72 (768)

On the antitryptic reaction exhibited in pregnancy.

By G. H. A. CLOWES and FRANCIS C. GOLDSBOROUGH.

[*From the Laboratory of Biological Chemistry, State Institute for the Study of Malignant Disease, Buffalo, N. Y.*]

The antitryptic index has been determined in a series of twenty-five pregnant women and their infants. The blood was taken during labor from the vein of the mother, and from the cord of the infant at birth, was allowed to clot and the separated serum employed for tests which were carried out by means of the Oswald viscosimeter, making use of a method previously described.[1] The antitryptic index of the mother's serum was found to range from 1.5 to 2.5, averaging about 2, whilst that of the infants was found to range from .9 to 1.2, averaging slightly over 1. The antitryptic index of a series of cancer cases[1] previously reported shows a range of variation from 1.2 to 3.5 and gives an average over 2. It will thus be seen that the blood of this series of twenty-five infants appears to be practically normal. On the other hand the blood of the mothers contains an extremely high percentage of antibodies to trypsin, averaging over twice the normal, a characteristic also exhibited by cancer blood. This antitryptic reaction is destroyed by heating the serum to 60° for ½ hour in which respect it resembles the complement deviating reaction referred to in the previous paper from which it may be concluded that whilst these two reactions do not follow absolutely parallel lines in a quantitative sense, they probably have a common origin. The fact that reactions of this type invariably occur in pregnant women and in cancer cases and are entirely absent in infants lends support to the theory that they result from a reaction of the body against enzymes or other products of fetal origin in pregnancy, and similar products derived from the tumor in cancer.

[1] Clowes, *Zeitschrift f. Krebsforschung*, Vol. XI, page 146.