sensitivity equal to these ELISA. Within an interval of 7 to 10 days, the Borrelia VlsE test demonstrates rapid increase of titers in the acute phase of infection and also a clear decrease after treatment. After 3 to 6 months the test becomes negative in most patients. This test seems to follow the activity of Borrelia in the host.
2007–2009 experience in canton: Valais
VlsE test was proposed in patients with facial nerve palsy with or without tick bite notion between 2007 and 2009. In most of the cases, the Western Blot IgG and/or IgM for Borrelia were not conclusive and diagnosis of Lyme borreliosis could not certainly be established. In approximately ¾ of our cases, the VlsE test was positive. Initial negative VlsE test can't exclude a definitive diagnostic, consequently ulterior serological follow up must be proposed.
In conclusion, VlsE test bring a new contribution to the early diagnosis of Lyme borreliosis. It can allow to treat more selectively patients with unspecific signs of Lyme borreliosis as those with facial nerve palsy, and at the same time, avoid overtreating those non infected by Borrelia. Furthermore, it could be used as a follow up marker, reflecting the treatment response. Nevertheless, complementary studies should be done in the future to confirm these data.

CL24

Comparison of clinical presentation of febrile respiratory tract infections in H1N1 positive and negative patients

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Background: In spring 2009, a new human influenza A H1N1 virus appeared and was initially identified as the virus of the "Swine flu". In Switzerland we faced 2 waves of infections with this new virus. During the second one, we conducted a prospective descriptive study.
Objectives: To describe the clinical presentation of infections with influenza A H1N1 virus and to compare it with infections related to other virus in children consulting at the emergency department of the Universitary Children Hospital of Geneva. METHODS Children presenting with a febrile respiratory tract infection or a febrile seizure were eligible for participating to the study. All patients had an influenza PCR.
Results: 109 patients were recruited, between October 1st, 2009 and February 10th, 2010. Median of age was 7 years (range 0.1–18). Five patients presented with a febrile seizure. Among them, 4 were H1N1 positive. There were 75 H1N1 positive patients (69%). Thirty-two of them had identified risk factors (43%) among which asthma or a wheezing history was most frequent. Fever (91%), cough (93%) and rhinitis (87%) were the most frequent reported presenting symptoms. Five patients (7%) received a diagnosis of otitis media, 7 (9%) of pneumonia and 7 (9%) of obstructive bronchitis or asthma. When compared with H1N1 negative patients, H1N1 positive patients were older (median of age 8.2 vs 4.6 years, p = 0.002), more likely to have risk factors (43% vs 37%, p = 0.04), muscle pain (41 vs 25%, p = 0.04) and to have used non-steroidal anti-inflammatory drugs (NSAID) for the present illness (48 vs 41%, p = 0.04). There were more cases of bronchospasm among non-H1N1 patients (15 vs 9%) and median of oxygen saturation was lower (97 vs 99%, p = 0.001), proportion of dyspnea observed by parents (26 vs 20%, p = 0.05) and rate of hospitalizations 35 vs 16%) higher among those patients.
Conclusions: Clinical presentation of H1N1 patients is marked by an older age and a higher proportion of muscle pain, risk factors and use of NSAID when compared with H1N1 negative patients. Severity appears lower with H1N1 positive (lower proportion of reported dyspnea and hospitalization, higher oxygen saturation), than with H1N1 negative patients probably related to a higher proportion of asthma/wheezing episodes among H1N1 negative patients.

CL25

Altered Surfactant Protein Metabolism due to NK2 homeobox 1 (NKX2-1) Mutations cause Interstitial Lung Disease in "Brain-Lung-Thyroid Syndrome"

