groups were compared with regard to their epidemiological characteristics.

Results We identified 627 diabetic children. They were 332 boys and 295 girls. The incidence was estimated at 8.5/100 000 children under 15 years and 9.6/100 000 children (0–4 years). The incidence was 7.7/100 000 children (0- 15 years) in 2009, it passed to 8.93/100 000 in 2011.

The patients were aged 0–4 years in 33% of cases, 5–9 years in 34.1% of cases and 10–15 years in 32.9% of cases.

The discovery of diabetes was in winter in 35% of cases. Parental consanguinity was noted in 31.2% of cases.

Conclusion Type 1 diabetes is a public health problem in Tunisia, its incidence increases and the age of diagnosis shifts to ages younger. Winter predominance of discovery supports the hypothesis of a triggering viral infection.

PO-0055 INSULIN PUMP IN CHILDREN WITH TYPE 1 DIABETES IN A REGIONAL HOSPITAL IN IRELAND

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Introduction Initiation of insulin pump therapy in children with type 1 diabetes results in better glycaemic control, reduction in the short-term and long term complications and in better quality of life.

Objectives To determine the impact of insulin pump on glycaemic control (HbA1c), BMI and occurrence of severe complications in children with IDDM in a secondary care centre.

Methods A retrospective study of children with type 1 diabetes on insulin pump therapy for at least one year at the time of the study was conducted. HbA1c, BMI and frequency of severe complications one year before and after introduction of insulin pump were compared.

Results Twelve out of the thirty children (40%) on insulin pump therapy met our inclusion criteria. Their mean age at the time of the study was 12.6 years. Seven boys (58.3%) and five (42%) girls were studied. The mean duration of diabetes was 5.5 (±2.2) years. The mean HbA1c before the introduction of pump therapy was 8.1% vs. 7.1% one year after; while the mean BMI z-score was 0.79 before and 0.88 after. Severe hypoglycaemia and DKA were noted in two children before but none after the initiation of pump therapy. The mean HbA1c decreased by 0.4% at 3 months (p 0.05) and by 1% at 2 months (p 0.013) of pump therapy.

Conclusions Initiation of insulin pump therapy results in significant reduction in the HbA1c within the first twelve months of therapy with a decrease in the frequency of occurrence of severe complications.

PO-0056 CLINICAL AND LABORATORY FINDINGS OF DIABETIC KETOACIDOSIS IN A PICU OF ALBANIA

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Introduction Delay diagnosis is the major cause of Diabetic ketoacidosis (DKA). Children with profound acidosis are at great risk for symptomatic cerebral oedema.

Objective To identify the epidemiological profile, clinical feature, factors related to delayed diagnosis in children with DKA and to analyse the factors associated with prolonged acidosis.

Methods We analysed the records of all children with DKA, admitted to our PICU during January 2004–December 2013. We evaluated clinical features, biochemical profile at admission, 6, 12 and 24 hrs, presence of sepsis, shock, complications and outcome. The severity of DKA was defined by the degree of acidosis: mild (pH = 7.2–7.3), moderate (7.1–7.2) and severe (pH <7.1). Anion gap (AG), delta gap (DG) and delta ratio were calculated. Prolonged acidosis was analysed against various independent factors.

Results Mean age of the patients was 7.06 ± 4.24 years, with misdiagnosis in 32% of cases. By the degree of acidosis, DKA was mild in 16%, moderate in 56% and severe in 28% of cases, with prolonged acidosis (>24 hrs) in 36% of cases. Factors associated with prolonged acidosis were: Na >133 mEq/L (p = 0.01), HCO_3 <4.8 mEq/L (p = 0.03), pH <7.01 (p = 0.01), Cl^- >100 mEq/L (p = 0.02) and AG >25.1 (p = 0.03). HbA_1C, azotemia, DG and misdiagnosis didn't resulted significative for prolonged acidosis. Three cases are complicated with cerebral oedema. Initial blood glucose or decline in glucose had no association with cerebral oedema. Mortality rate was 8%.

Conclusion Misdiagnosis of diabetes with DKA as consequence, is still high in children in Albania. Clinical and laboratory findings help identifying the patients who require a higher level of intervention.

PO-0057 ASSOCIATION OF DIETARY PATTERN WITH BIOCHEMICAL BLOOD PROFILES AND BODY WEIGHT AS RISK FACTORS OF CARDIOVASCULAR DISEASE AMONG ADULTS WITH TYPE 2 DIABETES MELLITUS

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Background and aims Nutrients are established as dietary risk factors for cardiovascular disease (CVD), but dietary patterns may be a better predictor of CVD risk. This study was conducted to identify dietary patterns and evaluated their association with biochemical blood profiles and body weight among 400 adults with type 2 diabetes mellitus aged between 40–60 years.

Methods Biochemical blood profiles, anthropometric measurements, and dietary data were obtained. Food frequency questionnaire were used to derive dietary patterns. Factor analysis was conducted to ascertain the dietary patterns, and analysis of covariance was fitted to assess the relation between blood profiles, body weight and adherence to dietary patterns.

Results Three dietary patterns by factor analysis were identified, Vegetable and Poultry, Western and Mixed. After control for potential confounders, waist circumference (b = -0.12, p < 0.01) and body mass index (b = -0/15, p < 0.02) were negatively associated with vegetable and poultry dietary pattern. Conversely, total cholesterol (beta = 0.14, p < 0.008) and fasting blood glucose (b = 0.12, p < 0.01) were positively associated with western dietary pattern. A dietary pattern labelled as mixed pattern was found to be positively related to HDL-cholesterol (b = 0.16, p < 0.002) and body mass index (b = -0.18, p < 0.01). Associations between mixed pattern, LDL-cholesterol (b = -

0.10, p < 0.04) and waist circumference (b = -0.24, p < 0.001) were negative.

