

only a fourth or less of the capillary pressure is transmitted directly to the surrounding tissues in which they are imbedded, but in some pathological states the whole brunt of the arterial and capillary pressure is transmitted, and woe betide any organ when this pressure is long continued. In those large, congested, chocolate-colored kidneys, when the capsule is stretched to its utmost capacity, and the kidneys are nearly twice their normal weight, the transmitted pressure of the arteries and capillaries stops all secretion. The only salvation for such kidneys and their possessor is to freely incise the capsule and kidneys, as has been ably and persistently advocated by Mr. Reginald Harrison. When the pressure is relieved the secretion is at once re-established. This is a purely physical effect, and may occur in any organ where the limits of its expansion are exceeded. I have felt a big spleen pulsating in my hand till I thought it was going to burst; in this case the transmitted pressure was arterial. An inflamed gland often pulsates.

In granular kidneys the glomeruli are further protected by the increased thickness of Bowman's capsule; the velocity is much increased and the pressure only relatively so; the filtrate is bulky but not concentrated. There is nocturnal diuresis because in the horizontal posture, although there is a fall in the general arterial pressure, the arteries of the kidneys are dilated, and the total amount of blood circulating through them increased.

THE ARTERIOLES AND CAPILLARIES OF THE MUSCLES.

The arterioles are supplied with vaso-dilator nerves, and thus these vessels are reciprocal to those of the splanchnic area. The capillaries are arranged in a fine longitudinal network, and readily allow of the transudation of lymph. When there is a rise in the general arterial pressure these vessels are flushed and allow a free secretion. Dr. George Oliver has shown that during the height of the digestive flow of lymph, tension exercises of the muscles do not further raise the arterial pressure. The lymph in the limbs is not concentrated and is readily absorbed.

The *splenic vessels* are well supplied with vasomotor nerves, and the whole organ seems to have the power of contracting and of thus regulating its own blood supply. Adrenalin has a powerful effect in producing contraction.

THE CEREBRAL VESSELS.

The arteries and arterioles have relatively thin walls in proportion to their calibre. The inner coat is well developed; in the middle coat there is a moderate amount of muscular fibre but the elastic tissue is defective; the external coat is attenuated, and ceases before the muscular coat disappears and the arterioles pass