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Background: NKX2-1 (NK2 homeobox 1) / TITF1 (Thyroid transcription factor 1) is a critical regulator of transcription for the surfactant protein (SP)-B and -C genes (SFTPB and SFTPC) in the lung and for thyroglobulin and thyroperoxidase in the thyroid. Mutations in this transcription factor are associated with a triad of specific diseases of the brain (hypotonia evolving to benign hereditary chorea), the lung (surfactant deficiency syndrome and interstitial lung disease) and the thyroid (congenital hypothyroidism).
Aim: The effect of NKX2-1 mutations has been studied for thyroid specific target genes of NKX2-1, but not yet for surfactant protein expression.
Results: We identified and functionally characterized two new de novo NKX2-1 mutations c.493C<T (p.R165W) and c.786_787del2 (p.L263fs) in infants with severe interstitial lung disease (ILD), hypotonia, and congenital hypothyroidism. Functional analyses using A549 and HeLa cells revealed that NKX2-1-p.L263fs induced neither SFTPB nor SFTPC promoter activation and had a dominant negative effect on wild-type (WT) NKX2-1. In contrast, NKX2-1-p.R165W activated SFTPC to a significantly greater extent than did WT NKX2-1, while SFTPB activation was only significantly reduced in HeLa cells. In accordance with our in vitro data, we found decreased amounts of SP-B and SP-C by western blot in bronchoalveolar lavage fluid (patient with NKX2-1-p.L263fs) and features of altered surfactant protein metabolism on lung histology (patient with NKX2-1-p.R165W).
Conclusion: We show for the first time, that ILD in patients with NKX2-1 mutations was associated with altered surfactant protein metabolism, and that both gain and loss of function of the mutated NKX2-1 genes on surfactant protein promoters were associated with ILD in "Brain-Lung-Thyroid syndrome".

CL26

From central diabetes insipidus to SIADH (syndrome of inappropriate antidiuretic hormone): check co-medication

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Background: Among other drugs, carbamazepine is known to cause hyponatremia due to a vasopressin- like effect. We describe occurrence of carbamazepine-induced SIADH in a girl with central diabetes insipidus.
Case: Following resection of a desmoplastic astrozytoma of the left hemisphere at the age of 3 months our patient became panhypopituitaric and requires replacement of hydrocortisone, L-thyroxin, desmopressin and growth hormone. Concomitant epilepsy was treated initially with phenobarbital, then phenytoin and from the age of 6 years with carbamazepine (starting dose 7 mg/kg/d). At the age of 7 years mild asymptomatic hyponatremia (sodium 129 mmol/l, osmolality 272 mosmol/l) was observed. Overdosage of desmopressin was suspected and the dose was adjusted from 5 to 3 g/d. The hyponatremia (minimal sodium 123 mmol/l, osmolality 266 mosm/l) however persisted despite further dose reduction and finally ceasing vasopressin replacement. Other hormonal replacement appeared to be appropriate, i.e. glucocorticoid deficiency or hypothyroidism could be excluded as a cause for hyponatremia, as well as renal disease, intestinal sodium loss or cerebral salt wasting. A careful review of the girls additional medication revealed that the dose of carbamazepine had been increased to 17 mg/kg/d at the time when hyponatremia occurred. Hence drug-induced SIADH was suspected. After changing the anticonvulsive treatment to levetiracetam, sodium and osmolality levels returned to normal, and vasopressin substitution had to be initiated again.
Conclusion: A drug side effect is not an uncommon etiology of hyponatremia/SIADH.
Since carbamazepine is often used as an anticonvulsive drug in children, its vasopressin-like effect should be known to prescribers. In a patient with central diabetes insipidus and vasopressin replacement, the diagnosis of SIADH is a special challenge and can cause critical hyponatremia.

CL27

Effect of iron deficiency without anemia and its treatment on cognitive and physical performance in children: a systematic review of the literature

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Background: Iron deficiency without anemia (ID-A) is a common condition encountered mostly in children of developing countries, of low socio-economic classes and in young menstruating women. The effects of chronic ID-A and especially its treatment on cognitive and physical development are controversial, and the role of intravenous (IV) iron supplementation unknown.
Methods: We systematically searched Medline database from 1966 to present with the following Mesh subject headings: Iron AND Randomized Controlled Trial AND (Infant OR child OR Adolescent).
Results: 507 studies were retrieved. After careful reading of the abstracts by 2 independent reviewers (FC, MD), 15 studies

