of gummy deposit, or the vessel may give way, allowing an apoplexy to occur. Weber has a case of pulmonary apoplexy.[1] Any artery may suffer, but the carotids and arteries of the brain most commonly. An accurate diagnosis of these lesions has usually been made after death, as no symptoms during life are pathognomonic of their existence. They are a not very infrequent cause of brain-symptoms, by cutting off the supply of blood. Their presence may be inferred in many cases of aneurism in patients with old syphilis.

No diseases of the veins have been observed. Lancereaux states of the capillaries that their external tunic is the habitual point of origin of

[1] Quoted by Lancereaux.

gummy tumor, and that fatty degeneration of their coats is observed in syphilitic cachexia, as indeed might be expected *a priori*.

SYPHILIS OF THE RESPIRATORY SYSTEM.

The affections due to syphilis occurring upon the skin and mucous membrane of the nose have been already described (Chapters VI. and VII.). The bones about the bridge of the nose are very apt to be destroyed by tertiary syphilis, and discharged either through the nostrils or by ulceration of the skin over them. These destructions of bone are not replaced, and recovery involves a sunken bridge.

Syphilis of the Larynx.—The erythema and mucous patches of the larynx, sometimes found in secondary syphilis, have been described (p. 584, *et seq.*). Tertiary changes remain to be observed. There are two varieties:

1. Diffuse non-ulcerative laryngitis.
2. Ulcerative laryngitis.

1. *The diffuse non-ulcerative* form is rare. It consists in chronic diffuse connective tissue, hyperplasia resulting in general thickening of the vocal cords and surrounding tissues, without ulceration, on account of which the voice becomes first hoarse, then reduced to a whisper, perhaps, finally, after many months, nearly lost; and difficulty of breathing comes on, gradually progressing with the thickening of the laryngeal tissue, until suffocation becomes imminent. Little or no pain is experienced. Pressure over the larynx is somewhat painful. The affection progresses slowly. Dyspnœa is the main symptom, with modification of voice, and, in the later stages, emaciation, sleeplessness, cachexia, with more or less cyanosis, and a quick, labored action of the heart. The lungs remain healthy. The laryngoscope shows a dark-colored mucous membrane in the larynx, a general thickening of tissues, with more or less œdema and restriction in the movements of the vocal cords, but no ulceration. Œdema of the glottis may come on, rapidly inducing alarming symptoms of suffocation.

Diagnosis.—A history of syphilis, and the absence of tubercular disease in the lung, make the diagnosis between this affection and tubercular chronic laryngitis easy. Treatment is effective in the earlier stages, but not always curative in old cases where new-formed and contracted connective tissue has glued the parts together. Tracheotomy in these cases is the main resource. It may be necessary to wear a tube permanently.

2. *Gummy Ulcerative Laryngitis.*—This is not a very uncommon affection in the tertiary stage of severe or badly-managed cases. It comes on as an ulcer of the mucous membrane, secondarily affecting the perichondrium and the cartilage, or begins under the perichondrium, or possibly as a neighboring gummy tumor. The ulcer may involve the posterior surface of the epiglottis, and indeed be continuous with

serpiginous gummy ulceration of the pharynx. The gummy material under the perichondrium usually softens and ulcerates its way out as it does when forming near bone, and may be attended by necrosis of more or less of the cartilages of the larynx. The laryngoscope shows perhaps non-ulcerated prominences, usually ragged ulcers with considerable surrounding œdema; these appearances sometimes extending through the larynx into the trachea. White contracted cicatrices of older ulcers, which have healed, may also be seen.

