Summary and conclusion

Today, hospital discharge at 24 hours is common, leading to fewer observations by professionals at a time when jaundice may just be at the threshold of visibility ***(Poland, 2002)***.

For these reasons, early identification of newborn infants at risk for developing severe hyperbilirubinemia and possible bilirubin induced neurologic dysfunction has become a public health issue ***(Bhutani et al., 2000)***.

In our study we intended to test whether umbilical cord serum bilirubin might serve as a marker of subsequent significant hyperbilirubinemia during the early days of life.

We conducted our study on 200 newborn babies born in the delivery room of Benha University Hospital. Sample from umbilical cord was taken at delivery to determine umbilical cord serum bilirubin, later at the 4^{th} day of life a venous sample was taken and jaundice meter reading on head, chest and lower limb were obtained to determine total serum bilirubin level.

According to gestational age we classified the studied neonates into three groups:

Group I: full term appropriate for gestational age, there number was 155.

Group II: pre-term, there number was 30.

Group III: full-term small for gestational age, there number was 15.

Significant hyperbilirubinemia (if bilirubin ≥ 17mg/dl) occurred in 22 newborns (11%). These newborns required phototherapy, non of them required exachange transfusion.

We demonstrated that there was a highly significant positive correlation between umbilical cord serum bilirubin and 4^{th} day bilirubin either measured serum or by jaundice meter.

Ideal cut off umbilical cord bilirubin level was 2.2 mg/dl had high sensitivity 100% while specificity was 65% and positive predictive value was 27% and negative predictive value 88%.

We concluded that the quantification of UCS bilirubin as a non-invasive risk assessment is a useful tool to predict hyperbilirubinaemia in healthy term and also near-term newborns. In particular, it may help to find newborns at low risk. In healthy full term and near term newborns umbilical cord serum bilirubin level can predict absence of subsequent significant hyperbilirubinemia with high probability if its level was below 2.2 mg/dl. Newborns at low risk for hyperbilirubinemia can be discharged early from hospital and those at risk are in need of close observation using non invasive methods like bilirubinometer. So, high risk children might be detected with high certainty, even if parents would like to leave the hospital within the first postnatal hours.