

cavity, can leave no doubt as to its course; but the wonder is, how the heart could have been perforated, while the pericardium was not. A question may be raised as to the possibility of the opening being caused by the spontaneous rupture of the heart, and not by the direct force of the ball; and in this view, the case may present a subject of interest to the medical jurist.

To support this opinion, but two circumstances can, I think, be adduced: 1st, That the person was making strong exertion: and, 2d, That the pericardium was whole. The force of the former of these facts, however, is entirely removed, when we find that the opening had taken place, under different circumstances from those in which spontaneous rupture occurs: 1st, The person was not known to have laboured under heart disease, and the manner of his death makes it almost certain that he was in good health at the time. 2d, The heart was natural in size and consistence, perhaps below the average bulk. 3d, The aperture was in the right ventricle and towards the base, while in the very large majority of cases recorded of spontaneous rupture, the opening has been in the left ventricle, and towards the apex. 4th, The margins of the wound were not softened or ragged, but smooth, linear, and slightly turned in. 5th, The wound was longer on the peripheral than on the ventricular aspect.

With regard to the second ground for supposing the injury of the heart to have been caused by spontaneous rupture, viz., the integrity of the pericardium, I may remark, that however unlikely it might be that the pericardium should be found uninjured while the heart within it had been perforated, yet the possibility of such an occurrence is demonstrable from the analogy furnished by gunshot wounds in other parts of the body. Military surgeons have frequently narrated examples where balls had penetrated to a considerable depth, carrying before them folds of the shirt, handkerchiefs, &c., without perforating them. Thus Guthrie states the case of an officer who was wounded in the thigh. "I saw," he says, "that the shirt had gone in with the ball, and on pulling at the shirt it came out from the depth of *four* inches, a perfect cul de sac, having the ball at the bottom of it." Hennen, Larrey, &c., relate similar examples. Now, if a shirt or a silk handkerchief can be thus acted on, there can be no reason why a tough, strong membrane like the pericardium should not be similarly affected. Indeed, such an occurrence is actually on record. In the article "Cas Rares," in the *Dict. des Sciences Med.*, we have the following narration, "Un soldat ayant reçu un coup de feu à la poitrine, fut relevé presque mort: une hémorrhagie abondante faisoit désespérer de sa vie. A force de soins, le sang commença à couler avec moins de force vers le troisième jour: insensiblement les forces du malade

revinrent, la suppuration succéda à l'hémorrhagie: il sortit plusieurs esquilles d'une coté que la balle avoit fracturée. Au bout de trois mois, la plaie se cicatrisa, et le malade, rétabli, n'éprouvait d'autre incommodité que de fréquentes palpitations de cœur qui le tourmentèrent pendant trois ans. Il mourut d'une maladie étrangère aux palpitations, six ans après la blessure. M. Maussion fit l'ouverture du cadavre: il trouva la balle enchatonnée dans le ventricule droit du cœur, près de sa pointe, *recouverte en grande partie par le pericarde et appuyée sur le septum medium.*"

Meckel in his manual of anatomy, refers also to the fact of the heart being wounded, without injury to its envelope. His words (translated by Doane) are, "Contusions of the chest, or the forcible penetration of foreign bodies, *as of musket boils*, also tear the heart, even when the parts surrounding this viscus are uninjured."

Entertaining no doubt, therefore, that the wound was caused by the direct contact of the ball, driving the pericardium before it, I think the manner of its formation may be more readily understood by supposing that at the instant of being struck, the heart was in the act of contraction, its fibres hard and rigid from their muscular action. In this state the ball suddenly impinging produced an effect similar to what happens to an over-braced harp-string when struck. The fibres snapped across. Allowing that the pericardium had been driven into the wound, it would probably soon have been forced out by the efforts of the heart to expel the blood; but this might probably have delayed the individual's death beyond the short time he lived after receiving the wound. It is, therefore, more probable that the ball, being nearly spent, did little more than graze the heart, being deflected by the tough pericardium, while the principal part of the solution of continuity was owing to the snapping across of the fibres in consequence of the shock. That the ball was nearly spent is evident from the little injury suffered by the right lung against which it struck with only force enough to perforate the pleura and induce engorgement, and then falling into the cavity of the chest.

Dec. 1, 1845.

INFANTICIDE BY OMISSION.

By C. SMALLWOOD, M.D., St. Martin.

I was requested by a magistrate residing in this parish on the morning of the 31st May, 1840, to visit Zoe L—, who was suspected of Infanticide. It was about 43 hours after delivery. She was 19 years of age, of spare habit, slender make, and short stature. I found her in bed, countenance pale—pulse natural—mammary full, and somewhat hard, evidently containing milk—a milky fluid oozing out when pressed.

Areola dark coloured—abdomen wrinkled and flabby,