

CHAPTER V

CONCLUSION



In the present study, the incidence of a positive direct antiglobulin test in patients having CAPA and patients receiving methyldopa has been investigated, including the hematological findings of both groups of patients who had positive direct antiglobulin test. Some biochemical findings reflecting the renal function and the destruction of red blood cells, i.e., BUN and the level of bilirubin were also determined for studying the effect of antidrug antibody on human red blood cells.

Ninety-nine of total 2570 sera containing antipenicillin antibodies were detected by standard blood banking technique. The immunoglobulin class of this antipenicillin antibodies were determined by 2 ME inhibition. It was found that 31.3% were IgM, 55.6% were the mixture of IgM and IgG and 13.1% were mainly IgG antibodies.

Red blood cells from 5 of 99 patients (5.1%) having CAPA gave a positive direct antiglobulin test of IgG type. A positive direct antiglobulin test was due to antipenicillin antibodies as shown by eluates from patient's red blood cells reacted only with penicillin treated red cells. All of these patients had been receiving penicillin 1.2 to 12 million units per day for 3 to 7 days. Studies were done on 3 to 24 days after discontinuation of penicillin therapy.

It was found that all of 4 cases having a positive direct antiglobulin test with high titer of IgG antipenicillin antibodies were anemic. No evidence of anemia or hemolysis observed in one case who had low titer of IgG in addition of IgM antipenicillin antibodies. This phenomenon was also observed in previous reports.

Three of 32 hypertensive patients (9.4%) receiving methyldopa for at least 3 months were shown to give a positive direct antiglobulin test of IgG type. None of the 24 patients with hypertension taking other drugs showed this reaction.

Sera and eluates from red blood cells of these 3 patients having a positive direct antiglobulin test show no evidence of antibody to methyldopa or irregular antibody to any blood group systems. All of these patients had mild anemia with normal reticulocyte count and no jaundice.

All of these findings indicated that antipenicillin antibody and the administration of methyldopa without demonstrable circulating antibody can cause a positive direct antiglobulin test of IgG type.