as well as nitrate of silver solutions of different strengths, and I am satisfied that it is as stated—only a question of proportion. If the precipitate is not very copious, and occasioned by only weak solutions of the acid and salt, then cold nitric acid dissolves it, even if the acid be not of the strongest; but on the contrary, if the precipitated cyanide be abundant, in large flakes, and made from stronger solutions of the nitrate of silver and hydrocyanic acid, then concentrated boiling nitric acid is required for its solution.

The persistence of hydrocyanic acid is of much importance, and is altogether opposed to the opinions of our best toxicologists, who state that after a few days all traces of the poison disappear, it undergoing decomposition; and yet we find, that twenty-three days after death, the acid is found without any perceptible alteration in its strength, although placed, as we should suppose, in the most unfavourable circumstances for its preservation, being mixed with a mass of partially digested food, the weather being sultry, and no pains taken to ensure its preservation. It is obvious the statements made in books, that the fact of not finding hydrocyanic acid eight or ten days after death has taken place affords no proof that death has not been occasioned by this agent, must be materially modified. The not finding it even after a much longer period will not, I apprehend, be considered as presumptive evidence of death *not* having been occasioned by it.

The only other point to which I shall direct attention, is the ignorance of druggists, and the different strength of drugs. Here we have a druggist coming forward and stating that not only does he not know the strength of the ordinary preparations of hydrocyanic acid, but that, in the compounding of prescriptions, he is constantly in the habit of using a preparation containing two and a half times the quantity of a deadly drug of that which the prescriber intended to be employed. But another point of even more importance, for this ignorance and most culpable carelessness might belong only to the individual, is the fact of an unopened bottle of hydrocyanic acid being labelled Scheele's acid, which ought to contain five per cent. of real acid, and yet on analysis is found to contain only one and a half per cent. Such uncertainty spreads far and wide. For this the manufacturing chemist deserves the severest censure; against such errors the medical man has no means of protecting himself or patient. Suppose a person has been taking prussic acid for some time; the effect has not answered expectation, and the dose has been gradually increased, until perceptible effects are evinced, and they had given acid, supposed to be Scheele's, but in reality only containing a fourth part of it. He then has the medicine made up elsewhere, or the druggist gets a fresh supply of the acid, which is of the correct strength; it is obvious that nearly four times the contemplated quantity would be swallowed, and if the previous dose had been carried to the extent prudence dictated, death would probably be the result,—nature, the drug, or the doctor bearing the blame, while the manslaughter, for such, to speak mildly it deserves to be considered, would rest upon the ignorance or carelessness of the chemist or druggist.

CURIOUS CASE OF MALFORMATION OF THE HEART, SIMULATING THE PHYSICAL SIGNS OF ORGANIC DISEASE OF ALL THE VALVES.

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On the 6th of November, 1843, I visited Harriet Tinker, a delicate child of eight years of age. She had been occasionally subject to a slight cough; now and then to slight bloody expectoration; and occasionally, before that kind of expectoration appeared, looked blue about the mouth and eyes. When I first saw her, she had coughed up a full pint of florid blood, and was very faint.

As soon as she recovered sufficiently, I examined her chest, which was well formed, except that the left side was rather more prominent than the right; the infra-clavicular regions rose equally on inspiration; but her respiration was rapid. The inferior part of the right lung was duller on percussion than the left; and there was some *crepitant*, or rather *crackling* rhonchus there, but no *loud expiratory* murmur, or bronchophony. The apex of the heart beat between the sixth and seventh ribs, one inch to the sternal side of the nipple, and half an inch below it. There was a *flat* sound over a much greater extent than natural in the cardiac region; on a level with the superior margin of the third rib, on the sternum, a loud bellows-sound with the first or systolic beat of the heart, which was heard louder under the *right* clavicle, and not under the left; another loud rasping bellows-sound at the *ensiform cartilage*, with the first beat, which decreased in intensity as you left that spot; and another systolic bellows-sound at the *apex*, more feeble than the others, which decreased in intensity higher up the ventricle. There was a slightly perceptible *purring tremor* over the apex, and very great jugular pulsation in the neck. The pulse was very different in intensity in the two wrists, the right being the strongest.

My diagnosis was, *dilatation of the right auricle, and regurgitant disease of the tricuspid valve*, which accounted for the jugular pulsation and systolic murmur at the ensiform cartilage; *regurgitant disease of the mitral valve*, which accounted for the hæmoptysis and feeble systolic murmur at the apex; *contractile disease of the aortic valves*, which accounted for the systolic murmur at the top of the sternum, and under the right clavicle; and cyanosis, from patent foramen ovale.

Feeling an interest in the progress of this case, I watched her carefully. Every three or four weeks she was seized with hæmoptysis to a greater or less extent, accompanied by symptoms of cyanosis; but, during the intervals, she had very little, if any, cough; and sometimes appeared to be in tolerable health, with this exception—that she was not capable of taking any exercise without producing very rapid respiration and violet colour of the skin, on which occasions the jugular pulsation was very great. The respiratory murmur became quite natural all over the chest in the course of a week or ten days after each attack of hæmoptysis, until the last few months; but the valvular sounds became gradually decidedly more of a rasping character.

