SUMMARY & CONCLUSIONS

SUMMARY AND CONCLUSION

The kidney plays an important role in the maintaince of body homeostasis and excretion of metabolic endproducts. This occurs by filtration througth the glomeruli, then reabsorption and secretion in the tubules with the net result of urine excretion.

Neonatal renal function is distinctly different from adult renal function. During embryonic and early fetal life, the development of renal function (excretory and fluid and electrolyte homeostasis) are performed mainly by the placental membranes . The fetus gradually evolves and becomes a neonate, an independent individual whose normal homeostatic needs are adequately fulfilled by the kidneys, however, marked differences exist between the kidney of the newborn and those of older children and adults .

Perinatal hypoxia remains a poorly recogenized cause of renal failure. The clinical presentation of renal failure in neonates is often subtle so it is often recognized only at postmortem examination .

A.R.F. in asphyxic neonates definitely contributes to the poorer outcome in terms of higher mortality rate.

Prevention, early recognition and prompt and adequate management of the asphyxia are all important in minimizing incidence of renal failure and improvement of their outcome.

Recently, R.B.P. has gained interest as a marker of renal tubular function. In primary disease of proximal renal tubules the urinary excretion of R.B.P is markedly increased in urine,measurement of

the urinary levels of this protein is a sensitive early indicator of proximal tubular function.

Our study was designed to investigate the value of measurement of the excretion of R.B.P as early predictor of renal injury in infants with meconium stained amniotic fluid.

Thirty eight full-term newborns with meconium stained amniotic fluid and ten normal full term newborns with clear amniotic fluid were subjected to the following :-

(I) Detailed history taking .

(II) Apgar scoring .

(III) Thorough clinical examination with assessment of gestational age and body weight .

(IV) Laboratory investigations in the first day including :

- Blood urea and serum creatinine .
- G.F.R .
- Up and UA .
- UR.B.P .

The urinary proteins were expressed as a ratio to urinary creatinine to account for variation in urine flow rate .

According to the results, the infants with meconium stained amniotic fluid were divided into 3 groups :

Group I : 14 neonates (36.8%) show no tubular or glomerular injury.

Group II : 14 neonates (36.8%) show tubular dysfunction without

glomerular injury .

Group III : 10 neonates (26.3%) show both tubular and glomerular injury .

As regards blood urea and serum creatinine levels, there were no significant differences inbetween the three groups, and between the three groups and control group .

As regards the G.F.R., there was significant lower level in group III with A.R.F. than group II, group I, and control group . But, there were no significant differences inbetween group II, group I, and control group .

As regards Up/Ucr and UA/Ucr, there were a significant higher levels in group III than group II , group I and control group , but there were no significant differences between group II, group I and control group .

For UR.B.P/Ucr, it was significantly higher in group III than group II , group I and control group . Again the level in group II was significantly higher than group I and control group , but there were no significant difference between group I and control group .

From the previous results, it is clear that : subclinical renal tubular injury is a relatively common problem in the neonates and may not be detectable by traditional methods .

Changes of glomerular function in neonates appear less dramatic than changes in renal tubular function .

The measurement of UR.B.P. provides a potentially sensitive

early diagnostic tool, which makes possible the detection of a previously unrecognized group of patients with subclinical renal dysfunction.

Estimation of serum creatinine, blood urea, G.F.R, urinary albumin, and urinary total protein are less sensitive parameters for early detection of renal dysfunction in sick neonates .