(9 randomized controlled trials (RCT), 2 cross-sectional studies and 4 case series/cohort studies) reporting the effect of ID-A and its treatment on academic/cognitive performances in children were analyzed. Baseline assessment: before intervention, 6 studies found significant differences in test scores between ID-A patients and controls, whereas 9 found no difference. Intervention: in the 9 RCT, treatment varied in term of elemental iron dose (from 2 to 6 mg/kg/dose) and duration (from 1 week to 6 months). Outcome evaluation: Bayley Scale of Infant Development was the most frequently used test (7 studies, including 5 RCT). The type (Bayley-, Wechsler scale, others) and timing (weeks to years after intervention) of psychomotor/developmental tests varied greatly, making comparisons between studies extremely difficult. Outcome: after intervention, 2 RCT found some benefits of iron supplementation, whereas 6 RCT found none. The report or not of confounding factors had no impact on the outcome results at baseline (p = 1, Fisher's test). We found no studies reporting the effect of ID-A and its treatment on physical performances in children. We found no studies reporting the effect of IV iron on ID-A in children.
Discussion: The effect of iron therapy in children with ID-A on academic/cognitive functions seems at best controversial. The differences in the age of the subjects, the duration of the ID-A, the iron therapy dose and duration, and the confounding factors make the results extremely difficult to evaluate and compare. The severity of iron deficiency seems to play a major role, the children with iron deficiency and anemia being more affected than children with ID-A or control patients. Further studies are needed in children to evaluate the best way to treat ID-A in that population.

CL28

Cardiorespiratory arrest and vitamin D deficiency rickets: A case report

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Vitamin D deficiency rickets became a rare disease in industrialized countries due to vitamin D supplementation in infants and nutritional guidelines. Symptoms of hypocalcemia due to vitamin D deficiency rickets may be life threatening. We report a case of a 16 months old infant who initially presented with stridor that was misdiagnosed as viral laryngitis. He presented, two weeks later, a cardiorespiratory arrest related to a laryngospasm secondary to severe hypocalcemia (ionized calcium level: 0.42 mmol/l,total calcium level: 1.15 mmol/). He was successfully resuscitated and vitamin D deficiency rickets was diagnosed. The medical history revealed that the infant was exclusively breast fed without vitamin D supplementation till the age of 10 months and also deprived from other milk products intentionally by the parents due to cultural habits. The laboratory investigations showed an elevated alkaline phosphatase level at 577 U/l, a normal phosphatemia level at 2 mmol/l, a decreased 25 (OH) cholecalciferol at 5.7 mcg/l,a normal calciuria level at 0.35 mol/mol of creatinine and an increased parathyroid hormone level at 325 ng/l. Cardiocirculatory arrest secondary to vitamin D deficiency rickets is very rare. The aim of this presentation is to highlight the symptoms of vitamin D deficiency rickets and to raise pediatricians' awareness to the necessity of including the diagnosis of hypocalcemia in case of stridor especially if the nutritional history or ethnic origin of the infant predispose to vitamin D deficiency. Vitamin D supplementation is important for some ethnic minority population, whom are faced with the risk of developing this disease

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CL29

Body dissatisfaction on top of depressive mood among adolescent with severe dysmenorrhea

