**Conclusion** Illiteracy and poor socio-economic status leading to faulty feeding practices are the factors still predominant in developing countries which result in increased incidence of malnutrition in children. However, government-led programmes like ICDS through Anganwadis can help improving both education and nutritional status of mothers as well as children as evidenced by lower incidence of malnutrition in families attending Anganwadis regularly and utilizing nutrition and health care services.

## 1460 ACID AND NON ACID GASTROESOPHAGEAL REFLUX IN CRITICALLY ILL MECHANICALLY VENTILATED AND TUBE-FED INFANTS

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**Background and Aims** Critically ill patients mechanically ventilated have high risk of gastroesophageal reflux (GER) and pulmonary aspiration. We aimed to evaluate the characteristics of acid and non acid GER in critically ill infants undergoing mechanical ventilation.
**Patients and Methods** Twelve infants undergoing mechanical ventilation suffering from severe bronchiolitis were enrolled. They were sedated, off any antiacid secretory medicines and on full enteral nutrition. They underwent MII-pH study by using equipment Sleuth-Sandhill Scientific, USA. Data were manually analyzed by using software BioVIEW Analysis version 5.6 (Sandhill Scientific). Parameters analyzed were: number of total episodes of GER (NGER); height of refluxate [proximal (PGER) or distal (DGER)]; reflux content [acid (AGER) or non acid (NAGER)]; and acid reflux index (ARI) - % of time pH is under 4- considered altered when ARI is >10%. Data were analyzed by Wilcoxon test.
**Results** Overall median age was 3 months (range 1–12m), 9 males. Only two patients had ARI above 10%. There were 362 GER episodes. Median NGER of each patient was 29.5(3–77). There was significant difference between PGER and DGER [23.5(7.2–36.2) vs 6.0(5.0–9.0), p=0.003] and between acid and non acid DGER [0.0 (0.0–2.7) vs 6.0(2.5–7.7), p=0.036). There was no significant difference between acid and nonacid NGER and between acid and non acid PGER.
**Conclusion** Proximal GER was more significant than distal GER and there was no difference between acid and non acid content. This finding reinforces the risk of pulmonary aspiration of both acid and non acid reflux in infants undergoing mechanical ventilation.

## 1461 NUTRITION IN PEDIATRIC INTENSIVE CARE UNIT

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Nutritional support is a basic component of clinical management in the Pediatric Intensive Care Unit (PICU).
**Aim** The objective of this study is to evaluate the nutritional status of PICU patients, comparing the predicted energy expenditure (EE) by Harris-Benedict equation and the actually administered energy via enteral, parenteral or mixed nutrition.
**Materials and Methods** The files of 20 mechanically ventilated patients admitted to PICU, with length of stay>5 days, were studied retrospectively. Data collected included age, mean day of starting nutrition, route of feeding and mean day of reaching the highest caloric goal. At that day, energy predicted by Harris-Benedict equation was compared with the actually administered energy and the proportion of administered proteins, carbohydrates and fats as well as serum alboumin, glucose, C reactive protein and nitrogen balance were recorded.
**Results** Mean day of starting nutrition was 2.55±1.10 and mean day of reaching the highest caloric goal was 7.06±2.54. At that day, mean predicted EE was 49.5±26.46 Kcal/kgr/d, mean energy actually administered was 51.39±25.14 Kcal/kgr/d and mean protein intake 1.13±0.34gr/kgr. Most children (70%) received enteral nutrition and 62% were in negative nitrogen balance.
**Conclusion** Enteral feeding is the most preferable in PICU. Intolerance of feeding and various procedures were the main causes of delay reaching the caloric goal. Predicted and administered energy did not differed significantly. Despite the adequate caloric intake the nitrogen balance was mainly negative, due to catabolism and inadequate protein intake.

