unknown changes in the blood. The skin is dry and bronzed. The temperature of the body is somewhat diminished.

Gummy tumors of the liver may be mistaken for cancer or for hydatid cysts. Cancer occurs at an advanced age, and invades both lobes; it is usually attended by marked pain, and by cachexia; icterus is generally present; the duration of the cancer is greater than that of gummata. In hydatid cysts fluctuation, and frequently the pathognomonic vibratory thrill, may be detected. The tumors often extend towards the epigastrium, and simulate gastric disease, although gastric troubles are rare. Disturbance of respiration and ascites are also infrequent.

The prognosis of gummata of the liver is less serious than that of interstitial hepatitis; when death occurs it is usually due to some intercurrent affection.

Amyloid Degeneration.—Amyloid degeneration of the liver is not peculiar to syphilis. It is often accompanied by fatty degeneration or interstitial hepatitis. The morbid changes involve the hepatic cells, beginning, according to Green, in the small nutrient bloodvessels. The hepatic cells are found to be enlarged, with irregular outlines, many of them having coalesced; the nuclei of some have disappeared. The amyloid change differs in its seat from the fatty and the pigmentary degenerations; in the fatty, the deposit takes place in the external portions of the lobule; pigmentation occurs chiefly at the centre, while amyloid degeneration is most marked in the intermediate portion. Sometimes these three processes occur simultaneously.

The amyloid liver is heavier and much enlarged, sometimes almost filling the abdominal cavity. There is no lobulation of the organ, which may retain its form although greatly enlarged. If fatty deposit also occurs, however, the margins are rounded and the natural furrows are obliterated. The consistence of the liver is firm, and its cut surface is dry, bloodless, and has a translucent waxy appearance. The change of color to violet or blue, on the application of iodine and sulphuric acid, is characteristic.

The symptoms resemble those of cirrhosis. The portal circulation is seldom obstructed, hence ascites is rare. The hepatic cells being destroyed the functions of the liver are abolished. Gastro-intestinal disturbance and albuminuria are often observed. The spleen may be enlarged at the same time. Recovery is very rare.

The treatment of these lesions of the liver is that appropriate to the late stages of syphilis.

According to Lacombe,[1] Hayem has found in livers affected by syphilis a perilymphangitis comparable to the nodular form of lymphangitis sometimes seen in the skin. In such a case we find in the fibrous bands of newly formed tissue, numerous lymphatic vessels

[1] Étude sur les accidents hepatiques de la syph. chez l'adulte. Paris, 1874.

which are much dilated and surrounded as if by a muff of connective tissue. When the lymphatic is cut perpendicularly to its axis, it appears like a small, round, fibrous nodule, in the centre of which is an opening. When, however, it is cut more or less parallel to its axis, we find in a thickened fibrous tract a simple slit, often enlarged at one of its extremities, and of which the lumen is sometimes empty and sometimes filled with a granular and cellular exudation. The perilymphatic inflammation is found in the thickness of the capsule of Glisson, and is observed in many cases. The bloodvessels are also sometimes compressed and obliterated by the tissue which surrounds them.

The Spleen.

In some rather rare instances enlargement of the spleen occurs early in the course of syphilis. The swelling is quite rapid, and in some cases is evident on palpation; in others it can be determined only by percussion. The patient usually feels no pain or discomfort, but when the organ is enlarged to four or five times its normal size a sensation of dragging weight is complained of. The average degree of enlargemeut is twice the normal size.

The course of this affection depends largely on treatment, under which the swelling usually subsides in from three to four weeks; in exceptional cases it persists for several months. A relapse may occur within a few weeks or months, and sometimes the swelling increases after having been stationary for a time.

We have met with six marked cases of this affection, four in males and two in females; in each case there was mild cachexia, and in two disturbance of the appetite. We have never been able to discover this enlargement until the secondary period of syphilis; yet Weil[1] and Wever[2] state in their monographs, that they have found it during the secondary period of incubation. Of three cases observed by the latter, in one it was found between the eighth and twelfth weeks of infection; in another, between the fifth and tenth weeks after the initial lesion; and in the third, during the first two weeks of the secondary stage. In three of our cases it was found within a month after general invasion, and in the remainder between three and eight months. Probably it may occur at any time during the secondary period. Jullien attributes to this condition of the spleen many of the symptoms of gastric derangement, as well as certain blood changes occurring in syphilitic patients.

We are ignorant of the minute changes in the splenic enlargement

[1] Weil; Ueber das Vorkommen des Milztumors bei frischer Syphilis. Centralbl. f. d. med. Wissensch., Berl., No. 12, 1874; also, Ueber das Vorkommen des Milztumors, etc.; Deutsches Arch. f. klin Mod, Leipz.; Bd. 13, H. 3., 1874.