Conclusion Dietary patterns of adults with diabetes were found to be associated with biochemical profiles. Mixed dietary pattern include nuts, fruit, olive oil and tea could improve lipid profiles. Further studies are necessary to confirm the benefits of the mixed pattern and develop practical dietary guide-line for diabetes.

PO-0058 BIOIMPEDANCE ANALYSIS IN CHILDREN AGED 0–14 YEARS: IS THERE A RELATION BETWEEN PHASE ANGLE AND WEIGHT AND BODY SURFACE AREA?

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Background and aim Knowledge of fluid compartment changes and nutritional status is crucial when evaluating critically ill children, as well as measuring the effect of treatment.

Current reference methods (DXA, dilution-methods etc.) are invasive, expensive, and/or time consuming and are therefore not suitable for routine paediatric examination.

Bioimpedance analysis (BIA) offers an alternative to this since it is non-invasive, simple, portable and inexpensive.

One BIA approach is to use values of total body fluid (TBF), extra- and intracellular fluid (ECF, ICF) and/or body cell mass (BCM). These are based on predictive equations and only proven in adults. Another approach is to use the phase angle (PA), which is a combination between the electrical resistance (R) of the electrolytic-containing TBF, and the capacitive reactance (X_C) of the cell membrane, both expressed in ohms (Ω). PA is an indicator of fluid compartment changes and cell membrane properties.

Aim To investigate the relation between PA and weight (kg) and the body surface area, BSA (m^2).

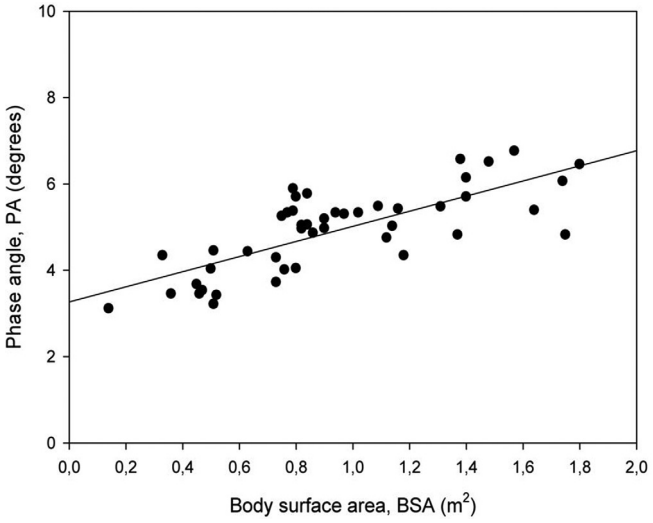
Methods Whole-body BIA was performed in 47 healthy children (boys=33, girls=14, 0–14 yr). PA (arctan = X_C/R, degrees) was measured at 50-kHz with a bioimpedance spectroscopy device (Xitron 4200). Statistics: Spearman's rank correlation (r), p < 0.05 and a 95% confidence interval.

Results Data showed high positive correlations between PA and weight and BSA (Table and Figure).

Conclusions PA offers promising perspectives for further research areas (e.g. gender influence on PA). Potentially, PA could be a new way of monitoring fluid compartment changes and nutritional status in critically ill children.

Abstract PO-0058 Table 1 Correlation data of boys and girls combined

Parameters	*r*	*P-value*	*95% CI*
PA (degrees) vs. weight (kg)	0.74	P<0.0001	0.58 to 0.85
PA (degrees) vs. BSA (m^2)	0.75	P<0.0001	0.59 to 0.85



Abstract PO-0058 Figure 1 Relation data of boys and girls combined

PO-0059 CENTRAL DIABETES INSIPIDUS IN CHILDREN: CLINICAL PROFILE AND ETIOLOGIES MONOCENTRIC EXPERIENCE (ABOUT 10 CASES)

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Introduction Central diabetes insipidus (CDI) or neurohypophyseal diabetes insipidus is a rare disorder in children caused by an inadequate release of the antidiuretic hormone, arginine vasopressin (AVP). CDI is clinically caracterised by polyuria and polydipsia.

Methods and materials Clinical, auxological, biological and neuroradiological characteristics of 10 children with central diabetes insipidus (CDI) were retrospectively analysed during a period of 18 years.

Results Five girls and five boys with permanent diabetes insipidus were enrolled in the study. The mean age at diagnosis was 6 years five months (range: 4 months -14 years). The major cumulative and often subtle presenting manifestations were: polyuria (n = 10), polydipsia (n = 10), fatigue (n = 2), growth retardation (n = 4), headache (n = 1). All patients had low urine osmolality and elevated plasma osmolality on diagnosis.

The aetiology of central DI was organic in 8 patients, craniopharyngioma in 3 patients, Langerhans cell histiocytosis in 2 patients, neurosarcoidosis in one case, Pituitary stalk interruption in one patient and wolfram syndrome in one patient.

Three patients had anterior pituitary hormone deficiency and growth hormone deficiency.

Polyuria and polydipsia have regressed in all patients put under desmopressin. Patients with craniopharyngioma were operated with a tumour recurrence in one case.

Conclusion DIC is a rare disease in Paediatrics. The circumstances of discovery and positive diagnosis are often easy. The underlying aetiology of CDI in children may not initially be obvious. Long-term surveillance is therefore necessary, especially for the early detection of evolving treatable intracranial lesions.