Title: Effect of Cotoneaster tricolor Pojark Manna on Serum Bilirubin Levels in Neonates.

Author: AhmadShah Farhat, Ashraf Mohammadzadeh, Mehvar Amiri and Mohammad Ramezani


Abstract:

The effect of cotoneaster discolor pojark manna know as shirkhesht in Iran (a remedy used in traditional medicine for the treatment of neonatal jaundice) in a double blind placebo controlled trial in subjects with neonatal jaundice was evaluated. One hundred and four neonates (50 and 54 in case and control groups, respectively) with jaundice who had bilirubin level of 18-29 mg \text{dl}^{-1} \text{ were included in the trial. Newborn with weight less than 2.5 Kg, renal failure, systemic infectious diseases, prior use of cotoneaster manna, high bilirubin level who required transfusion were not included in the study.}
Patients received either a single dose of manna (6 g) or placebo (starch in distilled water, 0.1%) in the first hour of trial in addition to phototherapy. The bilirubin level was determined in blood samples every 12 h until bilirubin level reduced to less than 15 mg dl\(^{-1}\) and 24 h after phototherapy discontinued. Phototherapy was discontinued when bilirubin levels fell below 15 mg dl\(^{-1}\). The results indicated that the bilirubin level drops from 23 mg dl\(^{-1}\) on third day of trial in both case and control groups in a similar manner. Therefore, it could be suggested that the administration of Cotoneaster manna did not have any effect on bilirubin level providing on basis for use of the drug in neonate jaundice.

**Title:** Comparison Of Breast Feeding and Tube Feeding on O2 Saturation in Very Low Weight Infants

**Author:** A. Mohammadzadeh, MD: A. Shah Farhat, MD: M. Vahedian, Msc: M. Amiry, BSc

**Source:** Journal of Iran University Of Medical Sciences; Vol. 14, No. 55: PP 167-171, 2007

**Abstract:**

**Background:** Preterm infants born at less than 34 weeks postconceptional age are not as neurologically mature as their term counterparts and thus have difficulty coordinating sucking, swallowing, and breathing. As a result, they are traditionally gavage fed until they are able to oral feed successfully.

The aim of study was comparative effect of orogastric and breast feeding on oxygen saturation in very low birth weight infant.

**Method:** All babies admitted in the neonatal research center of Emamreza
Hospital Mashhad for 4 month since 1.2.84 were elected. Criteria for entrance to study include birth weight \( \leq 1500 \) grams, exclusive breastfeeding, had no special problem after 48 hours with receivinge only routine care and intake of milk was 100 cc / kg/day. Each neonate received two rounds of orogastric and breast feeding in the morning and in the afternoon. During which mean oxygen saturation was measured by pulse-oxymetry.

During the study the heart rate and temperature of the neonate were monitored, and in case of hypothermia, bradycardia (Less than 100 per minut) or apnea the feeding discontinued and the study repeated the following day.

**Results:** fifty neonates were studied. The average birth weight was 1267.20 \( \pm \) 165.42 grams and average gestational age was 31.81 \( \pm \)1.92 and female / male ratio was 1.2. There was no significant statistical difference in arterial oxygen saturation in orogastric and breast feeding in the morning and in the afternoon. (\( p=0.16 \) in the morning and \( p=0.6 \) in the afternoon). There was no complication of apnea, hypothermia or bradycardia.

**Conclusion:** There was no significant statistical difference between the two methods in arterial oxygen saturation, it seems that oral feeding which is a natural route and skin contact between the mother and neonate causes a strong emotional bonding between the two and brings about better social adaptation for the neonate and shorter period of stay in hospital is more preferred, and breast feeding should be started at the earliest possible time after birth.