The symptoms of this affection are hoarseness, perhaps a whispering voice, possibly total loss of voice, slight laryngeal pain at times, cough, at first dry, then with bloody, purulent expectoration or portions of slough; œdema of the glottis sometimes occurs, but, in any case, respiration becomes eventually seriously impeded. Dyspnœa often occurs in paroxysms. A portion of necrosed cartilage may separate and be coughed up or drawn down into the lungs. The larynx is painful to pressure, sometimes visibly enlarged. Gummy deposit may form in the surrounding tissues, and soften. Emaciation and exhaustion come on, and life is endangered if the disease be not stayed. After the healing of the ulcers, permanent trouble may be left in the larynx by contraction of the cicatrices. During this period the larynx may be found permanently depressed and immovable, during deglutition and attempts at speech (Demarquay).

Diagnosis.—The history of the case, the frequent coincidence of present or old (cicatrized) pharyngeal ulceration, and the usual absence of pulmonary lesions, distinguish this affection from phthisical laryngitis.

Similar changes to those already described for the larynx are also caused (less frequently) by syphilis in the trachea and bronchial tubes, leading often by their cicatrization to permanent stricture, which, if extensive, seriously, perhaps fatally, impedes respiration, as cicatrices are, of course, not influenced by treatment. Hence the importance of an early recognition, and a vigorous treatment of all tertiary affections of the air-passages, so as to prevent extensive ulceration and subsequent stricture.

Syphilis of the Lungs.—In tertiary and in inherited syphilis, the lungs may be affected either by diffuse interstitial chronic inflammation (pneumonia), or by gummy tumor, or both together. Rare in the adult, these changes, especially the diffuse form, are common in the infant with inherited disease.

1. *Chronic Syphilitic Pneumonia.*—This affection may invade any portion of the lung-tissue. It consists in a proliferation of cells, and a new formation of connective tissue in the parenchyma of the lung, by means of which the air-vesicles become decreased in size, or even obliterated, and the portions involved, firm, hard, non-crepitant, elastic. The affected spot is depressed from contraction of the newly-formed tissue; it may be sprinkled with numerous yellow points, seen on section. An

entire lobe is rarely involved all at once. There may be several spots in the same lung. The bronchial tubes terminating in the diseased areas are dilated or contracted, sometimes ending in a *cul-de-sac*, their walls yellow, thickened, opaque.

In the child with inherited syphilis, the whole of both lungs may be involved by changes due to interstitial disease. These organs are found large, dense, fleshy, heavy, discolored. They often show prints of the ribs. Their surface is smooth and marbled. They sink in water. There may be partial emphysema where the air has penetrated. The inter-alveolar tissue is thickened, in some portions more than in others. The bronchial ganglia are enlarged.

2. *Gummy Tumors of the Lungs.*—These may be single or multiple. They are found as yellowish-white tumors of varying size, rarely larger than a marble, firm and elastic at first, then softening, perhaps breaking down. They become surrounded by an indurated connective-tissue wall (encysted). Small vessels pass into these masses at first, but subsequently become obliterated. These tumors undergo the same retrogressive transformations as those which affect gummy material everywhere—central softening, cheesy degeneration, absorption—a cheesy nodule, perhaps calcified, being left behind, or rapid softening with ulceration of surrounding tissue and evacuation of the tumor, usually into a bronchus, followed by a cavity which cicatrizes, leaving a stellate depressed scar. Gummy circumscribed masses in the lung are less frequent in the infant with inherited syphilis than the diffuse form, but they have been occasionally found, sometimes as yellowish, elastic masses, sometimes with commencing central softening. The child rarely lives long enough to allow them to ulcerate out.

Pleural adhesions, cicatrices, and small gummy tumors coexist with syphilitic lung-disease.

Diagnosis.—Syphilitic lung-affections with or without cavity may be diagnosticated from chronic phthisical pneumonia by the history, concomitant changes, the fact that syphilitic disease is not specially prone to attack the apices of the lungs, and, finally, by the effect of treatment.

SYPHILIS OF THE DIGESTIVE AND ABDOMINAL ORGANS.

