Backround: Iron deficiency anemia (IDA) and thalassemia are the most common microcytic anemia in children. Sometimes, expensive or invasive investigations are necessary for their distinction. Red cell distribution - coefficient variation (RDW-CV) is a new generation marker more often used in differentiating IDA from thalassemia. A number of hematological indices are also useful (Mentzer, Shine&Lal, Green&King, Ricerca).

Aim To demonstrate the effectiveness RDW - CV in differentiating microcytic anemia.

Method Retrospective study conducted on a total of 215 patients with microcytic anemia. Criteria for study group selection: MCV and Hb below the minimum age reference (mild anemia, Hb between 9–11 g/dl and moderate anemia from 8.5–9 g/dl), without a history of other hematologic disorders or chronic diseases.

Sideremia was determined to all patients to confirm the diagnosis of IDA (the least expensive investigation for distinction). The RDW - CV > 16% was considered pathological.

Results 98 patients had low levels of sideremia, 134 patients had mild anemia and 81 - moderate anemia. RDW-CV was significantly correlated with sideremia, strongly for the group with mild anemia ($p < 0.05$). Statistical significance was observed for Shine&Lal ($p < 0.006$), Green & King ($p < 0.005$), Ricerca ($p < 0.05$). The greatest sensitivity presented Green&King (72%), followed by Shine&Lal and Ricerca, and the highest specificity Shine&Lal and Ricerca (92%).

Conclusions RDW-CV is useful in differentiating IDA, especially in mild forms. Although Green&King index is the most sensitive, we support Ricerca index for simple calculation formula.

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Background and Aims There are some reports regarding to the association between maternal and fetal hemoglobin level. The present study aimed to determine the prevalence of maternal anemia and its association with hemoglobin levels in their newborn babies.

Methods It was a descriptive analytical study in which mothers who referred for delivery to the Besat Hospital in Sanandaj city, Kurdistan province, western Iran were investigated. Overall, 604 mothers was recruited using easy sampling method. Blood assessment was conducted using the cell counter machine. The statistical tests of Chi square and t were used. Meanwhile, the Spearman correlation coefficient was used to test all correlations. The multiple regression analysis was also undertaken to assess the relationship between maternal and fetal hemoglobin versus confounding factors.
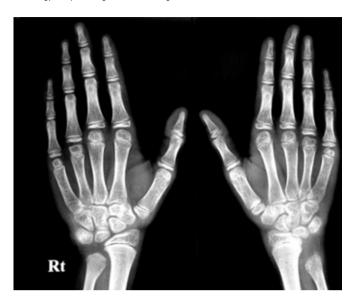
Results The prevalence of maternal anemia (Hb<11 g/dLit) before delivery was 24.8% (n=150) and Hb levels less than 10 g/dLit was 6.6%. Overall, 5.8% (n= 34) newborns had a mean Hb levels of less than 13.7 g/dLit. A small number of mothers (3.3%, n=20) had preterm delivery and 31 newborn babies (5.3%) were low birth weight. There was no significant relationship between fetal Hb and gender, twins, and preterm babies. There was also a positive and significant correlation between maternal and fetal Hb levels (r=0.143, p<0.001).

Conclusion A significant association was observed between fetal as well maternal anemia with mothers' age, preterm birth, duration of iron therapy and occupation.

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Abstract 758 Figure 1

Abstract 758 Figure 2

Background Regular blood transfusion and iron chelation are the standard of care for thalassemic children. Deferiprone is an effective oral iron chelator but causes significant arthropathy. Though clinical and radiographic features deferiprone related arthropathy have been described, the long-term effects are not known.

Aims To report clinical and radiographic findings in thalassemic children with deferiprone related arthropathy.

Methods Evaluation of routine radiographs of left wrist and hand done for bone age estimation in 40 thalassemic children revealed unique radiographic changes in 13 children with previous or current deferiprone related arthropathy. Subsequently, these children underwent radiographs of both the knee joints.

Results Thirteen patients (10 males: 3 females) aged 10–16 years had abnormal radiographic findings. Median duration of deferiprone

therapy was 6 years (range 2–9 years). Three patients had residual deformity of the knee joint and 4 patients had deformity at the wrist joint. The changes on wrist X-ray included lucency and thinning of the ulnar metaphysis, small ulnar epiphysis, deformation and impaired growth of the physeal cartilage leading to reduced distance between the epiphysis and metaphysis (Figure1 and 2). The knee radiograph showed subchondral flattening of femoral and tibial condyles with irregular articular margins.