**Key words:** V.L.B.W, O2 saturation, breast feeding, tube feeding

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**International Journal of Hematology and Oncology**

**Title:** The Effect of Iron Deficiency Anemia (IDA) on the HbA2 Level and Comparison of Hematologic Values Between IDA and Thalassemia Minor

**Author:** M. Reza KERAMATI, N. Tayyebi MAYBODI

**Source:** International Journal of Hematology and Oncology; Vol : 14, No3, 2007

**Abstract:** The most common hypochrom microcytic anemia are iron deficiency anemia (IDA) and thalassemia minor (TM). Theresults of some studies have shown that IDA can cause misdiagnosis of heterozygote -thalassemia due to decreasein HbA2 level. Our aim in this study was evaluating the effect of IDA on HbA2 levels; Furthermore hematologic val-ues in CBC of these two diseases will be compared. In this study 291 individuals including normal control group, heterozygote . and -.thalassemia minor, IDA and coincident .-thalassemia and IDA patients were under investigation. CBC, serum ferritin, iron, and TIBC levels and hemo-globin electrophoresis in alkaline PH was managed for every
subjects. They were then put into groups according to diagnostic criteria and were analyzed applying SPSS software (version 11.5) and statistical tests especially t-test. HbA2 levels were 2.9%±0.4 in normal group, 2.7%±0.6 in IDA patients, 5.6%±0.9 in -thalassemia minor, 4.7%±1 in coincident IDA and -thalassemia minor. Above mentioned significant differences in HbA2 values are between normal and IDA individuals, also between -thalassemia minor and coincident -thalassemia and IDA patients. RBC counts, Hb, Hct, MCH, MCHC values were significantly higher in b-thalassemia minor comparing with IDA patients but MCV showed no significant difference in these two groups. RDW was increased in both, but it was higher in IDA. IDA can cause a decrease in HbA2 level. This point sometimes leads misdiagnosis particularly in coincident IDA and -thalassemia minor. Therefore in suspicious cases of -thalassemia trait in IDA background, it is better to do hemo-globin electrophoresis after treatment of IDA.

Clinical Toxicology

Title: Blood lead concentration in one to seven year old children in mashhad, Iran.

Author: Ahmad Shah Farhat; Mohammad javad parizadeh; Ghlam Reza Khademy; Mahdi Balali-Mood

Source: Clinical Toxicology, 45:7, 812-813, 2007

To the Editor :

In spite of the reported studies on blood lead level (BLL) of children in various countries, to the best our knowledge there has been on report on BLL in children of I.R. Iran. We studied the BLL of children in the emergency pediatric ward and out patient clinic of Imam Reza Hospital, Mashhad University of Medical Sciences (MUMS) between march 2003 and February 2004. The hospital is a specialty center in Khorassan province and serves a population of around 2.5 million people.
The Investigational Review Board and the Medical Ethics Committee of MUMS approved the study. Informed consents were obtained from the parents of children prior to study. Both symptomatic (convulsive only) and healthy children were studied. Venous blood samples (3 ml) were drawn in standard EDTA tubes. BLL was determined by an atomic absorption (Perkin Elmer Model 3030) using heated graphite atomization technique with a detection limit of 10 µg/L in the Toxicology Laboratory of the hospital within a week.

BLL of 206 children aged 1-7 years were determined. The mean age (± SD) of the children was 40.40 (± 18.66) months. The mean (± SD) BLL was 12.19 (± 3.35) µg/dl with a minimum of 1.3 µg/dl and maximum of 24.7 µg/dl. The majority of children (59.2%) had BLL of 10-15 µg/dl and 16.6% had BLL over 10 µg/dl.

The blood lead concentration in different age groups of the children are shown in the table. There were no statistically significant differences in BLL among the age groups.

<table>
<thead>
<tr>
<th>Age(months)</th>
<th>12-23</th>
<th>24-35</th>
<th>36-47</th>
<th>48-59</th>
<th>60-71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children</td>
<td>42</td>
<td>45</td>
<td>32</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>Mean BLL(µg/dl)</td>
<td>12.4</td>
<td>12.2</td>
<td>12.1</td>
<td>11.7</td>
<td>11.9</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>10.5</td>
<td>9.4</td>
<td>11.6</td>
<td>9.6</td>
<td>11.2</td>
</tr>
</tbody>
</table>

Table 1: Blood lead level (BLL) in different age groups of children in Imam Reza Hospital of Mashhad, Iran

It is also noteworthy that there was no significant correlation between the age groups and BLL of the children.

