SUMMARY

Thymus gland is a Complex organ that plays an important role in the body defence against infection by providing T.cell maturation and differentiation.

Ultrasound is capable of demonstrating intrathymic anatomy including medulla, cortex, septa and blood vessels, and proved to be the most accurate and applicable means for assessment of thymic size, by measuring the Thymic index.

The aim of this study is to evaluate Thymic index by ultrasonography in neonatal sepsis compared with normal neonates. Our study included thirty normal neonates during the first month of life as well as thirty neonates have proven to have septicaemia.

The studied neonates were subjected to careful history taking and clinical examination with special emphasis on anthropometric measurements and clinical signs suggestive of sepsis.

Chest ultrasonography was done for every individual using the suprasternal approach to detect the maximum longitudinal and vertical diameters. These two measurements were multiplied and registered as the Thymic index (used as an indicator of Thymic size). Venous Blood sampling were taking from each subject for blood picture and blood culture. The results were collected and statistically analyzed.

From our results we detected no significant correlation between the Thymic index and anthropometric measurements or blood picture. We found no significant correlation between Thymic index and CRP or different organisms in blood cultures.

There was highly significant difference between patient and control group regarding thymic index, CRP, Hb, platelets, immature neutrophils and I/T ratio.

There was significant difference between patient and control group regarding age, weight and RBCS.

There was highly Significant difference between Thymic index in patient and control group.

There is no significant difference between two groups regarding gestational age, length, head circumference ANC and TLC.

There is no significant difference between CRP and different organisms in blood culture.

In conclusion, chest ultrasonography is the most reliable means for accurate assessment of thymic size. Although there is great variability in Thymic size in neonates, significant difference can be detected between Thymic index in normal neonates and neonates have septicaemia. As this study concerns a very small number of infants, further studies needed with large number of cases to reveal more details.