On the 26th of February, 1844, my friends, Drs. Favell and Branson, did me the favour of examining this case, and the following is a copy of their opinion, taken down at the time:—"A loud murmur with the first sound of the heart, heard most plainly at the sternum, just above the ensiform cartilage. Another murmur with the first sound over the sigmoid valves, heard plainer to the right of the sternum. There is tricuspid regurgitation, and direct disease of the aortic valves, most probably regurgitant disease of the mitral valve, and patent foramen ovale. The difference of pulse is owing to a high bifurcation of the brachial artery." I mention this opinion, as it confirmed my own.

In September, 1844, after a severe attack of hæmoptysis, a *loud blowing sound* was discovered under the *left clavicle*, distinguished from that under the right by a little difference in sound between the two. All the rest of the physical signs were the same as before. This murmur under the *left clavicle* continued, with the others, gradually increasing in *intensity and roughness*, until she was very much reduced from loss of blood, when they became less distinct; but could always be heard through the stethoscope, and she died on the 15th of June, 1845, immediately after expectorating two pints of blood.

Of course, I fully expected to find, on inspection, some thickening of the semilunar valves of the aorta and pulmonary artery, great dilatation of the right auricle, some dilatation of the left, and regurgitant disease of the tricuspid and mitral valves; but I was astonished to find the aortic and mitral valves perfectly healthy, and only such derangement of the tricuspid as arose from the dilatation of the right auricle. Both lungs were found very full of grey tubercle. The heart, with its pericardium attached, weighed ten ounces.

Finding something very unusual about the external appearance of the heart, I took the advantage of requesting the assistance of Dr. Favell and Mr. Henry Jackson in its dissection, and the following is our report:—

"The *right ventricle* was on the *left side* of the body; and the *right side of the heart* constituted the apex, instead of the left.

"There were two auricles: the one connected with the tricuspid valve very large, and had two large venous openings; the other, connected with the mitral valve, very small and thin, and only one very minute orifice could be found.

"The *foramen ovale* open between the two auricles.

"A *valvular structure*, with *chordæ tendineæ*, &c., was found just above the foramen ovale, in the large auricle, communicating with a largish vessel (venous), and taking a circular course round the base of the heart.

"There were two ventricles, *communicating by an aperture in the septum*, large enough to admit the little finger; just at the root of the aorta.

"A probe from either ventricle passed with *equal facility* into the aorta.

"The pulmonary artery, like a very small vein, opened into that ventricle, which is divided from the auricle by the tricuspid valve.

"The semilunar valves of the pulmonary artery were quite rudimentary.

"The aorta and aortic valves were perfect; the mitral valve perfect.

"The tricuspid valve admitted *free regurgitation* into the large auricle."

It was my opinion that the aorta was dilated just above the semilunar valves; but of this I will not speak positively.

As the case appeared to be so clearly disease of all the valves of the heart, from the physical sounds which were so distinctly heard for *two years*, and on dissection turned out to be so completely opposite, it may not be considered an uninteresting subject to bring before the profession; in order to enquire how the sounds, which have been attempted to be described, can be accounted for; particularly as I am not aware that I have ever met with a similar case recorded.

Will the following mode of accounting for these sounds be considered in any way satisfactory?

The murmur in the situation of the pulmonary artery was not heard until I had attended her twelve months. The systolic murmur in the aortic valves may be accounted for by the two streams from both ventricles meeting just below the valves, and rushing through the aorta together; causing such a sound as an inundated river would give in going through a bridge originally built for a smaller stream; and when that part of the lung covering the base of the heart became consolidated by tubercles, the aortic murmur would be conveyed through it, and heard under the left clavicle; giving the impression of disease in the pulmonary artery. There could not be mitral regurgitation, because the left auricle was very small, and the mitral valve perfect; but there was evidently very great tricuspid regurgitation, proved by the immense jugular pulsation, and the large size of the right auricle; only, it must be recollected, that the right auricle took the situation almost, not quite, of the left auricle; for the right ventricle formed the apex of the heart. The supplemental valve, and venous canal, which went out of the large auricle round the base of the heart, would, of course, be filled during every systole of the ventricle, because the large auricle was refilled at every ventricular contraction. Might not these two circumstances account for the sounds of mitral and tricuspid regurgitation? Her pulse was too full generally in the right arm to fully justify the idea of mitral regurgitation; but what was the cause of the hæmoptysis, if no mitral regurgitation existed? Can that be sufficiently accounted for from the tuberculous state of the lungs?

My own impression is, that very little, if any blood, was sent from the right ventricle through the pulmonary artery, as the semilunar valves of that vessel appeared as if they had never been used.

I shall be glad to receive the opinions of any who feel interested in this unusual case, as I think it of consequence to account clearly for physical sounds so nearly allied to those generally considered indicative of organic disease.

Rotherham, July 21, 1845.