

Medical Matters.

GARDIAC ARRHYTHMIA.

Dr. A. Jex Blake, Assistant Physician to the St. George's Hospital, delivered a lecture on Cardiac Arrhythmia at the Hospital for Consumption, Brompton, at which he said, in part:

The causes of irregular heart may be divided into two main classes: the intracardiac, or those arising within the heart; and the extracardiac, or those arising outside it.

A certain number of perfectly healthy people seem to have naturally irregular hearts without ever having had any disease, either local or general, whereby arrhythmia can be accounted for. They present no cardiac symptoms, and the irregularity of their pulse is generally found out by accident. It is presumably neurogenic in origin.

The next arrhythmia to which I wish to direct your attention is the respiratory irregularity. We have already seen that in the majority of normal persons inspiration causes a quickening of the pulse, and expiration a slowing. This depends on two separate factors. It is due partly to the fact that inspiration increases the supply of venous blood reaching the heart by the venae cavae; the act of inspiration increases the negative pressure or suction power in the thorax, and tends to draw venous blood into the right auricle, with the result that it fills up with blood more rapidly while inspiration proceeds, and the whole cycle of cardiac operations is thereby accelerated, while in expiration the converse takes place. But this is not the only factor concerned in the inspiratory quickening, for it is lessened or even abolished if atropine is given; the inference from this fact is that a certain amount of vagus inhibition of the heart occurs during expiration in these persons. In a minority of cases respiration has no effect on the rate of the heart, and in a few normal persons inspiration may cause slowing of the heart, and expiration quickening. This respiratory arrhythmia of the heart is oftenest and best seen in children and young people, and is worth mention because it is sometimes so marked and leads to so great an irregularity in the pulse that the patient is labelled "heart disease," and treated accordingly. But such mistakes are not likely to occur if one remembers that they may be made, and the true cause of the irregularity will be easily made out by observing the pulse and respiration together, and noting how they vary together.

Neurogenic arrhythmias, the third group of the reflex arrhythmias, are still commoner

than the respiratory. In certain patients almost any severe mental or sensory stimulation may bring on an attack of rapid or intermittent action of the heart. This is particularly so with nervous and excitable people. In many cases the patient will say that he or she has an attack of palpitations; but the two things are not necessarily the same, for these reasons: On the one hand a patient may have palpitations—that is to say, perceptible and painful cardiac action—without any change in the rate of the pulse; on the other hand, patients may have an attack of rapid or irregular pulse, without being aware of the fact. A good many of these neurogenic reflex arrhythmias have got into the textbooks under the headings, "Cardiac Neuroses," or "Functional Affections of the Heart"; many of them are associated with precordial referred pain, and it is often this pain that brings the cardiac arrhythmia to the patient's notice. In certain patients it is some toxic influence that brings on these attacks of intermittent or irregular action of the heart. The use of strong tea or coffee is an extremely common cause of irregularity of the heart in the edentulous middle-aged women and men who crowd hospital out-patient departments and come up complaining of pain under the heart. One has known a great many middle-aged people, 40 years of age or so, who have had to give up taking afternoon tea because it so often brought on attacks of palpitation; and these attacks of palpitation are often accompanied by an intermittent action of the heart.

Another toxic cause of intermittent heart-beat is excessive tobacco-smoking, usually in young men, particularly when the smoke is inhaled.

The excessive use of alcohol is another common toxic cause of irregularity of the heart.

In another large class of cases the neurogenic arrhythmia is due to reflexes from the viscera. A great many dyspeptics suffer far more from the painful irregular action of their hearts than they do directly from the indigestion that is the *fons et origo* of their complaint. To some extent the palpitations are caused mechanically; the stomach or intestines, or both, become distended with flatus and press the diaphragm upwards, embarrassing the action of the heart. But, in addition, there is a reflex nervous factor, abnormal stimuli spreading up by the vagus from the unhealthy viscera to the nucleus of the vagus in the medulla, and upsetting the action of the heart by means of impulses transmitted down the cardiac branches of the vagus. A similarly caused irregularity of the heart is not rare in constipation; in both cases suitable treatment does away with the arrhythmia.

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