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Purpose: Dysmenorrhea is the leading cause of recurrent short-term school absenteeism among adolescent girls. Yet, studies of menstrual symptoms in the light of adolescent psychological background seldom appear in the recent literature. This study aims to determine whether adolescent girls with severe dysmenorrhea (SD) have different body perception on top of poorer psychological health.
Methods: We analyzed data from the Swiss Multicentre Adolescent Survey on Health (SMASH 2002) among a nationally representative sample of adolescents (n = 7548; 3340 females) aged 16 to 20 years attending post-mandatory education. Dysmenorrhea was defined as presence of abdominal or back pain during menstruation on the last 12 months. The severity of dysmenorrhea was defined according to the impact on daily activity and was assessed by 3 questions on the way menstruations interfere with daily life: 1) "You feel well and have normal activities", 2)"you must stay at home" and 3) "you feel restricted in your school or professional activities". Studied variables were: depressive symptoms, suicidal attempt, sexual abuse, health perception in general, body satisfaction, desire to modify body shape, and disordered eating behavior (DEB) with restrictive or bulimic tendency. Controlling variables included socio-economic status (SES) as measured by both parent's level of education, gynecological age (age-age at menarche), academic track (student/apprentice) and age.
Results: 12.4% (95% CI: 11.0–14) declared severe dysmenorrhea, 74.2% (95% CI: 71.8–76.5) mild to moderate dysmenorrhea and 13,4% (95% CI: 11.5–15.5) had no dysmenorrhea. Compared to their peers, controlling for confounding variables, subjects with SD were more numerous to report depressive symptoms (AOR: 1.73; 95% CI: 1.39–2.15), to feel in poor health (AOR: 1.44; 95% CI: 1.14–1.81). Moreover, the proportion of those reporting dissatisfaction with their body appearance was higher (AOR: 1.48; 95% CI: 1.00–2.18).
Conclusion: Patients with SD not only show a different profile than their peers in terms of their mental health and health perception, but also a distinct relation to their body. Therefore clinicians should pay particular attention to patients with SD and offer them a global evaluation keeping in mind what can be associated with SD.

CL30

Characteristics and evolution of children attending a specialized childhood obesity clinic

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Introduction: Childhood overweight is a major public health issue that concern 20% children. We aimed to describe the population attending a specialized obesity clinic and to determine changes in body mass index (BMI) during individual obesity therapy.
Methods: This was a retrospective study including 130 new patients (2.3 to 15.3 yrs, mean 9.5 ± 2.9) attending the paediatric obesity clinic of the Geneva University Hospitals between January 2008 and December 2009. We assessed medical history, anthropometrics, clinical symptoms and signs of complications, resting blood pressure and lipids.
Results: There were 57% of girls and 65% of patients were referred by their health practitioners. Mean BMI and BMI z-score were 25.2 ± 3.9 kg.m-2 and 2.8 ± 0.9, respectively. The majority of patients (54%) attended the clinic regularly, 43% of them consulting every 2 to 4 months. At first visit, 2 (2%) had normal weight, 14 (11%) were overweight, 72 (56%) were obese and 42 (32%) were morbidly obese. Mean follow-up time: 8.9 ± 6.4 months and mean visit number: 3.5 ± 2.7. Age at weight gain in years, N(%): <3: 44(34); 3-6: 39(30); 6-10: 36(28); >10: 8(6). Triggering factors, N(%): No explanation: 76(59); Life change/parents separation: 37(29); Medication/disease: 7(5); Other: 10(8). Presence of, N(%): Systolic hypertension: 14(11); Dyslipidemia: 10(8); Hyperlordosis: 37(29); Genu valgum: 44(34); Acanthosis nigricans: 31(24).
Complains of, N(%): Their weight: 88(68); Mockery: 43(33); Breathlessness: 57(44).
Beneficial changes in BMI z-scores (mean: –0.14 ± 0.36) were dependant of age at weight gain (p = .013), follow-up duration (p = .042) and presence of hyperlordosis (–0.40 ± 0.6 vs. –0.15 ± 0.3, p = .038), but not of initial BMI z-score, age, or any other factors listed in table 1. The BMI z-score was: 1) reduced in 42% (mainly if weight gain at 3–6 or >10 yrs); 2) stable in 37% (mainly if weight gain at <3 yrs) and 3) increased in 21% of patients (mainly if weight gain at 6–10 yrs). The majority of patients remained in their initial adiposity category, 13 (10%) changed to the category below and only 4 (3.1%) passed to the one above.
Conclusion: Most obese children gain weight before 6 years old and present early signs of complications. They usually complain about their weight excess. We demonstrate that individual obesity therapy in a specialized paediatric centre leads to beneficial BMI changes in the majority of overweight patients. Age at weight gain influences treatment outcomes.

CL31

Playing with fire: the chocking game

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Introduction: The chocking game's primary goal is to produce a euphoric sensation through brief hypoxia. The compression of the carotid arteries by strangulation combined with breath holding leads to a reduced cerebral blood flow and oxygenation. Although this game can cause long-term disability and death, it seems to be of increasing popularity.