SUMMARY & CONCLUSION

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HbA_{1c} is structurally identical to HbA, except for the presence of an additional negatively charged molecule, the position of which is in the N-terminal end of B chain (Bookchin and Gallop, 1968).

Several investigators attempted to identify the substance responsible for the negative charge on the HbA_{1c} molecule and in 1975, Bunn et al established that a glucose molecule was bound to the N-terminal valine residue by a Schiff's base.

So haemoglobin A_{1c} is the product of chemical condensation of HbA and glucose, reactants that are present in high concentration within the erythrocyte (Bunn et al 1975). In this thesis the effect of some anaemic disorders on the level of HbA_{1c} were studied.

Fifty six cases with different types of anaemia (twenty three with iron deficiency anaemia, twenty three with haemolytic anaemia and ten with hypoplastic anaemia), and twenty normal persons were studied.

In the haemolytic anaemia, eleven cases with thalassaemia major, nine cases with G6PD deficiency and three with immune type of haemolytic anaemia were taken.

All cases were subjected to the following investigations:

- Complete haemograme.
- Reticulocytic count.
- Foetal Haemoglobin (HbF).
- haemoglobin elelctrophoresis and finally glycosylated haemoglobin as determined by affinity microcolumn chromatography kits from Helena Laboratories.

This method of affinity chromatography has several characteristics that increase the accuracy specificity and linearity of glycosylated haemoglobin determinations (Klenk et. al. 1982).

The method is not affected by moderate gluctuations in temperature and pH.

In this study the HbA_1 level was found to be elevated in thalassaemia major patients than in the control group and this difference is statistically significant (P 0.001) while it was lower in G.6.PD deficiency than the control and the difference is also highly significant (P 0.001).

HbA_{1c} was also lower in hypoplatic anaemia group and immune haemolytic anaemia group and the difference was also statistically significant (P 0.005).

In iron deficiency anaemia group HbA_1 range was higher than control group.

From this study we concluded that values of glycosylated haemoglobin not only depend on blood glucose level but lso on red cell life span .

Also we concluded that if HbA_{1c}% is used as screening test for carbohydrate intolerance iron status must be shown to be normal.