SUMMARY AND CONCLUSIONS

The main objective of this work was to study the plasma antioxidants in premature infants in relation to gestational age. Also the level of antioxidant in relation to outcome of prematurity specially that related to oxygen free radical.

The present study was conducted on 53 premature infants of different gestational age (group I < 32 wk, II 32-34 wk & III 35-37 wk, and 16 healthy fullterm infants as control during the first hour of life. All infants selected from obstetric department and neonatal nursery unit of Benha and Mansoura University Hospital from the period of May to August 1998. They all subjected to history (antenatal. natal and postnatal), full clinical examination, investigation include plasma level lipid peroxide as a measure for free oxygen radical, plasma glutathione peroxidase as a marker for enzymatic antioxidants, and vitamin E as marker for non-enzymatic antioxidants. Other investigation needed for diagnosis of medical problems that may be developed in premature infants specially that related to oxygen free radical (HMD, ICH, NEC).

The results of our study revealed:

A significant increase of serum lipid peroxide in premature infants and this increase become more significant with decreasing of the gestational age (3.47 nmol /ml , 2.63 nmol /ml & 2.43 nmol /ml in gps I, II & III respectively).

Significant decrease of serum vitamin E and glutathione peroxidase levels in premature infants (1.26 mg/dl & 23.39 µ/l