Objective To evaluate the efficacy of pentaglobulin in reducing the rate of exchange transfusion among neonates with immune hemolytic anaemia.
Method An observational prospective study that was conducted over two year's period starting from January 2010 to January 2012. Pentaglobulin was given in a dose of 1 gm/Kg/day for all newborns with the following criteria: immune hemolytic anaemia; high or rising level of bilirubin approaching exchange transfusion. Phototherapy was used in conjunction with pentaglobulin.
Results The total number of newborns who received pentaglobulin over that period of time was 85 infants. None of them required exchange transfusion. Ten newborns required top up transfusion. The duration of phototherapy application ranged from 48 to 72 hours.
Conclusion The study shows that early use of pentaglobulin in immune hemolytic anaemia reduces the risk of exchange transfusion and the duration of phototherapy application. Further randomized controlled trials are needed to verify the results of our observations.

763 VITAMIN B12 AND FOLATE DEFICIENCY IN HEALTHY NEONATES AND THEIR MOTHERS

doi:10.1136/archdischild-2012-302724.0763

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Background and Aim We aimed to determine the incidence of vitamin B12 and folate deficiency in healthy neonates and their mothers; to show the correlation between maternal and neonatal B12 and folate levels.
Method The study consisted of 99 healthy neonates and their mothers who gave birth in Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul. Hospital records were reviewed and blood samples were obtained from both mothers and their babies in the 24 hours after birth. Serum vitamin B12 and folate levels were measured. SPSS 15.0 package program was used for statistical analysis.
Results The mean values were as follows: in mothers serum vitamin B12 level 180.84± 58.81 pg/dl and folate level 17.61±20.61 nmol/L; in neonates vitamin B12: 320.43±187.48 pg/dl and folate: 26.05±34.45 nmol/L. There was significant correlation between maternal and neonatal folate levels but a slight correlation between maternal and neonatal B12 levels. 97% of mothers and 25.3% of neonates had B12 deficiency when the threshold level is defined as 300 pg/ml for mothers and 200 pg/dl for neonates.
Conclusion Due to high vitamin B12 deficiency rate in mothers a universal B12 vitamin screening program and preventative measures of B12 deficiency in pregnant women can reduce the potential complications of vitamin B12 deficiency in mothers and their siblings.

764 A STUDY ON THE OUTCOME OF DIRECT COOMBS TEST (DCT) POSITIVE NEONATES

doi:10.1136/archdischild-2012-302724.0764

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The management and follow up of neonates with DCT+ differ from one centre to another. At RHH, guidelines recommend twice weekly FBC and Bilirubin in the first 2weeks, and review at 4–6weeks.

We retrospectively reviewed 52 DCT+ neonates born at RHH between May 2008 and June 2009 to assess their outcome and to evaluate the need to review the current guideline. We divided the sample into three groups. Group 1: Rh isoimmunisation due to RhD (39/52), 2: other Rh and non Rh alloimmunization (6/52) and 3: with ABO incompatibility (7/52).

In group 1, 38/39 mothers received anti-D prophylaxis(RAADP). 20/39 had weakly positive and 19/39 had moderately DCT+. None of these neonates developed anaemia or prolonged jaundice.

In group 2(n=6), 3/6 were strongly DCT+ and 2/3 developed jaundice < 24hours requiring phototherapy. 3/6 showed moderately DCT+ and 2 required phototherapy in the first week. At 2weeks 4/6 developed anaemia but did not warrant transfusion.

In group 3(n=7), 6 showed moderate DCT+ and 1 weakly DCT+. 5/7 in group 3 received phototherapy in the first week. 5/7 in group 2 developed prolonged jaundice. 1/7 at 2 weeks showed anaemia.

We conclude that

1. Neonates born to mothers who received RAPPD do not show significant post delivery haemolysis and may not require close monitoring
2. Those with non RhD alloimmunisation and ABO incompatibility require monitoring for haemolysis at 2 weeks and review at 6 weeks
3. Although small number in our study, strong positive DCT warrants close monitoring in the first 24 hours of age.

