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## Selections: Medicine.

### THE USE OF DIGITALIS IN DISEASE OF THE AORTIC VALVES.

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The means by which digitalis is useful in diseases of the mitral valve, where its utility is almost universally admitted, cannot detain our attention at present. Its use in disease of the aortic orifice is the division of the subject with which we are engaged to-day.

The power of digitalis to induce more powerful contraction of the muscular walls of the heart is now generally admitted. The evidence does not rest merely upon careful clinical observation, but upon the less complex and more valid testimony of direct experiment. The weight of evidence thus furnished from these two sources is such as to be irresistible with the majority of medical men; a few, however, are still unconvinced. My own attention has been very powerfully attracted to the action of this drug for a number of years; and the more extensive my experience, the greater is my confidence in digitalis in all cases where it is desirable to induce more powerful ventricular contraction. It relieves palpitation by substituting a normal and comparatively unfelt contraction for the sensible stroke of laborious effort.

Before proceeding to explain the action of digitalis in disease of the aortic valves, we must first glance at the pathology of aortic valvulitis. The function of these valves is to close the aortic orifice and prevent the regurgitation of blood into the ventricular chamber on the

aortic recoil. The ventricle at each systole throws so much blood into the aorta, which being elastic, is distended; the recoil or systole of the aorta closes the aortic valves, which prevent reflux of the blood, and so the blood is driven forward by the aortic recoil into the smaller arteries. When the obstruction to the blood-flow from the aorta is increased, two different actions or morbid processes ensue. First, the blood-pressure is raised and the obstruction to the flow forward of the blood on the ventricular systole is increased, and hypertrophy of the muscular walls follows. Then the ventricle is enabled to cope with the increased obstruction to the blood-flow, and the ventricle can empty itself completely at each systole. Such is the simple hypertrophy of Bright's disease in its earlier stages, and these are the patients who afford us most of the aortic valvulitis of advanced life; the aortic valvulitis induced by muscular effort is chiefly found in young men. We have then an obstruction to the blood-flow, an increased blood-pressure, and a powerful ventricle, and the result is, that the aorta is unduly distended at each ventricular systole. The rebound of the elastic aorta, commonly termed the aortic recoil, is in strict proportion to the amount of distension, and consequently, with an abnormally powerful recoil, the valves at the base of the aorta are violently closed. This gives the accentuated aortic second sound so significant of this condition. Not only that, but the powerful closure leads to valvulitis and a growth of connective tissue corpuscles in the valvular vena. Distortion, then, is thus produced, and the valves either present an obstacle to the forward flow of the blood, or they fail to arrest regurgitation on the