Conclusions Bony dysplasia, deformation and impaired growth of ulnar and radial epiphyses, metaphyses and physes may be an expression of deferiprone related arthropathy in children with thalassemia major.

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Introduction Thrombophilia was initially attributed to inherited hypercoagulability state, in the same way as hemophilia, however by the time this term extended to include acquired cases as well. True idiopathic thrombosis is extremely rare in children. Multiple risk factors are often present in pediatric patients; indwelling catheter, inflammatory conditions, malignancy, immobilization, thrombophilia and congenital heart disease. The role of thrombophilia in determining the risk of arterial thrombotic events is less well defined.

Objectives This study aimed to collect the number of children hospitalized in PICU, suffering from arterial thrombosis and to reveal the possible etiological factors.

Methods The study was conducted from 1st of January 2007 till 1st of January 2012, comprising 436 children aged from 2 months to 17 years old .The patient's records were retrospectively evaluated.

Results

Abstract 759 Table 1 Patients

patients	Factor of thrombophilia	Other factor for thrombosis	Area of thrombosis
4 years old male	Protein C deficiency	Femoral artery catheter infection	Femoral artery
17 months male	Factor VIII		Posterior cerebral artery
3 ½ years female	G20210A	Congenital heart operation	Medial cerebral artery

Conclusion Arterial thromboses encountered in our PICU do not constitute a frequent diagnosis, however when exist can lead to great disability (stroke, limb loss …) or even death. It also seems that a combination rather than a single factor play role in the formation of arterial thrombus in children.

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Introduction Hemophilia; Constitutional most common coagulopathy with hemophilia A is 5 times more common than hemophilia B.

Serious not only about the risk of joint and muscle scars but also viral contamination in transfusions and the risk of post-traumatic infections.

Objectives To determine the frequency and severity of infections in children with hemophilia. Demonstrate the value of prophylaxis in the prevention of bleeding.

Materials and Methods Retrospective study on cases of children with hemophilia hospitalized for a period of 4.5 years (01–01–2007 to 31–07–2011). 26 patients with hemophilia complicated.

Results The incidence varies between 0.90% and 2.4%.

The child with hemophilia may be hospitalized for all age groups with a maximum 10-year entre 5. Only 38.46% of our patients have a family history of hemophilia.

61.54% have a severe form (factor VIII or IX < 1%).

38.88% were hospitalized for a hemarthrosis of the knee, the rest is represented by the other known locations bleeding in children with hemophilia.

14 of our patients developed infections (53.8%), including 8 of knee arthritis, arthritis of the ankle, two subcutaneous abscesses, a dental abscess and 2 cases of hepatitis B.

Conclusion Our study confirmed the significant incidence of infection in children with hemophilia dominated by post-traumatic infections with two cases of hepatitis B which is to intensify the education of our children and the benefit of prophylactic to reduce the incidence of bleeding including the risk of infection.

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Background and Aims Thromboelastogram (TEG) gives information about the coagulation cascade showing the combined effects of coagulation factors and thrombocyte functions. Thrombin Generation Assay (TGA) measures the time dependent changes of thrombin concentration. Standard values for newborns do not exist for TGA and TEG. We aimed to evaluate the effects of prematurity and vitamin K on hemostatis by TEG and TGA in addition to conventional methods.

Methods Preterm (n=16) and term (n=36) infants who received routine vitamin K prophylaxis were evaluated with pt, inr, ptt, fibrinogen, TEG and TGA measurements performed from cord blood and venous blood obtained on day 3.

Results Cord blood pt, inr, ptt and fibrinogen values were similar in both groups. TEG-R value was increased in preterm group showing delayed onset of coagulation compared to term group (p=0.003). Other TEG and TGA measurements were similar in cord blood.

After vitamin K prophylaxis; pt and inr decreased, fibrinogen increased in preterm infants (p values; 0.032, 0.01 and 0.009, respectively). In term infants; ptt decreased, fibrinogen, TEG-R, TEG-MA and TGA-lag time increased after vitamin K (p values; 0.034, 0.001, < 0.001, 0.018, < 0.001 and 0.004, respectively).

Conclusion In cord blood analyses; preterm infants didn't have a significant difference apart from a delay in coagulation. The cloth strength was increased in term infants after vitamin K. The lack of such improvement in preterm infants may be attributable to immature hepatic functions of the preterms. Preliminary data for standard values of TEG and TGA were obtained.

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