765 LINEAR GROWTH AND CIRCULATING IGF-I CONCENTRATIONS IN CHILDREN WITH IRON DEFICIENCY ANEMIA AFTER TREATMENT

doi:10.1136/archdischild-2012-302724.0765

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Objective To assess linear growth of patients with Fe deficiency anemia (IDA) before and after in relation to their hematologic parameters and IGF-I concentration before and after treatment with iron.
Methods Forty children (aged 17.2 +/– 12.4) months with iron deficiency anemia were studied with 40 healthy normal age-matched children (controls). Patients were treated with iron syrup or drops to supply 6 mg/kg/day. Growth (weight, length and head-circumference) and hematological parameters were measured and IGF-I concentrations measured before and 3 and 6 months after treatment.
Results Growth parameters (weight, length and head-circumference) and hematological parameters were studied for 6 months after iron therapy. At presentation, patients with IDA had low Hb (8.2 +/– 1.2 g/dl), hematocrit (29 +/– 2.8), MCV (61.5 +/– 8.1), and MCH (19 +/– 3.2) which improved significantly after treatment to (11.2 +/– 1 g/dl, 70.6 +/– 6.8, 23.4 +/– 2.9 and 18.9 +/– 5 respectively). Before treatment children with iron deficiency they had length standard deviation score (LSDS) = – 1.2 +/– 1, annualized growth velocity (GV) = 7.5 +/– 2.2, GV SDS = –1.42 +/– 0.6 and BMI = 13.5 +/– 1.2. After 6 months their LSDS = –0.6 +/– –0.9, annualized GV=13.2 +/– 4.4 cm/year, GVSDS = 1.7 +/– 0.5, and BMI = 14.2 +/– 1.1). Circulating IGF-I increased significantly after treatment (52 +/– 18.8 ng/ml) vs before treatment (26.5 +/– 4.2 ng/ml).

766 A REVIEW OF TOLERATION OF PNUEMOCYSTIS CARINII PNEUMONITIS (PCP) PROPHYLAXIS TREATMENT IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKAEMIA

doi:10.1136/archdischild-2012-302724.0766

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Background and Aims According to the UKALL2003 protocol, co-trimoxazole should be used as first line therapy to prevent PCP

pneumonia, and in cases of intolerance, dapsone or pentamidine can be used as alternative treatment options.

Methods Retrospective review of patient notes and electronic patient records, for those patients who have completed treatment for Acute Lymphoblastic Leukaemia on the UKALL2003 protocol at the Royal Marsden Hospital.

Results 164 patients were commenced on co-trimoxazole, and one was commenced on dapsone. 22(13.4%) of patients did not tolerate co-trimoxazole, with 20 cases of intolerance secondary to cytopenia.

Of the 22 patients who discontinued co-trimoxazole, 20 patients (87%) have documentation of G6PD status being investigated, all of whom were negative for G6PD deficiency.

The first 5 patients to require 2nd line therapy were commenced on pentamidine, with 'cytopenia' cited as the cause of co-trimoxazole intolerance for all of these patients. One patient was subsequently changed onto dapsone.

17 patients were commenced on dapsone as 2nd line therapy for PCP prophylaxis, with 'cytopenia' cited as the cause of co-trimoxazole intolerance in 15 patients.

5 of the 17 patients who were commenced on dapsone as 2nd line treatment, did not tolerate dapsone. Of these five patients, one had persistent neutropenia, two developed methaemaglobinaemia, and two developed dapsone syndrome.

Only one of 165 patients was suspected of developing pneumocystis pneumonia, and retrospectively this patient was found to be non-compliant with co-trimoxazole.

Conclusions Current PCP prophylaxis treatments are effective, and for the majority of patients, co-trimoxazole is well tolerated.

767 LATE EFFECTS IN SURVIVORS OF INFANT LEUKEMIA IN SINGLE CENTER

doi:10.1136/archdischild-2012-302724.0767

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Background Acute lymphoblastic leukemia (ALL) is the most common childhood malignancy, accounting for 30%of all cancers occurring in childhood .long term sequel of treatment are now being reported. Children who survive acute lymphoblastic leukemia are at risk for leukemia-related or treatment-related complications.

