

sating carotids, he elicited her history and examined her heart. Since the age of 8, she had had three attacks of rheumatic fever. Four years ago, she was fourteen days in the Infirmary for heart disease and dropsy. She improved very much, but the next year she had an attack of uncontrollable epistaxis, which prostrated her for some time. Since that time she enjoyed good health, and married a year before coming to Dr. Hunter's notice. Her pregnancy was uneventful. On examination a hypertrophied heart was found and a diagnosis of aortic incompetency made. The mitral valve did not seem to be implicated. Some albumen in the urine.

A month later she was delivered with forceps. Two hours later she suffered from *post-partum* hæmorrhage so badly that there was collapse. The pulse was very slow, 40 to the minute. Patient was unconscious for some hours. With proper treatment she recovered. Nine months afterwards her health was about the same as before pregnancy. The diastolic murmur at the base of the heart is still distinct.

The above simply illustrates the generally recognized fact that the association of pregnancy with heart disease is a dangerous one. A heart lesion which has existed for some time may have given very little trouble until the extra work thrown upon it during pregnancy becomes a burden too great to bear, and compensation breaks down. The nine months of pregnancy have put as much strain on the heart as a whole lifetime without it. This may and often does result in death at the end of labor.

The probable explanation is that a heart already weakened by disease cannot endure the strain caused by the increased intra-vascular lesion which occurs during pregnancy. The hypertrophy of the left ventricle which results from this tension is far from salutary to a heart already weak. As might be expected, mitral lesions are more grave than aortic. Mitral stenosis has the largest number of deaths to its account. There is already engorgement in the short pulmonary circuit, and this is not relieved but increased by the hypertrophied left ventricle, which causes a backward flow through the mitral orifice.

In mitral insufficiency the danger is not so great. Perhaps the explanation is that during diastole

the left auricle becomes relieved of its strain to a certain extent. There is thus a periodic opening of the sluice to the heaped up fluid in the pulmonary area and right side. On theoretical grounds one would suppose that the physiological hypertrophy of the left ventricle would help to overcome the obstruction to the peripheral circulation in lesions of the aortic valves. The probable explanation is that at about the end of labor the ventricle has become exhausted, and the slightest loss of blood at this time results in syncope.

ANTITOXINE TREATMENT OF DIPHTHERIA

The *Maryland Medical Journal* publishes some remarks made by Dr. L. F. Barker (Toronto University) at the Clinical Society of Maryland, where he was discussing the antitoxine treatment of diphtheria.

A small dose of diluted diphtheria toxines is at first injected into the region of the shoulder of the horse. The animal is somewhat disturbed and does not take its food as usual. After several days a second dose is administered, increasing doses producing less effect, until after a period of from four to six months, the horse is rendered immune and the antitoxic strength of its serum may have attained a high degree.

The serum is tested from time to time as to its antitoxic power, and when sufficient concentration has been reached, the blood is drawn, the serum separated, standardized, and enclosed in flasks. Behring's so called normal serum is of such a strength that one-tenth of one cubic centimetre of it will counteract, when injected into an animal, ten times the minimum amount of diphtheria poison which is fatal for a guinea-pig weighing three hundred grammes. One cubic centimetre of this normal serum is called an antitoxine unit. Serum No. 1 of Behring is sixty times as strong as this normal serum, serum No. 2 one hundred times as strong, and serum No. 3 one hundred and forty times as strong.

In treating the disease, the earlier the antitoxine is given the better will be the result. Of the cases treated during the first two days, practically one hundred per cent. get well. At