NOTES AND OBSERVATIONS UPON A CASE OF UNUSUALLY RAPID ACTION OF THE HEART (232 PER MINUTE).

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ABOUT three years back, I was consulted by a tradesman—a tailor, aged 42—on account of shortness of breathing, with a sense of general distress, which had lasted several days. It was the first attack of the kind he had had. The pulse was too rapid to be counted; the respirations were forty; and the pulsations of the heart two hundred and thirty in a minute. Dr. Pepelow saw the case several times with me. In about three weeks from the commencement of this attack, the patient entirely recovered; the action of the heart becoming suddenly in every respect natural, and the pulse eighty in the minute.

About fourteen months from this period, a similar attack occurred; but it was less severe, and of short duration, the heart never exceeding one hundred and sixty in a minute. Six months subsequently there was a return of the symptoms, on which occasion the patient was attended by Mr. R. W. Dunn. And within the last winter, two slight attacks have occurred, lasting, however, only a few hours.

All these seizures differed from each other, and from the one I am about to give more in detail, chiefly in their duration—the general symptoms having been, on each occasion, remarkably alike.

The last attack commenced four weeks ago. It was preceded, as before, by loss of appetite, acidity, and disordered stomach, with constipation; the rapid action of the heart following immediately upon a sensation of faintness and short breathing.

When called to see the patient, I found him anxious, but not otherwise seriously distressed; his breathing was short, hurried, and irregular, varying from thirty to forty in a minute. The pulse was too rapid to be depended on; but the beating of the heart was distinct, regular, free from murmur, and two hundred and thirty-two per minute. Immediately over the semilunar valves, both sounds could be clearly distinguished, scarcely differing from each other, and closely resembling the peculiar "tic-tac" beats of the fetal heart; but in every other part of the cardiac region a single and abrupt sound only could be heard. No valvular murmur could anywhere be detected, neither was there any visible pulsation in any of the larger arteries; but the jugular veins, as well as the larger veins at the bend of the arms, could be distinctly seen to pulsate.

The case being of so remarkable, and, as I believe, unique a character, I was anxious that my friend and colleague, Dr. J. Burdon Sanderson, should examine the patient by the aid of his sphygmograph. We met accordingly in consultation, Dr. Sanderson succeeding in getting an accurate tracing of the

Fig. 1.

radial pulse. Fig. 1 represents this tracing, which, Dr. Sanderson informs me, marks the number of the

pulsations at exactly two hundred and twenty per minute.

It will be observed that the pulse was singularly uniform and regular in its beat, varying from the natural pulse principally in its extreme feebleness and great rapidity. The usefulness of the sphygmograph was thus sensibly illustrated; since, without it, the pulse, from its extreme rapidity, was so difficult to count, that it appeared previously, both to Dr. Sanderson and myself, neither to be synchronous with the action of the heart, nor at all regular.

The treatment consisted at first in the use of antacids and stimulants, together with aperients; during the action of which, a considerable quantity of tapeworm was expelled. After a short time, the tincture of digitalis was given in doses of from ten to fifteen minims three times a day; and it was during the use of this medicine that the heart returned to its healthy condition. Whether such occurrence was a *post* or a *propter hoc*, I cannot pretend to determine; but it is worthy of remark that, during the patient's first two attacks, a similar condition obtained, the recollection of which induced me, on this occasion, to try the digitalis again. Two or three days before the heart returned to its natural pulsation, a considerable amount of hæmoptysis occurred, the bases of both lungs being at the same time dull on percussion, and having the respiratory murmur very feeble. With this single exception of slight pulmonary congestion, there was no change in the general condition of the patient during the whole attack, until the heart regained its healthy state, which, as on every previous occasion, happened very suddenly, being immediately preceded by a sense of faintness, which, from former experience, the patient himself recognised as the forerunner of his recovery.

A few days after this, Dr. Sanderson and I had a second consultation; when we found the respiration natural, the heart perfectly healthy, the pulse regular, and rather below seventy in a minute.

Fig. 2.

The only remaining symptoms were slight oedema of the legs, which had come on as the heart quieted; and, which was less easy to account for, a slight pulsation in the right jugular vein, upon which I shall make an observation presently.

This case thus briefly, but, as I hope, sufficiently described, is interesting in many ways. It shows very clearly that mere functional rapidity of the heart's action, that is to say, rapidity unconnected with valvular disease or alteration in heart structure, is not necessarily a dangerous condition. Notwithstanding its immense rapidity in this case—a rapidity perhaps seldom, if ever, surpassed, the patient could at no time be said to have been in danger. From the very commencement to the close of the attack, he was calm, and even cheerful, and suffered surprisingly little either bodily or mentally.

The interesting question remains—upon what did the heart's rapid action depend?

It appears to me that such extreme rapid action of the heart, when free from organic or inflammatory disease, and when unconnected with displacement, must arise from one of two causes. Either the heart itself is so extremely sensitive that it contracts upon the healthy blood before its cavities have had sufficient time to become properly filled with this

fluid; or, the blood itself is of so abnormal and irritating a character as to excite such premature contraction. The first condition may be occasionally seen in certain diseases of the nerve-centres, but more frequently in simple nervous and hysterical palpitation; the second, in palpitation arising in the course of an attack of gout, or acid dyspepsia.

