

the iodine and methyl-violet test. Under a power of 250 diameters, the chief alterations were noticed in the trabeculae and walls of the venous sinuses. The capsule exhibited, scattered over its surface, light-colored portions, resembling in density cartilage, or even, in some places, calcareous plates found in the arterial walls in certain instances. This form described above is not always present—for instead of being diffuse, the morbid changes may effect chiefly the malpighian corpuscles and produce the appearance known as “sago-spleen.” The presence in the same organ of the two forms of degeneration, namely, lardaceous and calcareous, would tend to make me adopt the view of Kiebert and Virchow, which, while differing somewhat from those of Cohnheim, would appear more probable than those of Reindfleisch and Billroth, who adhere to the infiltration theory.

Myeloid.—A brief reference to some of the appearances found in the spleen of a man whom I attended in 1880 for myeloid tumor of the scapula, may be of interest in connection with the subject of this paper. You are no doubt familiar with the histology of the neoplasm as it affects bone. The spleen in this case was larger by at least one-half than in health, was extremely soft, of a very dark color, and giving way on very slight pressure, resembling, in fact, a large blood-clot rather than an organized structure. The prevailing cell noticeable on microscopical examination was a large many-nucleated one, similar to that found in the foetal marrow and the medulla of short bones or diploe of flat ones in the adult. The question arises, whether the multiplication of these cells was owing to an infiltration or to a transformation *in loco* and hyperplasia of elements normally present in the spleen.

Typhoid Fever.—I am not aware that any connection has been traced between morbid changes in the bone-medulla and the splenic hyperplasia, which reaches its maximum at the height of the disease and diminishes with convalescence from enteric fever. I have observed the sequela of periostitis of the tibia in one case and of the ulna in another, occurring in patients who had exhibited marked symptoms of perisplinitis.

Relapsing Fever.—According to Ponfick* the

most constant changes noticed at autopsies performed on subjects of “*Typhus recurrens*,” are those of the spleen and marrow. In the latter there is proliferation with subsequent degeneration of the lymphoid cells, with multiplication of the nuclei on the walls of the minute vessels and fatty degeneration of their coats. Abscesses occur chiefly in the cancellated extremities of the long bones, especially the tibia.

Spleen.—This organ is found enlarged when the patient has died in the febrile stage. The pulp is swollen and swells up above the surface of the section. The malpighian corpuscles are grayish or grayish-yellow, increased to the size of a hemp-seed. Hæmorrhagic infarction, such as described under the head of osteo-myelitis, also exists to a large extent. According to Ponfick these are chiefly venous, the arterioles being patulous.

Pyæmia and Septicæmia.—Globular bacteriae have been demonstrated in the medulla and splenic tissue as well as in the blood of those dying from pyæmia, whilst the rod forms are equally abundant in those tissues in septicæmic cases.

Glanders.—Both marrow and spleen become affected secondarily in this disease. The specific microbe is particularly abundant in the latter organ. Investigators have not devoted special attention to the histology of the medulla.

Anthrax.—The pathological alterations in spleen and bone-medulla in this virulent affection are amongst the most constant—the tissues of the former swarming with micrococci and bacilli, while the normal, fatty marrow is replaced by a yellowish or greenish-yellow material, occasionally of a tallow-like consistency, and exhibiting the peculiar bacillus although in less abundance than the great blood-lymph gland.

While I have endeavored to lay before you some of the morbid affections of these homologous structures, with a view of bringing their functional analogies more forcibly to our minds, I must, at the same time, apologize for the imperfect nature of these observations. The field is an extensive one, and is worthy of more attention at the hands of skilled histologists than has yet been awarded to it. I may, in closing, Mr. President and gentlemen, quote the modest words used by that great pathologist and beloved teacher, Paget, “If now

*Virchow's Arch., Vol. lxxii: p. 154.