In a much larger study conducted in California involving 5115 children aged one to six years old, only 7.2% had BLL of over 10 µg/dl (1). In Uruguayan children aged less than 14 years, 36% had BLL over 10 µg/dl and the mean was 9.6 µg/dl (2). In city of Wuxi, China, 27.3% of 117 children were reported to have BLL of above 10 µg/dl and the mean was 8.2 µg/dl (3). A study in Vancouver, Canada of 177 children aged between two and three years old, 8.1% had a BLL higher than 10 µg/dl (4).

In another survey on 436 children aged 6 months to 6 years old in Massachusetts, 22% of the subjects had BLL higher than 10 µg/dl (5). In North Carolina, 20.2% out of 20,720 children between 6 months to 6 years old were found to have a BLL of more than 10 µg/dl (6). The mean BLL in 397 children aged 2-6 years of Jakarta, Indonesia was 86 µg/dl (7). The higher BLL in our sample might be due to more environmental lead pollution. For instance, we found lead in the gasoline samples collected in Mashhad a few months ago, despite the formal announcement a few years ago that the gasoline is...
unleaded.

Based on the results of this pilot study, there is a need for a more comprehensive study on BLL of children both in Mashhad and throughout the country, and investigations into the sources of lead exposure are also required.

**International Journal of Hematology and Oncology**

**Title:** The comparison effect of oral and intramuscular injection vitamin K on PT and APTT in neonates.

**Author:** Mohsen Jafarzadeh, Ashraf Mohammadzadeh, Ahmad S. Farhat, Mohammad R. Keramati, Mohammad Khajedaluei

**Source:** International Journal of Hematology and Oncology, 2008, 18(2): 74-78

**Abstract:**

The aim of this study was to determine the effect of oral versus intramuscular vitamin K on PT (Prothrombin time) and APTT (Activated partial thromboplastin time) in neonates.

Ninthy five healthy term live born neonates with birth weight more than 2500 grams who delivered in Mashhad Emamreza hospital since 6 feb 2006. They were divided in two groups. The injection group (no=45) that recived 1 mg vitamin K (Phytonadion) intramuscularly and oral group (no=50) 2mg vitamin K Per oral in first 6 hours of age. PT and APTT was measured 12 hours after vitamin K prescription.

PT and APTT was measured at 24.78 ± 9.95 hours after vitamin K injection and 22.16 ± 7.4 hours in oral groups (P=0.14). Mean PT in injection group was 16.77±4 second and in oral group was 16.39±2.98 second (P=0.38).
Mean APTT in injection and oral group were 37.73±22.25 and 34.95±7.73 respectively (P=0.69). As classic form of hemorrhagic disease of the newborn is prevented with vitamin K.

This study showed that there were not significant differences in PT and APTT between two groups. Therefore both oral and intramuscular vitamin K can prevent classic hemorrhagic disease of the newborn, but for showing prevention effect of oral vitamin K in late onset vitamin K further study is needed for targeting of newborns.

**Keyword:** Vitamin K deficiency, Newborn, PT, APTT

**Journal of Chinese Clinical Medicine**

**Title:** Prophylactic effect of clofibrate in low birth weight neonates’ hyperbilirubinemia

**Author:** Mohammadzadeh A, Farhat A sh, Jafarzadeh M, Esmaeli H, Amiri R

**Source:** Journal of Chinese Clinical Medicine, **2008**, 3(3): 140 - 144

**Abstract:**

**Objective:** Hyperbilirubinemia is a common problem in newborn infants. It can progress to kernicterus in severe forms, unless an intervention is initiated. Numerous drugs may be reducing serum bilirubin concentration in newborn infants. At this study we determine the prophylactic effect of clofibrate in low birth weight infants’ hyperbilirubinemia.

**Methods:** In a randomized double blind clinical trial 52 low birth weight infants were
Infants with hemolysis, infection, congenial anomalies and metabolic diseases were excluded. Study participants received either single dose clofibrate 100 mg/kg (clofibrat group n=26) or sterile water as volume as clofibrate (control group n=26) by Orogastric tube. Serum bilirubin levels were measured at entrance, 24, 48, 72 and 96 hours of study.

