

J. Perinat. Med.  
21 (1993) 189–194

## Treatment of neonatal hyperbilirubinemia with repetitive oral activated charcoal as an adjunct to phototherapy

Yona Amitai<sup>1</sup>, Mordehai Regev<sup>1</sup>, Ilan Arad<sup>1</sup>, Ophra Peleg<sup>1</sup>, and Mark Boehnert<sup>2</sup>

<sup>1</sup>Department of Pediatrics, Hadassah University Hospital Mount Scopus, Jerusalem, Israel, and <sup>2</sup>Department of Pediatrics, The Harvard Community Health Plan, Kenmore Center, Boston, Massachusetts, U.S.A.

### 1 Introduction

Enterohepatic circulation of bilirubin had been documented in neonates and is believed to contribute to the severity of hyperbilirubinemia [14]. This concept gave rise to attempts to decrease serum bilirubin levels in neonates by binding bilirubin in the gastrointestinal tract and interrupting its entero-hepatic circulation. Multiple doses of agar were shown to decrease serum bilirubin levels in term newborns [12, 14]. However, the efficacy of agar in treating neonatal hyperbilirubinemia has not been confirmed in other studies [2, 4, 10, 11, 13, 15, 20]. Multiple oral doses of activated charcoal (OAC) reduced serum bilirubin levels in normobilirubinemic newborns when the administration of OAC was started within the first four hours of birth, but showed no effect when administered at the age of 12 hours [18]. To the best of our knowledge there is only one previous report of treatment of newborns with hyperbilirubinemia with OAC. HODR et al, in a poorly controlled study [7], reported accelerated reduction of serum bilirubin levels in newborns with jaundice treated with OAC.

Recently, there has been a growing body of evidence for the efficacy of multiple dose OAC in the management of exogenous toxins as well as endogenous substances which undergo entero-hepatic circulation [9]. Therapy with multiple dose OAC in newborns and infants with very low weight is considered to be safe [1, 6, 16].

### Curriculum vitae

YONA AMITAI, M.D., born in Israel (1947), is a graduate (cum laude) of the Sackler Medical School, Israel (1973). He was trained in pediatrics at the Sheba Medical Center, Israel, during 1973–1978. He practices pediatrics at the Hadassah Hospital, MT. Scopus, Jerusalem, since 1978 and is a senior lecturer in pediatrics since 1987.

He was a fellow in toxicology at the Children's Hospital, Boston and the Harvard Medical School (1984–1986) and is boards certified in pediatrics (Israel) and toxicology (USA). His main field of interest is management of poisoning in children.



We undertook this study to evaluate the efficacy of multiple doses of OAC as an adjunct to phototherapy in the management of neonatal hyperbilirubinemia.

### 2 Patients

All healthy newborn infants with neonatal hyperbilirubinemia delivered at the Hadassah University Hospital, Mount Scopus, Jerusalem between January 1988 and March 1989 were considered for the study. Inclusion criteria