

ART. XL.—*Case of Mitral Regurgitation, with great Hypertrophy of the Heart; Systolic Murmur, audible at a little distance from the surface; Open Foramen Ovale; Absence of Cyanosis.* By D. MACGIBBON, M. D., Visiting Physician to the Charity Hospital, New Orleans.

ELLEN LALLY, aged 5 years, was admitted into the Charity Hospital on the 17th of February, 1854, suffering with typhoid fever. After remaining under treatment for about three weeks, she got well, but was permitted to remain about the house for some time after, as her mother, who left her and a sister a little older on their arrival in this city from Ireland, had proceeded up the river without them, leaving them as a legacy to the institution.

She was observed to be languid in her manner, seldom speaking to, or mixing with, the other children in the house; but, as far as I can learn, nothing particular beyond had been noticed by any one.

In the beginning of April, I resumed charge in the female department, and the nurse one morning, soon after, brought this little girl to me, stating that she had caught cold, and coughed at night. The peculiar shape of the chest at once arrested my attention; it was much enlarged in front, giving to it a pigeon-breasted aspect. The action of the heart was very rapid and heaving, but there was no intermission in the beats. A bellows murmur, accompanying the systole, was heard all over the chest—indeed, it could be heard while the ear was within a little distance of the surface—but the point where it was heard most distinct was the apex.

When placed in bed, the action of the heart was such as to perceptibly shake her whole frame. She was quite anemic-looking, and there was some dropsical effusion in the abdomen and lower extremities.

Judging from all the circumstances of the case—the period and location of the murmur, the strength of the impulse, with the shape of the chest and extent of dulness on percussion, and insufficiency of the mitral valve, with much consequent hypertrophy, was the diagnosis made.

From this time she kept her bed, preferring a partially elevated posture. It was difficult to get her to take any medicine. Her breathing became gradually more and more difficult. There was also frequent slight hæmoptysis observed to occur. The action of the heart became more violent and rapid, but it never intermitted in any of its beats.

On the 21st of May she died. A *post-mortem* examination of the body was made, and the following results obtained:—

On removing the sternum, with the cartilages of the ribs, the pericardium was observed to reach far over into the right side of the chest, and to extend as high on both sides as the clavicles. It occupied, in short, the whole anterior of the chest, which, as already mentioned, was abnormally large. The sac was thin, and partially translucent. A small portion of clear serum was found in it when opened. The heart itself was as voluminous as that of an adult. Both auricles and both ventricles partook of this enlargement. These cavities were much distended with blood. The mitral valve was found in a fibro-cartilaginous condition, with its margin much corrugated, leaving the left auriculo-ventricular opening in a state of patency, so as freely to permit of regurgitation taking place, as diagnosed. Besides this, another important organic lesion, not suspected, was found to have existed. The foramen ovale was open, leaving an aperture large enough to receive the end of the thumb. The opening had a thickened, ring-like margin. The semilunar valves of the aorta, as well as

those of the pulmonary artery, were in a perfectly normal state. The caliber of both these vessels seemed out of keeping with the hypertrophied ventricles from which they respectively originate, being no more than sufficient to receive the little finger; but, I suppose, large enough to distribute the blood of so young a subject. The tricuspid valve was a little thickened, and probably permitted of some regurgitation taking place into the right auricle. Both lungs were found to have been much encroached upon; their substance was abnormally dense, and much congested with blood. The liver was enlarged, and it also was much congested. A good deal of serum occupied the abdomen. The heart I have preserved as a pathological specimen, which, with its complication of rare organic lesions and history, to me at least, is interesting.

The point, in the above case, of greatest interest, is certainly the absence of cyanosis, notwithstanding the free communication proved to exist between both sides of the heart. The insufficiency of the mitral valve—diagnosed rightly, as proved by the *post mortem*—was at the time considered sufficient to account for all the symptoms present. Disturbed action of the heart, hypertrophy of the organ, dyspnoea, and hæmoptysis are all circumstances which we so frequently meet with as resulting from that lesion, that no other cause having been suggested in the present case need scarcely be wondered at. Certainly, up to the last, as far as I am aware, nothing occurred to impress on the mind of any one who examined her a suspicion that the foramen ovale was open, and complicated the case, as it proved to be. Of course, had there been any blueness of the surface, this lesion, from the fact of its giving rise to that colour, would not have gone unsuspected; but of this there was not the slightest trace; on the contrary, the lips and other parts usually affected were abnormally pale. Cyanosis is such a very frequent concomitant of open foramen ovale, even when this exists in but a slight degree, that its absence in this case would seem all the more remarkable. Nevertheless, cases are recorded where, as in the present, that did not follow; but these are admitted to be rare. Out of seventy-one cases, for instance, collected by Dr. Stillé, and reported in this Journal (Vol. viii. New Series), where communication existed between both sides of the heart, cyanosis followed in all but five, exhibiting thus such a close connection as to justify the inference of cause and effect. Dr. Walshe, in his work *On the Heart and Lungs*, suggests "that, where a widely-open foramen ovale has been formed (as it certainly occasionally has) without previous cyanosis, some corrective condition, either organic or dynamic, has existed to prevent the intermixture." Influenced by his remarks, and reflecting on the above case, I cannot help conjecturing that the constantly distended condition of the left auricle with arterial blood, consequent on the insufficiency of the mitral valve, may have prevented that egress of venous blood through the opening in the septum of the auricles, which otherwise might be expected. The presence of the current on both sides of the opening being thus somewhat equalized, we can see a reason for the absence of much commingling of the two bloods, and, consequently, for the absence of the cyanosis in this and similar cases. A pretty free admixture is thought necessary in order to produce this. Whether the opening was congenital, or whether it closed in the usual way and was reopened by the increasing distension of the left auricle, as the lesion of the mitral valve became developed, are questions which our short acquaintance with, and total ignorance of the early history of, the case will not permit of our answering. I am inclined, however, to adopt the latter of these suppositions, as being most consistent with the conditions met with. That the organic disease of the heart must have been far advanced at the period when she entered the hospital with typhoid fever, is more than probable; that it was not detected, may be explained on the supposition that