Erythema, mucous and scaly patches, and ulcerations of the mouth and pharynx have been considered (Chapters VI. and VII.). A word of special description is due to gummy tumor of the tongue. It is important on account of its great liability to be mistaken for cancer. The affection is rare, and is habitually found late in the disease, often after every other manifestation of syphilis has disappeared. Lagneau[1] has collected ten cases. The gummy deposit takes place in the sub-mucous tissue or deeply among the muscles. Any point of the organ may be involved, but the base most frequently.

[1] "Des Tumors syphilitiques de la Langue." "Archives de Méd.," tome i., 1860, p. 217.

Symptoms.—*Gummy tumor of the tongue* is usually multiple. Small, hard, painless swellings commence under the mucous membrane, or in the thickness of the tongue. These grow slowly to the size of a pea or nut, the mucous membrane over them being at first perfectly healthy. Then the tumor softens centrally, the membrane over it becomes violet colored, finally ulcerates, letting out the gummy matter, if it has become sufficiently softened and degenerated, or exposing it to view as a yellow, false-membranous-looking mass, firmly adherent and gradually deliquescing and sloughing away. These ulcers are indurated at their base and sides, sometimes sprinkled with gangrenous points. They bleed easily. The surrounding tissues are reddened, thickened, œdematous. The ulcer may take the shape of a deep, ragged, oval fissure into the side of the tongue or across its dorsum. The edges are raised and hard, but not tuberculated. Portions of the edges are often undermined. These ulcers have a very slowly-progressive, destructive action, but even without treatment they are often self-limiting, and, after more or less destruction of lingual tissue, the borders sometimes flatten down, soften, granulations spring up and cicatrization ensues, perhaps at the expense of considerable deformity of the organ from loss of tissue.

Case LIV.—A gentleman, sent to this country by a homœopathic physician to test the virtues of the Missisquoi Spring for "cancer of the tongue," came under observation in the summer of 1872. He had been advised to submit to an operation as for cancer by a prominent London surgeon. A well-marked group of old syphilitic tubercles was found upon the buttock, and this, with an undoubted history of syphilis, justified the free use of the iodide of potassium for the ragged ulcer of his tongue. The treatment was followed by decided benefit. The age and debility of the patient, together with the fact that the iodide was badly borne, prevented more marked beneficial results. The patient died some months later, under the observation of Mr. Henry Lee, of London, who kindly transmitted the following opinion and remarks on the case: "Mr. —— duly presented himself yesterday. I was very much pleased to find that the sub-maxillary glands were not enlarged, which one would certainly have expected had the disease been cancer. In St. George's Hospital some time ago I had a patient, a married woman, whose tongue was ulcerated much more than Mr. ——'s. In this case the parts quite healed, leaving only a small stump of a tongue attached to the hyoid bone. The treatment pursued in this case was sarsaparilla and calomel-baths. . . ."

The beginning of this affection often passes unnoticed. It may be impossible to distinguish the tumors except by pressing the tongue between the thumb and finger, when one or more hard, interstitial lumps are felt. During ulceration the saliva collects abundantly and dribbles away over the lower lip, the mouth being kept ajar for fear of pressing on the tongue. These symptoms continue more or less marked according to the extent of the ulcers. There may or may not be syphilitic cachexia, with gummy tumor of the tongue.

Diagnosis.—These ulcers of the tongue are very apt to be mistaken for cancer. They usually do not return after extirpation, and may get well during a sojourn at this or that spring, or while the patient is consuming this or that nostrum, and thus become evidences of the cure of

cancer. In five points, however, gummy ulcerations differ from cancer of the tongue:

1. They commence as sub-mucous lumps, not as superficial, warty growths.

2. The edges of the syphilitic ulcer are not tuberculated.

3. The sub-maxillary glands are involved late in cancerous ulcer, but not all with the syphilitic.

4. In the syphilitic ulcer of some duration it is customary to find certain points cicatrized; not so in cancerous disease.

5. Cancerous disease is somewhat painful from the first. With syphilis there is no pain until the gummy material softens.

