

ANGEIOMATA IN VALVES OF HEART OF A NEWLY BORN CHILD.*

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PLATE XXVI.

The following pathological condition was found in the heart and bladder of a male child eighteen days old, who came to autopsy at the Johns Hopkins Hospital in August, 1898, and is, on account of its rarity, worthy of a brief description.

The mother of the child gave a normal history, and the present pregnancy, her first, was brought to a successful issue in the obstetrical ward of this hospital, without interference or complications, except a few mild epileptiform convulsions before and after delivery.

The child, however, never did well, grew progressively thinner and weaker, and succumbed at the end of eighteen days to constant vomiting and diarrhœa. The weight at birth was 2,800 gm., at death 2,095 gm. Nothing abnormal was noted about the heart sounds in the obstetrical ward.

At autopsy, the body was that of an undersized, newly born, male child, showing much emaciation and considerable livor mortis. There were no special marks upon the external surface. The intestines showed a considerable degree of follicular enteritis. With the exception of the heart and bladder, the other organs presented no apparent pathological alterations.

In the heart the aortic and pulmonic valves were normal; the foramen ovale was still patent by a small opening a few millimeters in diameter. On the tricuspid and mitral valves, however, strung along their upper or auricular surfaces, were from eight to ten minute, dark purplish red globules, varying in size from a pin's point to one, on the tricuspid valve, as large as a pin's head. All of these protruded more or less from the valvular surface, while the larger ones were distinctly pedunculated. They were quite hard

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and tense to the touch, and very firmly attached. On removal with the forceps, these globules burst, and seemed to contain fluid blood. As their situation along the valves was above the insertion of the free edge, they apparently interfered little, if any, with perfect closure.

On microscopic examination the protruding globules are seen to be spaces lined by a definite, single layer of endothelium, and filled with blood (Plate XXVI, *a, a, a*). They are not mere extravasations of blood into the surrounding tissues, but greatly enlarged capillaries or vascular spaces. Extravasations have occurred, however, in a few places as at *b, b, b*, in the figure, but form small interstitial hæmorrhages hardly worth the name hæmatomata. Normal capillaries may be seen, in the section reproduced here, at the points *c, c, c*. The connective tissue of the valve is characteristic of young connective tissue and probably not increased. The apparent thickenings in the figure are produced by the shrinkage and curling of the valve. The delicate free edge is seen folded under the remaining portion, and is unaffected by these growths.

In the bladder, under the epithelium about the trigonum, were three similar but larger growths, nearly the size of a small pea. To the touch these were not tense, but rather flabby. On section they are apparently composed, like the foregoing, of vascular spaces. These are, however, more numerous, and, together with tortuous, enlarged capillaries and considerable ecchymosis, form the small projections over which the epithelium of the bladder is continued.

The chief interest in this article centers in the occurrence of these angeiomata in the heart, which must be very rare or else hitherto overlooked. They probably differ only in their unusual situation from the familiar birth marks, such as angeiomata of the lip, etc., which occur so frequently on the external surface of the body, and also in some of the internal organs. I can find, in the literature at my command, only one instance described of the occurrence of growths of an angeiomatous nature in the heart, whether of infant or adult. This is a case in an adult, recently described by Rau,¹ of a small angeioma under the endocardium of the right

¹ Rau, *Arch. f. path. anat.*, 1898, cliii, 22.

auricle, and which he cites as the first instance of the kind described. Henoch,² however, mentions some rare cases of valvular "hæmatomata" described by Luschka³ and Parrot⁴ in very young infants who had died without valvular symptoms. These authors describe similar gross appearances and doubtless refer to the same pathological alterations as those mentioned in the present article, though they speak of them as hæmatomata and not true angeiomata. Henoch considers that they usually become absorbed within a short time, leaving no scar, or one so small as to be of no pathological importance; though, occasionally, even so slight an alteration may become the starting point of an obscure insufficiency in later life, possibly due to interference in the proper nutrition or development of the valve.

EXPLANATION OF PLATE XXVI.

Tricuspid valve, hardened in Zenker's fluid and stained in hæmatoxylin and eosin. The section passes from base to free edge.

a, a, a. Protruding globular spaces filled with blood and lined by flat endothelial cells.

b, b, b. Extravasations of blood into tissue.

c, c. Ordinary capillaries.

d. Free edge of valve curled under main portion.

e. Papillary muscles.

f. Wall of ventricle.

² Henoch, *Vorlesungen über Kinderkrank*, 8th ed., Berlin, 1895.

³ Luschka, *Virchow's Archiv.*, 1857, xi, 144.

⁴ Parrot, *Arch. de Physiologie*, 1874, vi, 538.