## 1462 THE EFFECT OF ORAL VITAMIN E ON RENAL ANEMIA IN CHRONIC HEMODIALYSED CHILDREN

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**Objectives** Renal anemia is one of the most frequently observed complications in patients undergoing chronic hemodialysis. Reduced red blood cell survival due to oxidative damage is one of the causes of anemia in these patients. Vitamin E is a natural biological antioxidant, which protects cells from the effects of reactive oxygen metabolites and could be useful as a collateral therapy for anemia in these patients.
**The Aim** of the present study was to investigate the potential beneficial effect of vitamin E supplementation on renal anemia and to find out whether this improvement mechanism is attributable to the enhanced hematopoietic function or to prolonged RBC life.
**Methods** This case - control study included 15 stable children on chronic hemodialysis in Mashhad. All of children received subcutaneous erythropoietin 120 u/kg/week, oral folic acid 1 mg/day and iron 2 mg/kg/day. Oral vitamin E 200 u/day was prescribed to the cases only. Laboratory parameters determined at the beginning of the study were: Iron, Ferritin, Transferrin, TIBC, Hemoglobin, Hematocrit, Reticulocyte count and peripheral blood smear. Hb and Hct were checked every month during the study and were compared with earliers.
**Results** Perscription of oral vitamin E for 3 months resulted in significantly higher levels of Hb and Hct in the cases compared to those in the controls (Hb=11.4±1.7 vs. 10.1±1.9 and Hct=35.3 ±5 vs. 31.3±6, P<0.05).
**Conclusion** Antioxidant vitamin E supplementation improves renal anemia by decrease of oxidative stress and RBC life span in patients under hemodialysis.

## 1463 NUTRITIONAL SUPPORT IN PEDIATRIC INTENSIVE CARE UNIT OF UNIVERSITY HOSPITAL CENTRE "MOTHER THERESA", TIRANA, ALBANIA

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**Background and Aim** Providing adequate caloric amount to critically ill children is challenging. The aim of the study is to describe the nutritional support of patients in Pediatric Intensive Care Unit and evaluate our current practice.
**Material and Methods** Prospective evaluation of the nutritional support of 126 critically ill children hospitalized for ≥48 hours in PICU at University Hospital Centre over the period October 2011–March 2012. The amount of calories delivered

were evaluated and compared with the theoretical energy requirements.

**Results** Mean caloric intake on the first day was 59% (SD±46.4) and on the second day was 64.3% (SD±47.4) of daily requirements. 72(57.1%) patients received ≥80% of required daily calories, without a significant difference with patients who received <80% of daily calories, (p=0.3).

The overall mortality rate was 28.5%. Patients who received <80% of daily caloric needs were 4 times more likely to have a fatal outcome, compared to those who received ≥80% of daily caloric needs [OR=4.0 95% CI (1.2–12.7) p=0.01].

Daily caloric intake of ≥80% resulted a protective factor against death in the Cox proportional-hazard regression model (b= –1.1, p=0.02).

**Conclusions** We have to increase the number of patients who receive ≥80% of daily caloric requirements and provide appropriate nutritional support during the first days of admission. Mortality rate remains high, due to the large number of patients receiving <80% of needed calories.

## 1464 MEDICAL RADIATION EXPOSURE IN CHILDREN DIAGNOSED WITH ACUTE LYMPHOBLASTIC LEUKEMIA FROM 1995–2010: A SINGLE INSTITUTION STUDY

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**Objective** This retrospective study examines a cohort of children diagnosed with acute lymphoblastic leukemia, examining exposure to medical radiation pre-conception, pre-natal or in early childhood. Exposure is documented through family interview. The study encompasses children diagnosed with A.L.L. and treated at the Children's Hospital of Pittsburgh over a fifteen year period.

**Background** Early exposure to medical radiation is one of the identified risks for childhood leukemias but documentation is difficult and mostly lacking in the United States experience. The author of this study developed a questionnaire that examines radiation exposures in either parent of to the child later diagnosed.

**Methods** Each family who was consented to be interviewed completed a five page questionnaire at clinic visit, through phone or mail. Whenever possible both parents were interviewed.

