tion with anemia. The significance of anemia as precipitating the cardiac symptoms is shown by the symptomatic improvement following relief of the anemia.

The heart is often symmetrically enlarged and returns to normal when the anemia is relieved. Dilation as well as hypertrophy is a factor. It is likely that anemia of short duration produces dilation, whereas in long standing cases hypertrophy results. Systolic murmurs frequently develop. An apical murmur is most common. Diastolic murmurs occur only in very severe grades of anemia. The most common electrocardiographic alteration is a depression of the R–T (S–T) junction. These changes are nonspecific and resemble those in severe cardiac anoxia. Occasional conduction disturbances are noted.

Manifestations related to the cardiovascular system depend on many factors: (1) the degree of anemia, (2) the rapidity of development of anemia, (3) the age of the patient and the capacity of the cardiovascular system for adjustment, and (4) the previous state of the cardiovascular system.

The clinical evidences of an adjusting circulation in cases of anemia are found in a rapid heart rate, increased arterial pulsation, increased pulse pressure, and even capillary pulsation in the finger tips. The increase in cardiac rate and the velocity of blood flow result in a greater minute volume output. The circulation time is reduced. The falling viscosity of the blood, lowered arterial blood pressure and decreased peripheral resistance tend to reduce the work of the heart.

Increased oxygen utilization represents another means of physiologic adjustment. The increased circulatory rate is beneficial because oxygen is delivered at a higher pressure than would be possible otherwise. Thus the arteriovenous oxygen difference subsequently is reduced.

It is evident that the physiologic adjustments call for considerable encroachment on the reserves of the body. Further study is required to determine whether the physiologic adjustments take place in all types of anemia. Most of the studies have been made in pernicious anemia.

The remarkable changes found in the cardiovascular system in cases of sickle cell anemia may be the result of adjustments to a severe anemia of an exceptional chronicity. 26 references.

M. F. P.


During a diagnostic test with curare, it was noted that menstrual cramps were relieved. In cooperation with Dr. Cullen and Dr. Danielson, a series of treatments on hospital personnel was run. Good results were obtained in 50 per cent of the cases—that is, the patients were able to return to work within twenty to thirty minutes and continued normal activities with little or no discomfort. In one-third of the cases, there was no relief or such short relief as to make the use of curare impractical.

The necessity for parenteral administration of curare limits its usefulness. Within one minute of injection, the patient observes heaviness of the eyelids and fuzzy vision; these effects pass in five to ten minutes. Relief is immediate after injection of 50–100 mg. of curare.

The modus operandi is unknown. The drug may improve the circulation to the uterine musculature by its relaxing action on all skeletal muscles. It is believed to have no action on involuntary musculature.

Curare does not upset glandular function, is inexpensive and acts instantly. It is not habit forming.

M. F. P.