

found the normal medulla replaced by a red, lymphoid marrow; and in order to discover whether this condition bore any relation to the previous injury, I examined the femur of the same leg and the tibia of the opposite side. The red fetal marrow was present also in these bones.

Leukemia.—A well-marked case of this affection occurred in my practice in 1882, in the person of a married lady, nulliparous, and residing in a non-malarial region. In this case the enormously hypertrophied spleen filled the left hypochondriac, lumbar and iliac regions, encroaching largely on the epigastric and umbilical areas. The marrow of the sternum, os calcis, and ulna respectively was examined. The most constant elements found were nucleated red corpuscles and the crystals known as Charcot's. In appearance the medulla from the various regions differed in a much less degree than in the normal condition. The long, short and flat bones alike were characterized by a marrow which was seen to contain large granular nucleated cells, other cells resembling colorless blood corpuscles, and smaller forms which were classed as lymph cells. The spleen was of a deep violet red and presented adhesions to the abdominal wall. On section it was found to be firmer than the natural tissue, exhibiting the trabeculae clearly and showing no traces of the malpighian bodies, when examined with a power of 50 diameters.

Osteo-Myelitis.—The autopsy in this case, one of chronic circumscribed osteo-myelitis, revealed an extensive cavity in the head of the right tibia, the wall anteriorly composed merely of periosteum and the cutaneous tissue, and posteriorly and laterally of a thin shell of compact tissue. The finger introduced into the cavity distinguished the ragged remains of cancellated tissue above, around and beneath; while lying partially adherent, was a tolerably firm clot. The leg could be carried with ease in any direction, allowing itself to be brought anteriorly to form almost a right angle with the thigh. The histological elements were giant-cells and granulation tissues. The presence of the large lymphoid cells and granular substances in the specimen, brought to the observer's mind, in a striking manner, the fetal marrow or that found in the short bones of the adult. They are always

found in normal or abnormal tissues in contact with bone undergoing absorption.*

Some pathologists† hold that the lacunar cell is the transforming power in bone-absorption; others‡ assert that the granulation-tissue mentioned above is the factor of destruction or rather solution, and give as an instance, the effects produced upon ivory pegs used in operations for false joints. Billroth claims that the granulations dissolve the lime-salts by virtue of the lactic acid contained within their substance. On the other hand some pathologists§ affirm, that the granulation-tissue is alkaline, and direct attention to the fact that the ivory pegs are only occasionally eroded, and that sequestra withstand the process for long periods, while living bone is absorbed rapidly; concluding, therefore, that the process is a vital act

The spleen on examination was found to be adherent to the diaphragm, somewhat larger than normal, and exhibiting a mottled appearance; the surface being marked by light grayish-yellow areas separated by deep violet interspaces. The differently tinged areas were found to correspond to the external border of pyramidal portions of the tissue, which, owing to the peculiar distribution of the non-anastomosing || arteries of the spleen depended upon a single terminal vessel for their vascular supply. At the point where this arteriole terminated in a leash of pencils an embolus could be discerned. The adjacent pulp-tissue (that lying towards the external border of the organ) was of a dirty-white, or yellow color in parts wherein sufficient time had elapsed to allow of the invasion by leucocytes. The violet-colored portion of the surface corresponded to areas infiltrated with blood from the nearest pervious vessel and possibly from the adjacent vein, which, owing to its valveless condition, permitted such regurgitation.

Syphilis.—In examining the tibia of a patient who had suffered from tertiary syphilis, I found the usual gummatous material involving the medullary canal, while, the compact tissue was redder and more spongy or lacunar than normal.

The spleen was lardaceous or amyloid throughout. The surface of a section responded both to

*Barwell. †Virchow, Rokistansky. ‡Billroth. §Volkman, Barwell. || Virchow, Cohnheim.

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