

alone acted only in a very subordinate degree as a predisposing cause, although manifestly an important factor after the blood-current becomes gradually retarded in the oftentimes enormously dilated hæmorrhoidal veins.

Were the cause to be found in this peculiar distribution of the portal circulation, the upright position of man would make this condition the rule instead of the exception, and it would be extraordinary to find the varicosities limited to the hæmorrhoidal plexuses and lying almost entirely external to the sphincter muscle. Oftentimes, however, after the pathological conditions became well established, the current through the elastic vessels was so greatly retarded by the weight of the blood-column in the erect position that most patients learned to seek relief by change of posture. Anatomists emphasized the fact that in the normal condition many of the hæmorrhoidal veins were of comparatively large size. In relation to the surrounding pelvic organs these veins occupied a dependent position, and their only support was derived from a loose network of connective tissue. It would be apparent, then, that the anatomy of these thin-walled vessels, their relation to the surrounding parts, and their physiological function, furnished, as it were, a predisposing cause of disease. To this, however, probably might be added a certain condition of weak circulation so often found in persons with thin-walled veins of the lower extremities. It had long been recognized that the varicosities of the hæmorrhoidal vessels, which were probably wanting in the lower animals, and were comparatively rare in the savage races, became a more and more constant factor in the sedentary occupations of modern civilization. A great variety of pelvic diseases in the female and the genito-urinary diseases in the male, complicated with constriction, were active causes of rectal disease. The rectum might be regarded as a convenient cess-pool for the reception of the waste and *débris* of the alimentary canal, which poured into it in a more or less fluid state. The curves of the lower bowel, from the sigmoid flexure downward, were an evident design, in part at least, to vary the support of the weight of the column, and admirably adapted to equalize the pressure. When the rectal contents remained sufficiently soft to produce equable pressure, the circulation was comparatively little disturbed, and defecation was accomplished with very little muscular strain. If, however, there should be retention of the contents, with absorption of the fluid portion going on until the molding process became difficult, the reverse would be true. The overloaded rectum produced pressure upon the venous return current, causing a train of reflex nervous symptoms, and the hyperæsthetic state followed. Although the pathological condition above described produced by far the larger part of the suffering ascribed to

so-called "piles," we must not forget that there were other diseased conditions which might be confounded therewith. Small fleshy masses about the folds of the anus, sometimes called condylomata, were very easy to distinguish. These had nothing to do with the hæmorrhoidal veins or mucous membrane, and might be the result of friction or erosion arising from a variety of causes. The so-called villous tumor of the rectum was, however, of sufficient frequency to be taken into consideration. It was not unlike the villous growths of the bladder or other mucous surfaces. This extra vascularity only revealed its presence because of the hæmorrhage, and was apt to be diagnostic as a bleeding pile. The soft mucous polypus of the rectum was an adenomatous structure of close relationship to the villous growth, and was sufficiently often the cause of suffering to be borne in mind.

Mr. Whitehead, of Manchester, had emphasized the pathological conditions upon which the author had touched, and insisted that the extraordinary dilatation which the veins often underwent could only be learned by dissection upon the living subject. The author's own attention had been called to the condition many years ago when he found how very commonly the veins of the rectum became enormously dilated in a female who had suffered laceration of the perinæum. It was probable that the changes incident upon retention of the rectal contents and other causes acted to bring about dilatation of the vessels rather than the superincumbent weight of the portal column of blood. When the venous plexus of hæmorrhoidal vessels had become pronouncedly varicosed, they had as a covering the lax submucous tissue of the rectum close to the anus, and when put on tension were protruded as a ring of transverse rugæ around the anal aperture. Certain of the rugæ were developed into rounded protuberances, and sometimes even into fungoid tumors of considerable size. The veins sometimes ruptured into the connective tissue, and changes followed which resulted in tumors of various sizes, color and density, called "external piles." The strain in defecation or gentle pressure by the finger from above downward would frequently cause soft, fleshy, exquisitely sensitive grape-like masses to protrude—"internal piles." The mucous membrane covering these would frequently be found congested and abraded so that more or less continuous hæmorrhage ensued.

The method for the cure of hæmorrhoids by the use of the ligature applied with slight modifications of detail had been considered the safest, surest, and most manageable procedure. The projecting tumors, having been well drawn down, were usually transfixed with a curved needle, armed with a double ligature; this being tied firmly, a portion of the constricted mass was ex-