REPORT OF A

CASE OF CYANOSIS; OPENING IN THE SEPTUM VENTRICULORUM;

SUPPOSED RHEUMATIC ENDOCARDITIS DURING FŒTAL LIFE.

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SOME two years since, a new-born female child was brought to me at the Infirmary for Children in the Waterloo-road, suffering with cyanosis, accompanied with marked dyspnoea. The child was very blue, cried much, and seemed relieved by being laid on the face or right side. A slight murmur, of no definite character, and much masked by bronchial râles, was heard by applying the ear over the præcordial region. I explained to the parents that most probably some congenital malformation of the heart existed, for which no relief could be afforded it. From this date I saw nothing of the patient for nearly two years, when she was again brought to me, quite as blue as in the first instance, but with the dyspnoea much increased. So general, posteriorly and anteriorly, were the moist pulmonary sounds, that no one sound from the heart could be isolated and analysed. The child had the appearance of one ill nourished; the fontanelle was widely open; the extremities of the long bones enlarged, and the physiognomy that of a patient suffering with rachitis. I was told that it could not bear the slightest movement, and preferred one of the positions above mentioned, selecting generally the prone one. In intelligence it was rather in advance of its years, quickly recognising members of its family and understanding them when addressed. I continued to visit this patient occasionally, and on Sunday, May 4th, 1862, I was called hastily to see it, and found that, having had some catarrhal symptoms for the last two days, it had rapidly grown worse, and was now in convulsions, with the left side paralysed. Death took place on the 6th.

Autopsy.—The body generally very thin and very blue; the nails and lips darkly so. The blood appeared darker than usual. The lungs were highly engorged, and the bronchial tubes full of frothy secretion—a fact to which I shall refer as I proceed. The heart, of course, was the great centre of interest, nor did it disappoint us; for on opening it we discovered warty vegetations on the semilunar valves at the base of the pulmonary artery, the orifice of that vessel being very much contracted, though patent to a certain extent. The septum ventriculorum, at its upper part or base, was deficient to about a fifth of its depth, this free border or base being concave in its long diameter, and rounded and smooth in a transverse direction—that is, passing from ventricle to ventricle.

Dr. Wilks kindly lent me the aid of his great pathological experience, and surmised that perhaps the endocardial mischief might have had its origin in rheumatism while the subject was yet in an early fœtal state, giving rise to the vegetations on the valves in question, and constricting the orifice of the artery. Its patency being thus diminished, the blood had to find another route, and, at each contraction of the right ventricle, it did this by passing into the aorta, chiefly over the yet plastic septum ventriculorum (the perfect development of which it prevented) instead of *via* the ductus arteriosus, which was fully obliterated; and so, when the tissues had lost their plasticity, and the organ had assumed a permanent character, the gap in the septum remained.

This theory of probable origin was to a certain extent strengthened by the fact that the mother, whilst pregnant with this child, had rheumatic fever. The anatomical lesion here existing reduced the type of heart to that of reptiles, and more particularly to that of the crocodiles, which have a partial septum within their one ventricle, whereby the venous and arterial blood is for a time kept separate. The blood circulating within the vessels of these animals is mixed, as their single ventricle receives and propels both kinds of fluid. So it was with this patient, who could be said to have but a single ventricle, the more exactly so as the contraction of the cavities is synchronous. And as in the case of the amphibious animals above referred to, the larger share of the mixed contents of the ventricles finds its way into the aorta, so in this instance did it, to the great impairment of nutrition generally. The positional element of the case may in some measure be explained by the relief the left ventricle would receive by the gravitation of

the blood towards and into the right ventricle, which is less particular in the matter of emptying itself than the left cavity; for as the partially occluded pulmonary artery would not readily permit the transit of fluid, to which a *vis a tergo* was applied by the contracting right ventricle, some of the blood was driven through the gap in the septum into the left ventricle or into the aorta; in this latter instance displacing what should there have been from the left side of the heart, which would thus have a residue, were not the patient to turn on the right side, or, better, the face—i. e., the hands and knees, by which means the left side of the organ is brought into the highest possible position, and the right the lowest. The entire evacuation of the left ventricle is necessary to the continuance of the function of the organ, as is intimated in aortic constrictive disease, where the ventricle becomes strengthened in order that it may more fully get rid of its contents; but to the right side this is a matter of secondary importance. Hence the assumption by the patient of that position which will give him greatest comfort, and prevent that suffocative agony, that angina pectoris, which is the offspring of an overloaded left ventricle. In this case the structural defect had existed in conjunction with natural life two years, and it might probably have continued much longer had not catarrh increased the pulmonary congestion, which had existed throughout. The result of this was to disturb the slender balance existing between the heart and lungs, to impede still further the action of the former, to usher in death, with convulsions and paralysis.

Upavon, Wilts, February, 1863.

ON A CASE

OF

TRAUMATIC ANEURISM OF THE FEMORAL ARTERY AT POUPART'S LIGAMENT;

LIGATURE OF EXTERNAL ILIAC;
SUCCESSFUL RESULT.

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GUNNER W. G—, Royal Artillery, aged thirty, a young man of unusually healthy aspect and strong proportions. Had served ten years in the service; one of these only abroad, and that in the Crimea. No hereditary unhealthy tendencies. Had had syphilis once. Habits temperate. Trade, a groom.

While serving with his battery at Dover, in Nov. 1861, he received a violent blow in the right groin from the small end of a handspike, while setting up a 32-pounder gun. He suffered great pain at the moment, and in the course of a few hours some swelling of the part supervened. The pain was only of two or three hours' duration. He was admitted to the hospital, but returned to his duty in a week, and continued at it without interruption. A couple of months later he began to suffer stiffness and uneasiness in the knee of the same side, and about the same time shooting pains in the groin. The swelling meanwhile did not exceed in size that of a walnut. In the October following (1862)—having in the interim proceeded to Jersey—he was in the act of dismounting a gun, when his foot slipped, and the subject of these remarks came down upon his knee, with an immediate sensation as of a knife being plunged into his right groin. The original swelling underwent an immediate and considerable increase, and now pulsation in the part was superadded. The patient was invalided to Woolwich in December, when for the first time he fell under my care.

On admission into the General Hospital at this station, W. G— was found to be the subject of a diffused and unyielding swelling, of the height and diameter of a split cricket-ball. Its surface was smooth, and the directions it observed were those of Scarpa's triangle below and of the line of Poupart's ligament above, encroaching somewhat upon the domain of the iliac fossa. No amount of pressure upon it produced any sensible diminution of its size; a crackling sensation, as from the presence of air, was imparted to the finger when pressed upon the line of the external iliac artery, immediately above the tumour. No murmur was audible in the latter. All the arteries of the limb below the aneurismal tumour were defined with difficulty, but then those of the opposite limb by no means pulsated strongly. The heaving in the tumour itself was of the sledge-hammer character.