Treatment of gummy tumors of the tongue is usually rapidly effective if undertaken before they have ulcerated. After the ulcerations have become chronic they are very slow in yielding, but persevering effort will master them unless the patient be irremediably depressed by cachexia.

Syphilis of the Œsophagus. — Syphilitic ulceration occasionally attacks the œsophagus, either by extension from the pharynx or as a local gummy deposit. West[1] first called attention to these lesions. Virchow has found cicatrices and stricture of the œsophagus in autopsies of syphilitic patients. Maury,[2] of Philadelphia, details a case upon which he was forced to the performance of gastrotomy.

Symptoms of stricture with difficult deglutition usually first call attention to the affection under consideration. The stricture is the result of cicatrization of previous ulceration, and is therefore but little benefited by treatment. Some relief has, however, been noticed in cases which have been diagnosticated. A cure is reported in one case by Follin,[3] but the treatment is mainly that of stricture of the œsophagus by dilatation, etc.

Syphilis of the Stomach and Intestine. — Functional derangements of the stomach and intestines are common early in secondary syphilis and in the cachectic stage. Tertiary ulcers have also been occasionally found in the stomach and intestines, and local brawny thickenings (Wagner,[4] Lancereaux, and others), without ulceration. There are no means of diagnosticating these lesions, except continuous diarrhœa with occasional bloody stool and colicky pains, or eructations and vomiting, together with the coexistence of a syphilitic history, visible lesions elsewhere, and more or less cachexia. Such ulcers in the rectum may eventually lead to stricture, but the vast majority of the so-called syphilitic strictures of the rectum are undoubtedly due to chancroid or ulcerated mucous patches.

Syphilis of the Pancreas.—Lancereaux has found the pancreas

[1] *Dublin Quarterly*, February, 1860.
[2] *American Journal of Medical Sciences*, April, 1870.
[3] "Traité Elém. de Path. Ext.," tome i., p. 696, 1861.
[4] "Archiv der Heilkunde," 1863.

indurated in syphilitic autopsies, and gummy tumors of the same organ have been observed. No special symptoms mark the affection during life.

Syphilis of the Spleen.—Syphilis may occasion a partial or general splenitis, gummy tumor of the organ, or, according to Lancereaux, an hypertrophy by augmentation of the cellular contents or pulp.

In splenitis the portions affected become hardened, dry, dark-colored, so dark as to be sometimes mistaken for hæmorrhagic foci (Virchow), and difficult to distinguish from inflammatory engorgements. As the newly-formed connective tissue contracts, the affected portion grows harder and paler, and its site is marked by a depression of cicatricial character. A certain amount of peri-splenitis may also occur, occasioning adhesions between the spleen and neighboring tissues and organs.

Gummy tumors of the spleen resemble the same productions in other organs. They occur as one or more rounded nodosities, of dirty yellowish-white color on section, more often superficial than deeply seated. They are of rare occurrence.

In inherited disease the spleen is often firmer and larger than usual; rarely the seat of circumscribed or diffused gummy infiltration. Lesions of the spleen rarely, if ever, occur, except coincidently with other visceral changes.

Syphilis of the Liver.—No viscus is more subject to alteration from syphilis than the liver. This is especially true in cases of inherited disease. Gubler,[1] Dittrich,[2] Virchow,[3] Wilks,[4] Lancereaux,[5] Diday,[6] and others have done much toward elucidating the changes wrought by syphilis in the liver. There are in this organ two distinct forms of syphilitic disease:

