In conclusion one would say that the causes of frequency are not so mysterious if proper investigation is made, and that ascending infection is the commonest cause and my experience is that most cases are amenable to treatment.

I have said practically nothing about drugs for urinary tract infections; I can sum them up briefly and quickly. There is no such thing as an efficient urinary antiseptic. Most of the preparations under this heading can be shown to influence odd cases favourably, but in many others again they cause increased irritation in the urinary tract, and sometimes hæmaturia. There can be no prospect of a beneficial influence on an infection which is often wrongly thought to be seated in the kidney, but which is actually buried under the mucous membrane in some part of the lower urinary tract. Vaccines with occasional exceptions are quite useless. Broadly speaking the proper principle of treatment to follow is regular daily copious draughts of diuretic fluids combined with alkalies.

CASES DEMONSTRATED AT THE M.R.C.P. CLASS.

A Case of Chronic Rheumatic Heart Disease.

History.—The patient, Mr. W. C., aged 34, was referred to me in January, 1933, with severe heart failure. He had rheumatic fever at the age of 13, when a heart lesion was recognized, and there have been several recurrences of acute rheumatism. He has led a normal life until a year ago, when increasing dyspnoea prevented him continuing his work. He has been in hospital with congestive heart failure recently.

Examination.—He is cyanosed and breathless at rest. The veins in the neck are moderately engorged, and pulsate excessively. The pulsation in the neck is *mainly venous*, but there is also some arterial throbbing. The pulse is completely irregular and characteristic of auricular fibrillation, and is somewhat collapsing in character. Blood-pressure, 130 mm. systolic. The apex beat is in the sixth interspace, in the anterior axilla, and heaving in character. There is a purring systolic thrill at the aortic area, transmitted to the vessels of the neck. On auscultation, there is a loud rough aortic systolic murmur, the aortic second sound is inaudible, and a blowing diastolic murmur is heard along the left of the sternum. These loud aortic murmurs are audible over the whole præcordia. Careful auscultation reveals a distinct diastolic rumble, due to mitral stenosis, at a limited area at the apex, and at the lower end of the sternum a blowing systolic murmur of tricuspid regurgitation.

The liver is considerably enlarged, and pulsates quite noticeably, and there is a moderate degree of ascites. The patient is practically free from œdema, and the lungs show only a few râles at the bases. X-ray examination shows a greatly enlarged heart, which has the characteristic triangular shape of chronic heart failure with tricuspid regurgitation. The right auricle is much enlarged, the superior vena cava is dilated, and the pulmonary artery is prominent. In the oblique position, the left auricle was seen to be enlarged.

The diagnosis is rheumatic heart disease, aortic stenosis and incompetence, mitral stenosis, tricuspid regurgitation, congestive heart failure. It is not possible to say whether the tricuspid regurgitation is due to a rheumatic valvulitis or to chronic dilatation of the right heart. Rheumatic tricuspid disease is not very rare, and is invariably associated with mitral disease; some degree of stenosis is common in tricuspid

valvulitis, but extreme narrowing, as seen in the mitral valve, is rare. Clinically, organic tricuspid disease is recognized by the presence of free tricuspid regurgitation in the absence of heart failure, and of marked venous filling. Some candidates were not familiar with the signs of tricuspid regurgitation; these are excessive pulsation of the neck veins, which fill from below, and the regurgitant wave passes along the vein often up to the jaw. Sometimes the veins of the chest and arms pulsate. Venous pulsation must be distinguished from arterial. It is of considerable amplitude and visible rather than palpable. There is a slow sustained rise, and often a double wave with each heart beat. Arterial pulsation is a simple throb and is expansile on palpation. Marked cyanosis and an icteric tinge are usually present in cases of tricuspid disease. Pulsation of the liver is best felt bimanually, and may be quite forcible in tricuspid regurgitation.

Outline of teleradiogram, showing the characteristic triangular form of heart seen in chronic congestive failure and tricuspid regurgitation. The superior vena cava is dilated, and the pulmonary artery and right auricle are prominent.

Ascites and hepatic enlargement, in the absence of oedema, suggest chronic adhesive pericarditis or tricuspid disease. Both may be present in the case shown. The significance of this was not appreciated by most candidates.

Rheumatic aortic disease nearly always ends in aortic stenosis, though some regurgitation usually persists. A systolic thrill is not evidence of aortic stenosis unless aortic dilatation and aneurysm have been excluded by X-ray examination, or unless the pulse is characteristic. Loud aorta murmurs often obscure those due to mitral stenosis, but if it be remembered that mitral stenosis is usually present in rheumatic cases, a careful search will usually detect the rumbling mitral murmur. X-ray examination is also of value, for it may reveal dilatation of the pulmonary artery and left auricle indicative of mitral stenosis.

Case presented by EVAN BEDFORD, M.D.