**Results:** Serum bilirubin was significantly decreased only after 24 hours in clofibrate group (p=0.045). Duration of phototherapy in clofibrate group was significantly shorter than control group (p=0.001). There were no significant difference between two groups in mean total serum bilirubin at entrance (P=0.771). Based on physical exam and liver function tests no side effects were seen. Data was analyzed with T– student, Mann-Whitney and chi – square tests.

**Conclusion:** These findings suggest that clofibrate has prophylactic effect on total serum bilirubin in first 24 hours after drug administration and decreased duration of phototherapy in low birth weight infants. Further studies with different doses and interval are required to suggest the prophylactic effect of clofibrat in low birth weight neonates' hyperbilirubinemia.

**Keywords:** Clofibrate, hyperbilirubinemia, low birth weight neonates.

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**Iranian Red Crescent Medical Journal**

**Title:** Comparison between Two and Twenty-four Hours Salt Powder in Treatment of Infant Umbilical Granuloma

**Author:** AS Farhat*, A Mohammadzadeh

**Source:** Iranian Red Crescent Medical Journal, 2008, 10(4): 267 - 269

**Abstract:**

**Objective:** One of the most common umbilical abnormalities in neonates is umbilical granuloma, causing inflammation and drainage. The common treatment is application of a 75% silver nitrate stick. This study was carried out to compare the effect of 2 and 24 hours salt (NaCl) in treatment on infant umbilical granuloma.
Methods: From January 2004 to January 2006, at Neonatal ICU and Infant Follow-up Clinic of Imam Reza Hospital, Mashad University of Medical Sciences, Mashad, Iran, two groups including 20 infants with umbilical granuloma undergoing a 24 hours treatment with salt as the case group and 20 infants undergoing a 2 hours treatment with salt as the control group were compared.

Results: There were 18 boys and 22 girls. The treatment days in case and control groups were 1.2±0.6 and 2.1±0.4, respectively and the difference was statistically significant. In either group, there were no significant differences between sex, birth weight, time of umbilical separation and age of enrollment.

Conclusion: 24-hours treatment of umbilical granuloma with salt was shown to be more effective than the 2- hours treatment method

Keywords: Granuloma; Salt; Infant; Treatment

Journal of Chinese Clinical Medicine

Title: Relationship between low birth weight neonate and maternal serum copper level

Author: Farhat A sh,Mohammadzadeh A,Valae L , Khadem N,Khajedaluee M,Parizadeh S.M.R

Source: Journal of Chinese Clinical Medicine, 2008, 3(12): 685 - 690

Abstract:

Introduction: Trace element deficiencies have been documented to play an important role in determination of the fetal outcome. It has been reported that the pregnant women in developing countries consume diets with a lower density of minerals and vitamins. Copper is an essential trace element and its deficiency can lead to a variety of nutritional and vascular disorders.

Methods: We conducted a case-control study on women who delivered low birth weight infants (Cases), and women with normal birth weight infants (Controls). We collected blood samples from all women within 24 hours of delivery, and assessed the concentration of copper using flame atomic absorption spectroscopy (AAS). We compared serum concentration of copper between the two groups. Multiple linear regression analysis was performed to control of potential confounding variables.

Results: A total of 117 mothers were studied, of them 65 Cases with a low birth weight infants (1845 ± 472 g) and 52 Controls (birth weight = 3166± 435 g). Mothers in the Cases and Controls groups did not differ in age (24± 4 vs. 24.7 ± 5.4 years), body mass index (23.4 ± 3.4 vs. 22.9± 3.2), and socioeconomic or demographic factors. Maternal copper concentration (μg/dl) did not differ between Cases and Controls; 1158.35 ± 299.57 μg/dl vs. 1187.11 ± 249.59ug/dl respectively. Maternal copper did not differ between premature and...
full term deliveries. It also did not differ when newborns were small for their gestational or not.

Conclusion: Maternal copper concentration has no impact on neonatal birth weight or premature deliveries.

Key word: Copper-Low birth weight- Normal birth weight -Maternal serum