1. Interstitial syphilitic hepatitis.

2. Gummy tumor.

1. *Interstitial Syphilitic Hepatitis.*—This is a chronic cell-hyperplasia, occurring either in patches in the capsule of the gland (peri-hepatitis), or in the parenchyma diffused or in patches. There is first hyperæmia then new formation of cells along the course of the vessels, with local or general increase in the size of the organ, finally shrinkage of the newly-formed tissue, and consequent compression of the glandular elements, ducts, and vessels of the organ. On the surface these patches implicate the peritonæum, and adhesions take place with the neighboring structures. The irregular contractions pucker in and depress the liver-surface unevenly, leaving it seamed, fissured, and distorted. The whole organ, or part of it, finally becomes contracted, cirrhosed, hardened, intersected by seams and lines of contracted fibrous tissue more or less thick. The color of a section is yellowish, sometimes darkened, the glandular elements are withered or completely atrophied, some-

[1] "Mém. de la Soc. de Biol.," t. iv.
[2] "Präger Viert. Jahrschrift," 1849–'50.
[3] *Op. cit.*
[4] "Guy's Hospital Report," 1863.
[5] *Op. cit.*
[6] "Syphilis in New-born Children," "Sydenham Soc. Trans."

times enlarged, amyloid; a darkened spot may mark the position of an occluded bile-duct. Gummy tumor not uncommonly coexists with this form of disease.

The liver, in cases of death from inherited syphilis, has rarely had time to contract. It is found enlarged, globular, hard, elastic, so that, when a portion is pinched between the fingers, it slips away like a piece of cartilage, and does not receive the impression of the fingers. It may creak under the scalpel like fibrous tissue. The color is of a yellowish-pink, on section, shaded with brown. Small white spots appear on the surface of a section, with delicate white streaks radiating from them formed of collapsed thickened blood-vessels. The vessels are mostly empty, so that not much blood can be squeezed from a section. The bile in the gall-bladder is of pale color and sticky consistence, showing deficiency in coloring-matter, and excess of mucus (Gubler). Extravasations of blood into the liver-substance may have occurred. The solid portions of blood resemble soft currant-jelly. The changes above detailed may occupy the whole or only a portion of the liver, or of one of its lobes. Amyloid degeneration of the capillaries and liver-cells is not uncommon. Distinct gummy tumors have also been found in the liver in inherited syphilis, in connection with the above changes.

2. *Gummy Tumor of the Liver.*—These tumors occur in the liver as hard, irregularly rounded, yellowish-white masses of different sizes. They occur in the midst of portions of liver affected by interstitial hepatitis, often just under the capsule. The newly-formed connective tissue is continuous into them, its meshes widening to receive the numerous small nucleated cells constituting gummy deposit. These masses are yellowish, hard, dry, can often be easily separated from the surrounding tissues. A thick, retractile zone of fibrous tissue surrounds each gummy tumor, or group of them, so that, when cut through on section of the liver, the tumor stands out prominently above the cut surface (Lancereaux). Peripherally the tumors consist of fibres and cells, centrally of cells more or less shrunken, granular, undergoing fatty metamorphosis preparatory to absorption. Centrally free oil-globules and granular detritus also abound. These tumors are capable of absorption, leaving depressed hard cicatrices fibrous in character, often stellate in appearance, and, if on the surface of the organ, attached by strong peritoneal adhesions to the diaphragm, or other adjacent structure. They do not calcify.

Fatty and amyloid degeneration of the liver, often found in syphilitic subjects, is not essentially due to syphilis as a cause, yet the coincidence of amyloid degeneration of the spleen, liver, and kidneys, with the visceral lesions of syphilis, is noteworthy. Amyloid degeneration of the liver is very common in inherited syphilis, and, in the adult, Frerichs [1] thinks that syphilis is one of its most common predisposing causes.

[1] *Wiener Medicin. Wochenschrift*, p. 113, *et seq.*, 1860.

Acute yellow atrophy of the liver, accompanied by jaundice, fever, local tenderness, and death, is mentioned by Hill [1] as occasionally occurring in syphilis, and as due to it.