**Results** To date the author has been able to interview about 70% of children diagnosed from 2005–2010 however the interview rate for the period 1990–2005 is approximately at 5%. Among the families interviewed at least one exposure was commonly documented.

**Conclusions** Exposure to medical radiation for a child later diagnosed with A.L.L. may at occur at several critical junctures. Chest or sinus x-rays or CT of a parent pre-conception, particularly repeated scans have the possibility of DNA damage. Early childhood exposure through the diagnostic process (ruling out infection or trauma) may well contribute to this "perfect storm" in the still elusive causes of childhood A.L.L.

## 1465 CLINICAL CHARACTERISTICS AND TREATMENT RESULTS OF NEUROBLASTOMA PATIENTS

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**Objective** and method: The survival of the patients with neuroblastoma has improved in last few decades. But still it depends on various clinical and biological factors. To assess the clinical features and trends in survival, the data for 56 newly diagnosed patients between September 1996 and August 2011 from a single center were retrospectively analyzed.

**Results** Histopathologic subtypes were neuroblastoma (NBL) in 52 patients and ganglioneuroblastoma in 4 patients. The median age was 2.5 years and Male/Female ratio was 1.2/1. Primary tumor sites were abdomen, thorax, and neck with the frequency of 77.4%, 19% and 3.6% respectively. There were 21, 22, 9, 3.1 patients with stage 1, 2, 3, 4, 4S disease and their 5-year survival rates were 100%, 74%, 33%, 6.9%, and 59%, respectively In multivariate analysis, stage 4 disease ($P$<0.001), abdominal primary tumor site ($P$<0.001), NBL subtype in histopathology ($P$=0.001),and responsiveness to chemotherapy ($P$<0.001) were the determinants of poor prognosis.

**Conclusions** The survival rates in children with local disease are comparable with the results of developed countries; however, the results in children with advanced disease are still not satisfactory. To improve the outcome, especially in children with advanced disease, more effective chemotherapy regimens and molecular therapies should be investigated. Sharing the knowledge and capacity building to improve the treatment results in NBL are also critical for developing countries.

## 1466 THE ETIOLOGY OF PERIPHERAL LYMPHADENOPATHY IN CHILDREN

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**Aim** To determine the clinical and laboratory findings of peripheral lymphadenopathies.

**Methods** We evaluated 224 children who had been admitted to our pediatric clinic because of enlarged peripheral lymphadenopathy (LAP). The patients age, sex, localization, duration, size, mobility, extansion of lymph nodes, systemic symptoms, diagnostic laboratory and radiologic investigations and final diagnosis were determined. Features of lympadenopathy were compared between patients with malignant and benign diagnosis.

**Results** The ages of the patients ranged between 2 months and 16 years (median 7 years); 56% of the patients were male, Of the 186 (83%) patient had benign and 38 (17%) had malignant disorder. A total of 164 (73%) had localized, 60 (27%) had generalized LAP. The most frequent cause in the benign group was acute lymphadenitis where as hodgkin lymphoma was most frequent in the malignant group. Cervical region was the most common localization for benign or malign disorder. The mean age was higher in the malignant group. We determined acute LAP in 164 (73%) and choronic LAP in 60 (27%) patient. We didn't find differences between the benign and malignant groups according to size and mobility of nodes. Anemia, leukopenia trombocytopenia and organomegaly were significantly common in malignant group. Weight loss, night sweet and fatigue were more frequently associated symptoms in the malignant group. Excisional biopsies were performed to 50 (22.3%) patient.

**Conclusion** The following findings were important to alert the physician about the probability of a malign disorder: older age, supraclavicular lymphadenopathy, abdominal LAP, abnormal complete blood count and organomegaly.

## 1467 PEDIATRIC ONCOLOGY PATIENTS PRESENTING WITH SPINAL CORD COMPRESSION

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Spinal cord disease in children with known or suspected malignancy is an oncological emergency because it commonly implies malignant spinal cord compression. The records of 17 children with cancer presenting with spinal cord compression, encountered over