SUMMERY

Summery

The excess of iodine has a well know inhibitory effect on thyroid hormone synthesis and release (the Wolf chaikoff effect) . This effect is transient and a mature gland can escape from its inhibition after 48h . ***(Catherine et al., 1995)*** .

Iodine is known to induce transient hypothyroidism in term infants undergoing major iodine exposure as in surgical procedures ***(Digoerge , 2000)*** . However the adverse effects of topical iodine is controversial .

Preterm infants are especially vulnerable to the effect of topical iodine as they have a relatively small surface area , and a thin , more permeable skin , with less subcutaneous fat than full term infants . Unlike mature thyroid glands , those of preterm infants may be unable to escape the Wollf – Chaikoff effect ***(Nebama et al., 1997)*** .

To assess the adverse effects of topical iodine on thyroid function of preterm infants , we studied these effects on 49 preterm neontates admitted to neonatal intensive care unit of Damonhour teaching hospital during a period of 10 monthes .

We divided our cases into 2 groups :

- The first group is the iodine group in whom povidone iodine (Betadine) was used as a routine antiseptic for the disinfection of umbilical stumb , venipuncture , umbilical catheter or any minor procedures (Gr I . n = 25) .
- The second group was the chlorohexidine group where chlorohexidine gluconate (savlon) was used as a routine antiseptic (G r II n = 24) .

- For both groups , full history , thorough clinical examination and routine laboratory investigations were done . In addition to the specific tests for thyroid function which were done at the first and the tenth days of admission and cases of congenital hypothyroidism were excluded .
- Our study revealed a significant decrease in the level of T4 and T3 levels with a more significant increase in TSH level and urinary iodine excretion among the cases of group I (iodine group) than those of group II (Chlorhexidine group) . This means that topical iodine has an actual inhibitory effect on premature thyroid glands especially those of younger babies who are smaller in birth weight weight and more ill .