Symptoms of Syphilitic Hepatitis.—Early in the disease the liver becomes enlarged, later contracted, and both of these changes are appreciable by palpation and percussion. If amyloid degeneration be marked, the liver may be enlarged to the end, sometimes very considerably. The inequalities and fissures of the surface can occasionally be felt during life. Occasionally there is a little local pain or uneasiness, especially on pressure. The gland is apt to be unevenly enlarged, one lobe disproportionately larger than the other. Adhesions may be sometimes made out. Jaundice is exceptional, and, when it occurs, may be transitory or progressive, and of long duration. It is due sometimes to pressure upon the excretory duct of the liver by enlarged abdominal lymphatic glands, or by the contractions of a cicatrix (Frerichs). Jaundice sometimes comes on several years before any appreciable signs of textural trouble have been furnished by the liver. Ascites is liable to appear after the liver has become contracted. Epistaxis, hæmorrhoidal bleeding, digestive troubles, anasarca, discolored or brownish bloody stools, dense, high-colored, scanty, perhaps albuminous urine, etc.—accompaniments of cirrhosis—may be also found with the contracted syphilitic liver. Tendency to cachexia is more or less marked. No instance has been recorded of a gummy tumor of the liver softening, and discharging into the peritonæum. Absorption is the rule for all such deposits here. Lancereaux gives three symptoms, which, when coinciding with a syphilitic history, are sufficient to make a diagnosis of syphilitic hepatitis. They are: irregularity in the form of the liver, especially if rounded; indurated lumps which can be felt on the surface or fissures of the edge; albuminuria, and cachexia. In the infant, the symptoms of hepatitis are restlessness, rise of pulse and temperature, perceptible increase in size of the organ, local tenderness, vomiting, diarrhœa or constipation; very rarely, if ever, jaundice.

Treatment is that of late syphilis, or by inunction in the infant.

SYPHILIS OF OTHER INTERNAL ORGANS AND TISSUES.

The peritonæum may become thickened in connection with syphilitic disease near the surface of the liver or spleen, both in children and adults.

Changes due to parenchymatous inflammation or occasional gummy deposit have (very rarely) been noted in the *thyroid* and *salivary glands*. *The thymus* in inherited disease has attracted attention since the investigations of Dubois, first published in 1850.[2] This organ, usually found healthy, may be the seat of diffused puriform infiltration,

[1] *Op. cit.*

[2] *Gaz. Méd. de Paris.*

or a material resembling pus may be found collected in one or several cavities. Hypertrophied portions of connective tissue, in a state of fatty degeneration, have been encountered in the thymus by Lehmann.[1]

Thus it would seem that the thymus, like most other internal organs, is subject to two forms of syphilitic attack: a diffuse parenchymatous inflammation with connective-tissue hyperplasia, going on, it would seem, to softening, and gummy tumor, also softening and forming a cavity full of puriform fluid, but not true pus.

SYPHILIS OF THE GENITO-URINARY SYSTEM.

Symptoms and lesions due to syphilis of the different portions of the genito-urinary system have been described, in connection with these organs, in the first part of this work. Attention need only be directed to the great frequency of syphilitic disease of the testicle (p. 432); to the liability of mistaking subcutaneous gummy tumor of the scrotum for disease of the testis; to the occasional occurrence of tubercular patches of eruption, or gummy tumor, upon the urethral mucous membrane, giving rise to a gleety discharge, and possibly symptoms of stricture, both removable by the iodide of potassium; and, finally, to the occasional appearance of renal symptoms, due to syphilis (p. 380), and to the rare occurrence of gummy tumor of the suprarenal capsules, as a possible cause of that peculiar bronzing of the skin known as Addison's disease.

CHAPTER XII.

SYPHILIS OF THE NERVOUS SYSTEM.

The Lesions: Symptoms, Prognosis, Treatment.—General Characteristics of Nervous Symptoms, in all Cases.—Syphilis of the Brain.—Syphilis of the Cord.—Syphilis of Special Nerves.