[2] Wever; Ueber das Vorkommen dez Milztumors, etc.; Deutsches Arch. f. klin. Med., Leipz.; H. 4 u. 5., 1876.

of syphilis, but probably they consist of increase of the cell elements of the pulp with hyperæmia, as suggested by Weil.

In all cases of enlarged spleen thought to have a syphilitic origin, other causes must be eliminated.

Gummata of the Spleen.—Gummata vary in size from that of a millet-seed to that of a walnut, and may be few in number or very numerous. Their number is usually greater when their size is small. In some cases the spleen itself is enlarged. The tumors are usually found near the trabeculæ and deeply seated, or at the periphery of the organ; in the latter case the capsule is thickened. Recent tumors have a reddish-gray color, and are more dense and tough than the normal spleen tissue; when old they are dry and of a yellowish-gray color. When young they are less clearly defined than at a later period, when they may become distinctly encapsulated. The vessels and the structure of the organ in the neighborhood of the tumors are more or less destroyed. Cicatricial contraction, especially in the capsule, subsequently occurs. The spleen has several times been found adherent to the diaphragm in consequence of peritonitis from irritation by gummy tumors.

We know little of the symptomatology of this affection. Enlargement of the spleen is sometimes demonstrable; and in some cases, when the tumors are superficial, inflammation of the capsule and localized peritonitis occur.

In the cases hitherto observed the lesion has generally been accompanied by similar affections of other viscera, and the patients have suffered from cachexia or marasmus.

According to Bäumler, Beer thinks that, besides gummata, syphilis causes in the spleen a diffuse cellular infiltration of the arterial sheaths, and certain characteristic deposits, which are as follows: "They are paler than the normal tissue, from which they do not project at all, but merge diffusely into the surrounding spleen tissue; contain but little blood and few cells, and in the centre consist of a finely granular material in which a few cells and nuclei are imbedded."

Pancreas.

Upon this subject Lancereaux remarks: "Cases showing syphilitic changes in the pancreas are extremely rare. In a patient who died under the care of Professor Rostan fourteen years after having contracted a chancre, there was found, besides multiple gummata of the muscles, a gummy tumor of the mammary region, and two others in the pancreas.[1] All these tumors, subjected to microscopic examination by Verneuil and Robin, appeared to be composed of similar elements. I, myself, in several cases of visceral syphilis, have found this organ firm, indurated, and sclerosed, so that we cannot deny that the pancreas, like most of the viscera, is subject to the diffuse and circumscribed lesions of syphilis."

[1] Bull. Soc. Anat. de Paris, 1855, p. 26.

CHAPTER XVII.

AFFECTIONS OF THE ORGANS OF RESPIRATION.

The Nose.

The pituitary membrane may be the seat of erythema, superficial ulcerations, and mucous patches, which give rise to symptoms resembling those of an ordinary catarrh. Sometimes an ulcer may be seen just within the nasal orifice, surrounded by swollen mucous membrane, and rendering the alæ nasi tender upon pressure. Plugs of inspissated mucus, mixed with blood and pus, which obstruct the passages, are from time to time discharged. The nasal secretion is more abundant and more purulent when ulcerations or mucous patches exist. In the absence of other lesions of syphilis, upon the skin or elsewhere, the character of the nasal affections may be suspected only because of their persistence and of their rapid disappearance under specific treatment.

In the more advanced stages of syphilis, deeper ulcers appear, which originate in gummatous infiltration of the submucous tissue and gradually involve the cartilaginous and osseous textures; or the latter structures may be the first attacked, and the mucous membrane become implicated secondarily. On account of the serious deformity resulting from destruction of the framework of the nose, the importance of recognizing these lesions at an early period is very great. Their progress is usually very slow and insidious, so much so that necrosis may occur before the patient is conscious of any serious trouble. The ulcerative process may perforate the septum or the floor of the nasal cavity, or it may extend into the pharynx; again, it may find its way along the Eustachian tube, and even penetrate the cranial cavity, involving the meninges; more commonly, however, the membrana tympani becomes ruptured and a purulent discharge takes place through the external auditory canal. Deafness may ensue from obliteration of the Eustachian tube by a cicatrix. The disease has been known to pass up the lachrymal canal, involving the lachrymal bone and even the eye.

Respiration through the nose may be interfered with by hypertrophy of the mucous membrane, by the formation of adhesions between ulcerating surfaces in process of repair, or by the contraction of cicatrices. The voice becomes nasal; the sense of smell may be impaired or lost, even when the terminal filaments of the olfactory nerve are not involved; the discharge, in cases of necrosis, is extremely fetid, and may contain fragments of bone. When necrosis of the nasal bones occurs, the bridge of the nose becomes depressed and its