SUMMARY AND CONCLUSION

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This study aimed to assess the frequency and characteristics of pancreatic damage in patients with β - Thalassemia major by evaluating the exocrine and endocrine functions of pancreas in thalassemic children.

The study was done on forty (40) children with thalassemia major and were divided into two groups.

Group I : Thalassemic group with intact spleen

Group II : thalassemic group without spleen.

- In addition to fifteen (15) children were selected as control group.
- The endocrine pancreatic functions were evaluated by determination of the following parameters.
- Oral glucose tolerance test.
- C- peptide levels : fasting level and 30 minutes after glucose ingestion.
- Insulin levels : fasting level and 30 minutes after glucose ingestion
- The exocrine pancreatic function was evaluated by determination of lipase level.
- serum iron, ferritin and total iron binding capacity were estimated to assess the iron status of thalassemic children.

The results of our study showed the following :

1- Normal glucose tolerance in thalassemic children until the age of 15 years.

2- Due to hypertransfusion therapy the iron and ferritin levels were significantly higher in thalassemic children than the control group.

3- The total iron binding capacity was significantly lower in thalassemic groups than the control.

4- The fasting C-peptide levels were normal in thalassemic children.

5- The C- peptide levels 30 minutes after glucose ingestion were significantly decreased than the control, with significant correlation with the values of serum iron ferritin, TIBC, number of blood transfusions and disease duration.

6- The fasting and the 30 minutes insulin levels after glucose ingestion were within normal range as compared with control.

7- The lipase level was significantly lower in thalassemic children than the control and the lipase level of thalassemic group with intact spleen was significantly lower than the lipase level of thalassemic group without spleen.

8- Eight children with thalassemia major having reduced pancreatic size, but there is no significant difference between them and other thalassemic children as regard different parameters.

The results of these study suggested that most of the endocrine function of pancreas is normal except the C-peptide level after glucose ingestion, and indicates also that measurement of C-peptide response after glucose load is better as an indicator of B-cell function than insulin in thalassemic children.

Also measurement of lipase activity is a good monitor for exocrine pancreatic function in thalassemic children.