the general experience reported in the literature, and its prognostic value was well borne out. However, this analysis failed to establish a correlation between cardiac enlargement as shown by x-ray records and cardiac function. In one case, active rheumatic carditis prevented continuation of pregnancy. There was no evidence that patients with rheumatic heart disease are especially liable to eclampsia.

The treatment of these cases has been conducted along generally accepted lines, with gratifying results.

AUTHORS.

Ebert, Richard V., and Stead, Eugene A., Jr.: The Effect of the Application of Tourniquets on the Hemodynamics of the Circulation. J. Clin. Investigation **19:** 561, 1940.

In five subjects (four normal and one with chronic arthritis) the basal blood volume averaged 5,580 c.c. The blood volume of the head, the trunk, and one arm averaged 4,680 c.c. Therefore, the average amount of blood in one upper and two lower extremities was 900 c.c., or approximately 16 per cent of the total blood volume.

In the same five subjects an average of 720 c.c. of blood was removed from head, trunk, and arm by placing venous tourniquets at diastolic pressure on three extremities. This represented 15 per cent of the volume of blood normally circulating in the head, trunk, and arm.

In four of seven normal subjects tested, sufficient blood was pooled in the extremities to produce symptoms of collapse, i.e., nausea, sweating, and pallor. In two hypertensive subjects the venous tourniquets produced a marked fall in arterial pressure and profound collapse.

In one hypertensive subject pooling of blood in the extremities caused the disappearance of a marked diastolic gallop. This indicated that the tourniquets were effective in lowering the pulmonary venous pressure.

When tourniquets were applied to the extremities, the plasma volume was lowered by transudation of fluid into the tissues. Thus the beneficial effect of the tourniquets persists in part for some time after release.

This investigation demonstrated that as much blood was removed from the general circulation by venous tourniquets as by the usual phlebotomy. It presents a rational basis for this method of treatment of left ventricular failure.

AUTHORS.

Kaltreider, Nolan L., and Palmer, Walter Lincoln: The Effect of Exercise on the Volume of the Blood. J. Clin. Investigation **19:** 627, 1940.

Determinations of the volume of the blood were made at rest and variations in this volume were followed during and after varying grades of exercise in normal subjects and in individuals suffering with cardiac disease. Additional observations included measurements of the blood hemoglobin and viscosity, serum proteins, and venous pressure. The results of this investigation lead to the following conclusions:

In normal individuals during moderate exercise there is a prompt and definite decrease in the plasma volume, accompanied by a corresponding decrease in the blood volume, while the changes in the cell volume are variable though slight. These changes are associated with an increase in the blood hemoglobin and viscosity, the serum proteins and the venous and arterial pressures. Following