

Its sudden appearance, its local distribution to the head and neck, and the absence of any cardiac or pulmonary disease, also help to exclude this cause. (b) Was the discoloration, then, caused by hemorrhages into the subcutaneous tissues or by venous stasis? Beneath the conjunctiva the condition was undoubtedly an escape of blood into the tissues. In this connection it is interesting to note a similar condition in two cases of traumatic asphyxia reported by G. Perthes¹ in 1898-99. In these the hemorrhage under the conjunctiva covered the whole white of the eye. In both cases sight was lost immediately at time of the accident, either from venous hyperemia and edema of retina or by compression of the optic nerve by the retrobulbar effusion of blood.

In the skin, however, the blue spots are not so easy to explain. True hemorrhages or ecchymoses or petechiae may occur in these cases, but the fact that the spots merely fade and disappear without the changes of color usual in a bruise or extravasated blood, indicates that most of them are not of this origin. Ollivier² and others claim that they are largely stasis of carbonized blood in dilated and temporarily paralyzed capillaries. Heuter suggests that this stasis is probably due to mechanical causes, "(1) the sudden upward pressure of blood dilates the vessels of the face; (2) the pressure on the sympathetic nerves of the abdomen and thorax leads to a paralysis of the vessel walls." Willers also favors this view and points out that the limitation of the bluish discoloration to the face and neck is due to the lack or incompetence of the valves of the facial and jugular veins.

Definite proof that the discoloration was not due to hemorrhages was given by Beach and Cobb,³ of Boston, in reporting their case in the *Annals of Surgery*, 1904. They excised portions of discolored skin, submitted them to careful pathological examination, and found that every section showed normal skin with enormous distension of the small veins and the capillaries, there being no signs of blood in the tissues outside the blood-vessels, thus corroborating the theory of Ollivier, Heuter, and others.

2. Under what circumstances does this bluish discoloration of the face and neck occur?

Forcible compression of the chest or abdomen extending over some minutes, accompanied by entire cessation of respiration, is the recognized cause of this condition. There can be no doubt, Villemain⁴ acknowledges in a French journal in 1906, that violent compression of the large venous reservoirs of the