

length and at one end is roughened, indicating an area of attachment. Beyond the venous engorgement of the viscera there were no other features of special interest. There were no lesions of congenital syphilis.

There can be but little doubt, I think, that the sudden death in this case was due to the dislodgement of the thrombus and the plugging by it of the narrowed mitral orifice, so that she really died of embolism of the left auriculo-ventricular orifice.

I call to mind another instance of sudden death due to embolism of one of the cardiac orifices. In a child aged three and a half years, (whose case I reported in the *Journal of Anatomy and Physiology*, 1880,) there was a striated myo-sarcoma of the left kidney, which had extended into the renal vein and inferior vena cava; portions of the sarcomatous thrombus had become detached, and a mass 2.5 by 1.2 cm., had plugged the tricuspid orifice, and a mass the size of a hazel-nut the orifice of the pulmonary artery.

These free thrombi in the cardiac chambers are very rare. The only other case I have met with, which is reported in Vol. II., of the *Johns Hopkins Hospital Reports*, occurred in a woman, aged 55, with mitral stenosis, who died in the Montreal General Hospital. In her case the death was not sudden. The thrombus was the size of a small egg, 3.5 by 2.5 cm. In the article referred to I have dealt briefly with the forms of cardiac thrombi, and particularly with the cases which had been reported up to that date, only five in number. I have not looked over the literature recently, and no doubt many additional cases have since been added.

I will refresh your memory by enumerating the various forms of thrombi met with in the heart chambers.

1. Globular thrombi, with sub-trabecular ramifications, which are common in the auricular appendices and in the apices of the ventricles in cases of extreme dilatation.

2. Mural thrombi, usually laminated, which occur in the dilated auricles, particularly their appendices, in the ventricles in cases of fibrous myocarditis, and in aneurism of the heart.

3. The pedunculated polyp-like thrombus—a very rare form—met with usually in the auricles.

4. The ball-thrombus, free in the auricle, which constitutes the rarest form of cardiac thrombus.

In all probability in this case the ball-thrombus had previously been attached in the auricular appendix, and sudden death followed its dislodgement.