

cially the case if the chest walls are covered with much adipose tissue or are at all oedematous.

In persons with thin chest walls you will sometimes notice an undulating motion over the whole of the precordial space. The precordial region is never prominent as is sometimes seen in eccentric hypertrophy.

Upon *palpation* you will readily distinguish dilatation from hypertrophy by the feebleness of the cardiac impulse. Although it can sometimes be felt as far to the left as is the axillary line, yet there is an absence of the lifting, forcible impulse which attends cardiac hypertrophy. It is often difficult to determine the exact point of its maximum intensity, but it will be noticed that over the entire precordial space there is an undulating motion, and the apex beat will be diffused, wanting in force, and resembling a feeble step. Sometimes with this character of apex beat a purring thrill will be present. I stated to you that a purring thrill with the apex beat was almost characteristic of mitral stenosis; but you may have a purring thrill with mitral regurgitation, when the regurgitation is associated with cardiac dilatation.

*Percussion* gives a greatly increased area of lateral dullness. The area will be increased to the right of the right side if the heart is the seat of the dilatation and in some cases the increase will extend an inch or more to the right of the sternum. If the left side of the heart is the seat of the dilatation, the area of dullness will be increased to the left, and may extend well into the axillary space.

The shape of the increased precordial area will be oval. This point is of importance in the differential diagnosis between cardiac dilatation and pericardial effusion. The area of the superficial cardiac dullness is not increased in the same proportion as the deep-seated, as is the case in cardiac hypertrophy. Dilated auricles are recognized by an upward increase in the area dullness. When the jugular veins are permanently dilated and knotted, the existence of dilatation of the right auricle will not be difficult to determine.

*Auscultation*.—The sounds of a dilated heart are short, abrupt and feeble. The second sound is often inaudible at the apex, and the two sounds are of very nearly equal duration. Whenever a cardiac murmur has existed prior to the development of the dilatation, as the dilatation develops the rhythm of the murmur is lost, and it becomes simply a confused murmuring sound. This condition has been denominated *asystolia*. It is a condition in which you are unable to determine whether the murmur is synchronous with the first or second of the heart; and pauses or intermissions occur at irregular intervals, which are of more frequent occurrence during exercise than when the patient is quiet. When the asystolic condition is present, prognosis is very unfavorable, independent of the general condition of the patient; for it shows that, in addition to the valvular lesions which may be present, cardiac dilatation has been developed to such an extent as to give rise to complete confusion of the normal heart sounds. Under such conditions the patient is liable to die at any moment. Asystolism is generally accompanied by a diffused cardiac im-

pulse which is peculiar, and is readily appreciated by the ear as it rests over the precordial space. The respiratory murmur is diminished in intensity over the whole of the upper portion of the left lung.

*Differential Diagnosis*.—The diagnosis of cardiac dilatation rests mainly on the following conditions: Feeble action, undulating impulse, indistinctness of apex beat; lateral increase in the area of percussion dullness (very nearly square in its outline); short, abrupt, and feeble heart sounds; feeble, irregular, and intermitting pulse, accompanied by the general symptoms of systemic and pulmonary obstruction and congestion.

The differential diagnosis between cardiac hypertrophy and cardiac dilatation is never very difficult. The symptoms of the two conditions differ very materially. For instance, the heart sounds are intensified in hypertrophy and feeble in dilatation. In both cases there is an increased area of apex beat; but in hypertrophy it is full, distinct, and forcible; while in dilatation it is feeble, diffused, and indistinct. An individual with cardiac hypertrophy apparently has a more than normally vigorous and forcible action of the heart, which is increased by active exercise, and has none of the feebleness of heart action which attends the person with cardiac dilatation. The fact that an individual has had cardiac hypertrophy with all its attendant symptoms, but now has a tired expression of countenance, livid lips, and daily decrease of physical vigor, accompanied, it may be, by oedema of the feet, shows that cardiac hypertrophy has become cardiac dilatation. Dilatation of the right side of the heart, in addition to the signs already detailed is to be recognized by changes produced in the veins. The presence of distended, irregular, turgid jugular veins, tells very positively of dilatation of the right auricle; and pulsation in the jugulars, accompanied by feeble heart action and increase in the area of cardiac dullness upon the right, speaks very distinctly of dilatation of the right ventricle associated with tricuspid regurgitation. It is sometimes somewhat difficult to make a differential diagnosis between pericarditis with effusion and cardiac dilatation. In pericarditis with effusion the area of dullness is increased, and there is a feeble apex beat, and sometimes an undulating impulse, all of which are present in cardiac dilatation. The heart sounds, however, in pericarditis are more removed from the surface than they are in dilatation, and the area of percussion dullness is pyriform while in dilatation it assumes nearly a square shape. Besides these distinguishing features, you will rarely meet with a case of pericarditis, even with effusion, when you may not hear a friction sound at some point; but in cardiac dilatation there is an entire absence of friction sound, no matter in what position the patient may be placed. In addition to these differences in the physical signs, the history of the case and the accompanying rational symptoms will be of great assistance in solving the question of differential diagnosis between either cardiac dilatation and pericarditis or cardiac hypertrophy and fluid in the pericardium. The differential diagnosis between enlargement of the heart, either from dilatation of its cavities or hyper-