SUMMARY

To study the volumetric postnatal development of the renal corpuscle, and the proximal and distal tubules, the kidneys of 30 male. Newziland rabbits were used in the present work. Ages of one day, one week, one month, 3 months, 6 months and one year were chosen, and five animals from each age were examined. Paraffin sections were made and the sections were stained with haematoxylin and eosin. The diameters of the renal corpuscles and proximal and distal tubules were measured by an eye piece micrometer.

The statistical analysis of the measurements showed the following:

* The diameter of the renal corpuscles increased significantly from one day up to one month then the increase was insignificant from one month up to 6 months age then the diameters tended to be constant from 6 month to one year.

* The diameter of the proximal tubules increase significantly from one day up to 6 months then it

became nearly constant from 6 months to one year.

* The diameter of the distal tubules increased significantly from one day up to one month, a lapse was noted between one month and three months, another significant increase was noticed up to the mature age (6 months), then the diameters became nearly constant from 6 months to one year.

From these results, it can be concluded that the maturity of renal functions, as evidenced by the results of the other investigations, go hand in hand with the volumetric structural development. A linear increase in the volume of the structures forming the nephron might indicate a linear maturity of the functions from the neonatal period up to the mature age.