That syphilis may produce textural changes in the nervous centres is now universally admitted. Numerous and exhaustive essays and monographs have been written on the subject, and much is yet to be learned. Space allows only an outline of the subject to be given here.[2]

[1] *Wurzburger Medicin. Zeitschrift*, 1863, vol. iv., p. 7.

[2] Among those who have written most ably on this subject, may be cited: Yvaren, "Métamorphoses de la Syphilis," Paris, 1854; Thomas Reade, *Dublin Quarterly*, 1857—later, London, 1867; Lagneau fils, "Maladies Syphilitiques du Système Nerveux," Paris, 1860; Gros et Lancereaux, "Maladies Nerveuses Syphilitiques," Paris, 1861; Zambaco, "Des Affections Nerveuses Syphilitiques," Paris, 1862; Wagner, "Archiv für Heilkunde," vol. iv., 1863; Virchow, "Die Krankhaften Geschwülste," vol. ii., Berlin, 1864–'65; Meyer, "Constitutionnelle Syphilis des Gehirns;" "Allgem. Zeitschrift für Psychiatrie," vol. xviii., p. 287; Ricord, Beaumés, Ladriet de la Chanière, Zeissl, Braus, and very many others.

In a short study of "Syphilis of the Nervous System," published by the authors of this treatise, in the *New York Medical Journal*, November, 1870, based upon an analysis of thirty-four personal cases observed in private practice, most of the clinical views to be brought out in what follows were elucidated. A careful study of nearly fifty new cases met in private practice, during the last three and a half years, has served to extend and fully confirm the conclusion reached in 1870.

Syphilis occasions nervous symptoms in four ways:

1. By lesions of the bony envelopes, cranium, vertebral column.

2. By lesions of the enveloping membranes; dura mater, arachnoid, pia mater.

3. By lesions of the substance of the brain and cord; diffuse parenchymatous inflammation, or gummy tumor.

4. In some way not yet thoroughly explained, probably congestive, where no appreciable lesions are found after death. Syphilis of the brain or the cord, *sine materiâ*, as it is called.

1. Lesions of the Bony Envelopes.—The bones of the cranium are particularly liable to disease in bad cases of tertiary syphilis, in the shape of dry caries, nodes, necrosis, etc. If these lesions affect only the outer table and the diploë, the functions of the brain are not disturbed; but, if the inner table be involved, as it not unfrequently is, an internal node—by pressure—or a gummy deposit, or caries, involving the dura mater in disease, is fully competent to occasion paralysis, convulsions, and disturbances of function of the most varied character. The same remarks hold true of the bony envelope of the spinal cord, though here bone-lesions are far less common than in the skull. Again, periosteal thickenings or disease of bone, about the narrow canals through which nerves emerge, are accompanied by loss of function of the nerve, as facial paralysis from pressure of the seventh nerve, neuralgia in any of the branches of the fifth pair.

2. Lesions of the Membranes of the Brain and Cord.—These are of two kinds (both far more common for the brain than for the cord):

(*a.*) Pachymeningitis.

(*b.*) Gummy tumor.

(*a.*) *Pachymeningitis.*—Syphilitic pachymeningitis is found most commonly over the convex surfaces of the hemispheres, or at the anterior portion of their base, in the region of the sella turcica. It consists of a diffuse thickening of the dura mater, of the outer layer of the membrane (endocranitis), chiefly in connection with bony lesions; of the whole thickness of the membrane; or, mainly of the internal layer, usually coinciding with alternations of the pia mater and brain-substance. On the surface, or in the thickness of the dense, adherent, roughened, injected membrane are usually found yellow, cheesy, new formations, spread out in layers, or circumscribed as tumors, varying from the size of a small shot to that of a nut, slightly or not at all vascular, soft and gelatinous, or tough and consisting of gummy deposit, more or less altered by organization or fatty metamorphosis. Wagner has seen pachymeningitis of the falx cerebri. Occasionally, but less often, the pia