

invariably results in mechanical disturbances of the abdominal viscera such as gastropnoxis, gastric dilatation, enteropnoxis, movable and floating kidney, etc., with all their consequences. A certain external pressure is necessary to maintain the various abdominal viscera in their normal positions, the ligaments alone are not capable of maintaining the entire weight of the organs. Consequently, any relaxation of the pressure exerted by the abdominal walls imposes more work upon and would in time result in a relaxation and stretching of the ligaments, with a consequent ptosis of the organs held in position by them. The relationship of the abdominal organs is such that any displacement of the one disturbs directly or indirectly the normal function of the other. This is especially true of the hollow viscera, and among them the gall-bladder.

The normal expulsion of the bile is attributable largely to the periodical compression of the liver and gall-bladder, with each inspiration against the underlying viscera and to the peristaltic action of the muscles of the bile ducts and gall-bladder. Visceral ptosis then, consequent upon abdominal relaxation, and other causes as well, may cause stagnation of the bile through: (1) Displacing the gall-bladder downward, thus causing a partial obstruction to the outflow of the bile (it has been demonstrated that the very slightest resistance in the ducts causes a stagnation of the bile); (2) through interfering with the counter-pressure normally exerted upon the gall-bladder by the underlying viscera (during respiration); (3) through a dilatation of the gall-bladder itself, atonicity of its muscles and a consequent interference with the normal peristalsis. The pressure within the gall-bladder is positive, being equivalent to the pressure of a column of water 210 mm. high. So long as the pressure from without exceeds or equalizes this, no dilatation can result, but when this equilibrium is disturbed, dilatation and atonicity of the hollow viscus follow. This, in all probability, accounts for the great frequency of constipation in women who have borne children.

In closing, it might be well to mention that, while I have spoken only of visceral ptosis resulting from a relaxation of the abdominal walls, I grant that visceral ptosis, due to any cause whatsoever, would result similarly. Those cases due to inherited tendencies, so ably described by Glénard, those following disturbances in nutrition, senility, cachexias, etc., if sufficiently marked, would bear the same relationship to gall-stone formation.

In a few words the foregoing may be summed up as follows:

I. Visceral ptosis consequent upon abdominal relaxa-