In the case before us, either of these two conditions may have existed. The presence of the tapeworm may have produced a reflex irritation of the heart itself; or, the acidity and dyspepsia under which the patient invariably suffered at the period of his attacks may, by giving rise to an abnormal condition of the blood, have provoked the heart to its rapid and premature contraction; and it is even possible that these two conditions may have coexisted. I will not, however, insist upon such an explanation; but, in the absence of even the slightest indication of brain or spinal affection, or indeed, of any unusual amount of general nervous sensibility in our patient, I am at a loss for any other.

One of the still remaining symptoms to which I have referred, viz., the pulsation of the right jugular vein, noticed both by Dr. Sanderson and myself, is not easy of explanation. It is a natural conclusion from such a condition, that the tricuspid valve must allow of regurgitation. During the previous extreme rapidity of the heart, insufficiency of this valve, and the consequent venous pulsation is easy to understand; but after the heart had returned to its healthy state, why the valve should still remain incompetent, or, remaining incompetent, should not have given rise to a regurgitant murmur, is not so easy of comprehension. If regurgitation really existed, as the venous pulsation would indicate, the case is still further interesting, as an addition to the evidence which most of us must have had, that valvular regurgitation is not necessarily productive of valvular murmur.

COUNTY AND CITY OF CORK MEDICO-CHIRURGICAL SOCIETY. At the last meeting of the session, Wednesday evening, May 8th, the following officers were elected by ballot for the ensuing year:—*President*—Dr. Johnston. *Vice-President*—Dr. N. J. Hobart. *Secretary*—Dr. Purcell. *Treasurer*—Dr. Curtis. *Council*—Dr. Popham, Dr. Finn, Dr. O'Connor, and the three late Presidents—Dr. Cummins, Dr. Cremin, Dr. E. R. Townsend, jun.

PROGRESS OF PARIS. The return just issued by M. Haussman, Prefect of the Department of the Seine, records 47,723 deaths in the city of Paris in the year 1866. The population of the city at the census of 1866 was 1,825,274; the deaths, therefore, were in the annual proportion of 26.1 per 1000 of population. In 1865 the deaths were 51,421, and the proportion to the population was 2.85 per 1000; but the cholera epidemics raised the mortality considerably above the average in both years. The average annual rate of mortality in the three years preceding 1865 was 24.9 per 1000. The population of Paris, which is distributed over 19,280 English statute acres, has increased since 1861 at the rate of 1.48 per cent. per annum; about 25 per cent. per annum less than the rate at which the population of London increased between the enumerations of 1851 and 1861. The number of births in 1866 was 54,385, being 711 under those of 1865. The natural increase of the population, by excess of births over deaths, was 3675 in 1865, and 6662 in 1866. The excess in 1865 was greater in the female than in the male sex, being 1482 among males and 2193 among females. The population of the department of the Seine, however, according to the recent census, numbered 49,202 more males than females.

Reports

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

CANCER HOSPITAL.

CASES OF CANCER TREATED BY DR. BROADBENT'S METHOD: INJECTION WITH ACETIC ACID.

(Under the care of Mr. WEEDEN COOKE.)

DR. BROADBENT'S suggestion of a new method of treating cancer is based, as our readers are probably aware, on the very ingenious theory that as diluted acetic acid shrivels up cancer-cells when observed under the microscope, it will act in the same manner when injected into the living tumour; and that as this acid does not coagulate albumen, the injected fluid will permeate the tumour, and so the obnoxious cells will thus be deprived of their vitality, and the whole mass shrivel and become inert, and cease to grow. The four illustrating cases given in the pamphlet were by no means in their results, in Mr. Weedon Cooke's opinion, calculated to support the theory; but nevertheless he proceeded to put this new suggestion to the test of practice, although he did not forget that chemical actions upon dead and living tissues have widely different effects. Neither did it seem likely to him, *a priori*, that acetic acid would find its way more readily into the hard centre of a scirrhus than solutions of iodine, iron, etc., which he had himself previously employed. However, he selected four cases of scirrhus of the breast, one of epithelioma of the rectum, and two of epithelioma of the cheek. He used one part of acid to three of water. The pain produced was not very severe in any of these cases, except in that of the poor fellow who had cancer of the rectum, and he suffered so severely that he would not submit to it more than twice, and it unfortunately happened that the disease was considerably aggravated by these injections. In the two cases of epithelioma of the cheek, no effect was produced by the weakened acid. In one case much stronger acid was used, and then some slight sloughing was produced, but the disease continued to grow. Inflammation arose in the first case of scirrhus of the breast, and recurred upon a subsequent injection three weeks after; much pain ensued, and the patient was unable to attend again. She was a weakly nervous person. The same injection was used on another out-patient twice without any good or ill effects, and she returned to the country. A very vascular though hard tumour of the breast in a young woman was injected once. Considerable pain was set up, and some inflammation, followed by sloughing ensued; but the wound healed again fortunately, and the experiment was not repeated. In the case of an old woman in the Cancer Hospital, the injection was repeated six times. It seemed to be a favourable case, owing to the presence of cysts in the scirrhus, and the pain produced was bearable; some lessening of the tumour occurred for two months, but the action set up was too much for its vitality; the disintegration proceeded to suppuration, then to hæmorrhage, and the end was not long.

A gentleman came to Mr. Weedon Cooke, two months ago, with a very extensive epithelial cancer of the cheek, for which he had been injected by able surgeons several times. The cancer continued to grow rapidly nevertheless. A patient now under Mr. Cooke's care with ulcerated scirrhus of the breast,