
Topical iodine containing antiseptics and subclinical hypothyroidism in preterm infants

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SummeryPage No. 135SummeryThe 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 Wolff - 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 neonates admitted to neonatal intensive care unit of Damonhour teaching hospital during a period of 10 months .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 stump , venipuncture ,umbilical catheter or any minor procedures (Gr I . n = 25) .• The second group was the chlorhexidine group where chlorhexidine gluconate(savlon) was used as a routine antiseptic (G r II n = 24) .SummeryPage No. 136• 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 ISH 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 and more ill .