

were within normal limits by roentgenogram. However, an electrocardiogram showed a broad-notched P wave in leads II and III and a tendency toward right axis deviation, compatible with a diagnosis of mitral stenosis (fig. 4).

Test.—Before exercise the pulse rate was 90; immediately after exercise, 108; one minute after exercise, 84; two minutes after exercise, 84.

CASE 5.—The patient was a 56 year old Negro of heavy build, a cook, who had had acute rheumatic fever in 1918 and had known of a heart murmur since. The findings on physical examination were those of compensated rheumatic heart disease with mitral stenosis and insufficiency. By roentgenogram and fluoroscopy the heart was seen to be much enlarged, particularly to the right and posteriorly (fig. 5).

Test.—The patient was unable to perform the standard test of 25 hops on each foot. Instead he was asked to rise from a sitting position 20 times. Before exercise the pulse rate was 80; immediately after exercise, 108; one minute after exercise, 80; two minutes after exercise, 80.

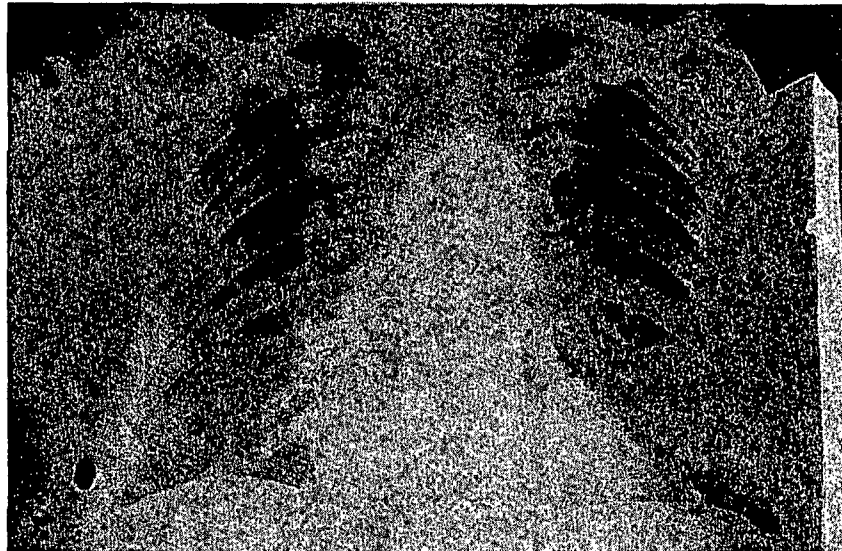


Fig. 5 (case 5).—Teleoroentgenogram of a 56-year old patient with mitral stenosis. The heart is much enlarged. The response to a modified exercise tolerance test was normal.

CONCLUSIONS

1. A person with outspoken evidence of serious cardiac or pulmonary disease, readily elicited on a routine physical examination, will often give a normal response to a standard exercise test; contrariwise one in whom no evidence of cardiac or pulmonary disease is found in a work-up including routine studies of the blood, electrocardiography, a basal metabolism test and a vital capacity determination may give an abnormal response.

2. Among a group of applicants reporting for physical examination some of whom have cardiac or pulmonary disease, the increased percentage of those responding abnormally to the exercise test in the group with disease is too small to make the test of value.

3. When the result of an exercise tolerance test is abnormal because of the presence of cardiac or pulmonary disease, it is to be expected that there will be other more reliable evidence of such disease readily elicited on the routine physical examination.