SUMMARY AND CONCLUSION

Summary:

The diameters of portal vein and common bile duct during infancy and puberty are not completely understood. No standard data exists about the normal measures of them.

Sonography is an established and safe method for measuring of portal vein and common bile duct diameters and estimation of the length of the spleen and both right and left lobes of the liver since it was a simple way to diagnose hepatobiliary diseases. Also it can be obtained without exposing the patient to hazards of ionizing radiation, so sonography is the most likely one.

The aim of this study was the measurement of normal portal vein and common bile duct diameters in infants, children and adolescents in Qalubia governate and correlation with changes in age, sex, height and weight. Also the length of spleen , the length of right and left lobes of the liver was recorded .

This study included 120 normal infants, children and adolescents from both sexes from Qalubia governorate. The subjects were divided into three groups. Each group consisted of 40 male and female persons . Their ages ranged from 1 year to 20 years, the age of first group ranged from 1 to< 6 years, the age of second group ranged from 6 to< 12 years. The age of third group ranged from 12 to 20 years.

These cases were subjected for complete history and physical examination to exclude any hepatic or biliary diseases . The portal vein and common bile duct diameters were measured by ultrasound. Also the length of the spleen , the length of right and left lobes of the liver were measured by using ultrasound technique. During examination, the age, sex, height and weight of the cases were recorded.

The results of the present study showed that:

1- There was progressive increase in all body parameters (weight and height) with age .
2- There was no significant difference for portal vein , common bile duct diameters , length of spleen , the length of right and left lobes of the liver between males and females in all age groups.
3- The diameter of common bile duct was highly correlated with age .
4- The diameter of portal vein was highly correlated with height.

5- The length of spleen, right and left lobes of the liver highly correlated with height and weight.

6- From regression equation, the portal vein diameter could be calculated by using the height of the person . Also the common bile duct diameter could be calculated by using the age of the person between 1-20 year.

Conclusions

1- Sonography provides a simple way to measure the diameter of both portal vein and common bile duct and to assess the growth of spleen and liver without any risk of exposure to radiation.

2- The body height of the child rather than his age showed the best correlation with portal vein diameter.

3- The age of the child rather than his height showed the best correlation with common bile duct diameter.