INTRODUCTION

Hyperbilirubinemia is a common problem among neonates. Untreated severe indirect hyperbilirubinemia is potentially neurotoxic. The effectiveness of phototherapy in the management of neonatal hyperbilirubinemia has been demonstrated in many controlled clinical trials ***(Stoll and Kliegman, 2000)***.

Phototherapy is an appropriate and relatively safe measure in reducing indirect bilirubin level in newborns. This is especially true when serum bilirubin level has not reached the level to induce kernicterus ***(Kliegman, 2000).***

Phototherapy is now the standard form of treatment for infants with neonatal hyperbilirubinemia. Though gradual in its effect, it finally produces a prolonged reduction in bilirubin values. Retreatment with phototherapy is relatively rare ***(Behrman et al., 2000).***

Phototherapy can be used either as therapy or as prophylaxis. Two different mechanisms have been proposed to explain the action of phototherapy in reducing serum bilirubin concentration in newborn infant: phototisomerization and photo – oxidation. Compared with the photoisomerization pathway, the oxidation mechanism appear to play a very minor role in photocatabolism of unconjugated bilirubin in vivo ***(Maisels and McDonagh, 2008).***

Common complication of phototherapy include loose stool, skin rash, hyperthermia and bronze baby syndrome. A less known complication of phototherapy is hypocalcemia ***(Stoll and Kliegman, 2000).***

It was reported that 90% of preterm neonates and 75% of fullterm neonates developed hypocalcemia after being subjected to phototherapy ***(Sethi et al., 1993).***

Phototherapy lead to inhibition of pineal gland via transcranial illumination resulting in decrease in melatonin level and inturn diminishing corticosterone and finally decreased calcium mobilization from bones producing hypocalcemia. This hypothesis, based on studies on rabbits suggests that melatonin by stimulating corticosterone release lower calcium deposition in bones, thus, decreased secretion of melatonin which is secondary to phototherapy causes bone calcium uptake increase and as a result hyppocalcemia develop ***(Dahi Far, 1993).***

Hypocalcemia is defined as total serum Ca < 7 mg/dl or ionized Ca < 4 mg/dl. Neonatal hypocalcemia may be asymptomatic or symptomatic. The symptoms may be of neuromuscular irritability as Jitterness, Seizures or they may represent cardiac involvement like tachycardia, HF, prolonged QT interval, or more often they are non specific not related to the severity of hypocalcemia as apnea, cyanosis and tachypnea ***(Rigo and Curtis, 2006).***