Methods In this study we evaluated 66 patients with ALL have survived for more than5 years after diagnosis. Long-term squeal of treatment, such as impaired intellectual and psychomotor functioning, neuroendocrine abnormalities, impaired reproductive capacity, cardio toxicity, and second malignant neoplasm's, are being reported.

Results of the 66 patients, 43cases were male and 23 female. Mean age was 14.59±4.36(range 10–25 years). 42 patients received chemotherapy alone, 24 patients who received chemotherapy and CNS radiation therapy. Short height 33/3%,over weight 50%, low bone density 53%, learning disabilities 6/1%, hyperthyroidism 1/5%, sexual development (pubertal delay) 7/6%, over weight are more common in children who get chemotherapy without radiotherapy. 31/8%of patients don't have late effects. 30/3 had at least one late complication.

Conclusion These results indicate that late sequelae are common in long term survivors of infant leukemia and are often related to CRT the most common problem are short stature and over weight.

768 EVALUATION OF SERUM TRANSFERRIN RECEPTOR IN PATIENTS AFFECTED BY IRON-DEFICIENCY ANEMIA AND COMPARISON WITH CONTROL GROUP

doi:10.1136/archdischild-2012-302724.0768

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Background and Aims Iron deficiency anemia is one of the most common nutritional deficiencies and public health around the world. The growing Children are one of groups that are at high risk for this problem. Iron deficiency anemia can cause mental, motor or behavior problems. So early diagnosis and treatment can prevent great side effects. One of the diagnosis means is measuring of soluble tranferrin receptor level (sTfR) in serum because level of this receptor increase in result of iron depletion in iron deficiency but has no change in other.

Methods and materials: This was a case control study included 64 children with iron deficiency anemia (IDA) and healthy subjects. The study conducted, in 2008–2010 in Children Medical Center. Blood samples collected from every patient in case and control groups and Hb, MCV, Fe, Ferritin, TIBC and sTfR measured and compared in the groups.

Results Compared to the control group, serum sTfR mean level was significantly higher in children with IDA than control group (1.87 vs. 1.06 μg/ml, P value = 0.002). sTfR showed negative correlations with Hb(r= –0.629, p<0.001), MCV (r= –0.649, p<0.001) and serum Ferritin (r= –0.224, p=0.053), although it was not significant for Ferritin. There was no significant differences between cases and controls in sTfR mean level with regard to gender and age categories. (P>0.05).

Conclusions This study shows sTfR level can be an appropriate biomarker for diagnosis of IDA, particularly in patient with IDA coexisting with inflammation.

769 EXCESSIVE MENSTRUAL BLEEDING IS A RISK FACTOR OF ANEMIA IN ADOLESCENT SCHOOLGIRLS

doi:10.1136/archdischild-2012-302724.0769

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Background and Aims Adolescents form a group at risk of iron deficiency development. An additional factor leading to depletion of iron stores in adolescent girls is blood loss during menstrual bleeding.

Methods A cross-sectional nonrandomized descriptive study was carried out in order to evaluate the incidence of dysfunctional uterine bleeding (DUB) in adolescent girls and detect the relationship between menstrual blood loss and anemia, in order to develop measures to improve the health status of adolescents. The study was carried out within the routine health examination of schoolchildren in Vologda. A total of 1340 girls aged 10–18 years (mean age 13.81±0.04 years) were selected at random. The menstrual function was studied in 883 girls aged 11–18 years (mean age 14.5±0.04 years) by the data of questionnaires and results of gynecological examinations.

Results The prevalence of anemia (Hb less than 120 g/l) in all examined girls of Vologda was 10.7% (*n*=143), in adolescent girls with menses - 10.5% (*n*=93). The age of menarche varied from 10 to 16 years (mean age 12.57±0.03 years). DUB were detected in 54 (6.2%) girls. Anemia was detected in 11 (20.4%) girls with DUB. Of the menstrual characteristics excessively heavy menstrual bleeding was the only risk factor for anemia (OR=0.43, 95% CI=0.22–0.87, *p*=0.0348).

Conclusions Menstrual iron loss is the main risk factor for iron deficiency development, and hence, in order to detect the causes of anemia in females of reproductive age the complete anamnesis on the pattern of menstruation should be collected.