

to admit as easily of the entrance of foreign bodies into its open mouth. I believe, that during the act of defæcation a great amount of pressure is transmitted upwards through the rectum to the walls of the descending transverse and ascending colon, and to the walls of the blind cæcum, and on the walls of the ilio-cæcal valve and over the mouth of the appendix. During the transmission of the fæces from the ilium to the cæcum they pass through the ilio-cæcal valve. The fæces during their passage are semi-solid in their nature, and on the same principle that the particles of stone drop into the bulb of the lithotrity apparatus during the suction of water from the bladder after a stone has been crushed, the heavy particles of food, such as pieces of lead, bird-shot and seeds, naturally gravitate into the blind pouch of the cæcum, and lie around the opening into the appendix.

Although a large number of people are effected with disease of the vermiform appendix in a lesser or greater degree, it is a wonder that even more are not so affected. The method by which disease of this little organ is produced, has not perhaps been made very clear. I am confident that one form of the disease is similar to the change that takes place in an ovarian tumor after its pedicle has been twisted. After the pedicle of an ovarian tumor has been twisted hæmorrhage takes place into the cyst wall and into the cyst cavity, and, as a consequence, the cyst wall may be thickened and the cyst cavity filled with blood. The appendix derives its blood supply through its mesenteric attachment. The mesentery usually extends to a distance equal to about one-half or two-thirds of its entire length. The concretion may be formed in its mouth or in the cæcum around seeds or other foreign bodies, and this concretion, by the act of defæcation and the pressure that is transmitted along the walls of the lower intestine, may be forced into the mouth of the appendix; here it may remain for a long time without producing any bad effect, but, perhaps, during some excessive straining the mass may be pushed onwards a little further into the lumen of the appendix and remain impacted in its new situation. As a consequence of this impaction the veins are pressed upon and a venous congestion is produced. If a marble is dropped into the finger of a glove it will be found to press upon its wall with about an

equal pressure throughout its entire circumference. Each little onward movement of the marble towards the tip of the finger will increase this pressure, and it will be found impossible to press the marble to the very tip without tearing the glove finger. The presence of this concretion in an appendix is liable to give rise to an uncomfortable sensation that may become an actual pain, and this sensation sometimes warns the patient that there is something amiss in his inside. The impaction, just like a single twist of the pedicle of an ovarian tumor, may not produce sufficient pressure to completely obstruct the flow of the arterial as well as the venous blood, but a time may suddenly be arrived at when the impaction will produce a sufficient pressure to completely obstruct the supply of blood, and then gangrene of some portion of the appendix will result. When the obstruction is not great enough to produce gangrene hæmorrhage in the wall of the appendix, beyond the impaction may take place, or, owing to the congestion, an increase of the mucus secretion of the organ may take place, and this retained secretion may produce the cystic enlargement of the end of the appendix.

It is difficult to understand how a simple catarrhal inflammation of the appendix can produce any very great change in its structure. This simple congestion may, perhaps, pass into an inflammation and this inflammation may affect the mucus, the muscular and the serous coats. I believe that a gangrene of the appendix may be produced secondarily from a septic inflammation of the veins in its mesentery. Such a septic inflammation may originate at some distance from the appendix itself, perhaps, in some perforation of cæcum. I have noticed the mesentery, in some cases, run to the very tip of the appendix. If such a condition exists the dangers from impaction would be, to a certain extent, removed, because the blood supply would not be so readily interfered with. It would be interesting to observe the condition of the mesentery of the appendix in children as compared with that of the appendix in adults. The canal of the appendix may be completely obliterated by inflammatory changes and a solid cord be produced, or, there may be simply obliteration of the canal of the tip of the appendix while the lumen of the body may be changed into a funnel-shaped pouch, or the