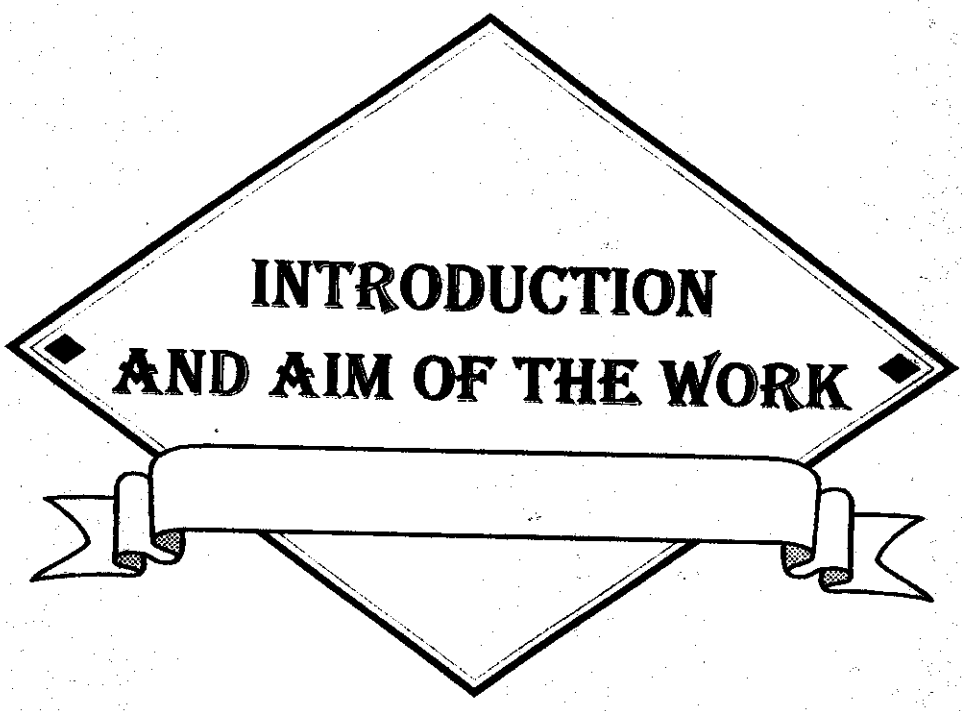
INTRODUCTION
AND AIM OF THE WORK

INTRODUCTION AND AIM OF THE WORK

Thalassemia genes are remarkably wide spread and these abnormalities are believed to be the most prevalent of all human genetic diseases ***(Honig, 1992).*** The gene frequency of B. thalassemia trait among Egyptians is estimated to be as high as 4.5% or even 13% in various studies in different areas i.e. more than 500-1000 thalassemics are borne in Egypt every year ***(Afifi, 1984, El-Bishlawy, 1996).*** Without blood transfusion, life expectancy is no more than a few years ***(Honig, 1992).*** Hypertransfusion to maintain the hemoglobin level above 10 gm/dl. with parenteral administration of the iron chelating drug desferrioxamine can prevent lethal complications of hepatic and myocardial siderosis. This regimen, when started early, has striking benefits. It permits normal activity with comfort, prevents progressive marrow expansion and cosmetic problems associated with facial bone changes and minimizes osteoporosis, splenomegaly and endocrinal damage ***(Hoffbrand and Wonke, 1989; and Honig, 1992).***

A major problem added to the every day encountered hemolytic anemias is the disturbed trace elements metabolism. These elements play a major role in hemolysis and new red cell formation. Exaggerated red cell distruction and hyperactive bone marrow in these hemolytic anemias increase the percentage of immature cells with altered red cell membrane transport mechanisms. Therefore the biochemical balance of many cations is disturbed intra- and extra-cellularly. Moreover the life long use of the effective iron chelator drugs as desferrioxamine (desferal) may have its