AIMS AND OBJECTIVES

Encephalopathy in children & neonates is reported to be accompanied by oxidative stress, which consists of damage to biological structures by reactive oxygen species due to their excessive generation and impaired antioxidant defense mechanisms. There were few research works carried out for determining the levels of oxidants & antioxidants to evaluate oxidative stress and its role in aetiopathogenesis of encephalopathy. Also usefulness of antioxidant adjuvant therapy in management of encephalopathy needs to be studied.

In the view of above facts, current research work was aimed to evaluate oxidative stress and role of antioxidant adjuvant therapy in management of encephalopathy in children and neonates.

The research work was planned with following objectives.

1. To evaluate the serum oxidants levels in terms of Malondialdehyde (MDA) & Nitric oxide (NO\textsuperscript{−}).
2. To evaluate the status of antioxidants by measurement of activity of erythrocytic superoxide dismutase (SOD), serum glutathione peroxidase and serum catalase.

3. To evaluate the status of serum Vitamin E & Vitamin C as an antioxidant.

4. To evaluate serum levels of trace element zinc.

5. To make global assessment of antioxidant defenses by measuring total antioxidants capacity.

6. To compare all above biochemical parameters in children neonates having encephalopathy before treatment, after usual treatment and after usual treatment accompanied by antioxidants.

7. To correlate the levels of above biochemical parameters with clinical findings to get an insight into the basic pathology of the encephalopathy in children and neonates.

8. To assess prognostic importance of these biochemical parameters.