Table 1

Parameters	Before cryotherapy		After cryotherapy		Statistical significance
	Mean value	SD	Mean value	SD	
TC (mg/dL)	241·5	31·2	217·6	31·23	$P < 0·001$
LDL-c (mg/dL)	167·6	28·77	154·6	28·83	$P < 0·001$
HDL-c (mg/dL)	42·88	12·18	38·25	11·95	$P < 0·001$
TG (mg/dL)	154·9	69·88	123·5	51·99	$P < 0·001$

22
Antineutrophil cytoplasmic antibodies – positive prolonged fever caused by acute *Coxiella burnetii* infection

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Background: Acute infection with *Coxiella burnetii* (Q fever) in immunocompetent patients is in most cases asymptomatic, with only 40% developing a usually mild and self-limited disease and fewer than 5% needing hospitalization. Antineutrophil cytoplasmic antibodies (ANCA) are serologic markers for certain systemic vasculitis syndromes.

Case: A 53-year-old woman was admitted to our hospital due to an 8-week history of fever associated with rigors, sweats and fatigue despite antibiotic therapy. The physical examination revealed pale skin and mucous and an axillary body temperature of 38·5°C without any further abnormalities. The laboratory findings showed normocytic normochromic anemia (Hb 9·7 mg/dL, Hkt 30·3%), normal white blood cell count, thrombocytosis (platelet count 533·000/μL), erythrocyte sedimentation rate 120 mm/h, CRP 13 mg/dL, ferritin 1192 ng/dL. Immune analysis showed elevated titres of p-ANCA (24·94 U/L, normal range <3) and c-ANCA (8·5 U/L, normal range <6) (ELISA). An acute infection with Coxiella burnetii was diagnosed serologically by detecting elevated anti-phase II antibody titre (IFA: IgM 1:128, IgG 1:1024). Further extensive investigation was negative for other infectious or systemic diseases. The patient received orally doxycycline 200 mg/day (for 14 days) and 32 mg/day methylprendisolone (in tapering doses) showing an immediate improvement of her clinical and laboratory findings. After 6 months there was no evidence of antineutrophil cytoplasmic antibodies and the patient remained asymptomatic.

Conclusions: To avoid misdiagnosing and, thus, incorrectly treating, physicians should always consider acute Q fever as a possible cause of elevated ANCA, especially in febrile patients without specific signs of a systemic vasculitis syndrome.

Subspeciality session: Lipids

23
Lipids profile in patients with ankylosing spondylitis

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Background: According to literature data cardiovascular mortality is increased in patients with spondyloarthropathies. The aim of the study was to estimate the lipids profile in patients with ankylosing spondylitis.

Materials and methods: The trial was carried out on 32 men. Group I: 16 male patients with ankylosing spondylitis. Group II: 16 male healthy persons. In both groups the following parameters of lipids profile: total cholesterol (TC), HDL-cholesterol (HDL-c), LDL-cholesterol (LDL-c) and triglicerydes (TG) concentrations in plasma were estimated.

Results: The obtained results are shown in table below

Table 1

Parameters	Ankylosing spondylitis group		Control Group		Statistical significance
	Mean value	SD	Mean value	SD	
TC (mg/dL)	241·5	31·2	175·7	27·09	$P < 0·001$
LDL-c (mg/dL)	167·6	28·77	115·6	23·04	$P < 0·001$
HDL-c (mg/dL)	42·88	12·18	40·75	7·78	$P = 0·597$
TG (mg/dL)	154·9	69·88	96·63	32·83	$P = 0·010$

Conclusions: Patients with ankylosing spondylitis have more atherogenic lipid profile compared to the general population.

24
Erythrocyte membrane fatty acid composition remained unchanged after a training program in adolescents with Down syndrome

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Background: Individuals with Down syndrome have been generally described as having high levels of oxidative stress. In a previous paper we have reported regular exercise decreased significantly lipid peroxidation in adolescents with Down syndrome. The present study was designed to ascertain the influence of regular exercise in the erythrocyte membrane fatty acid profile

Materials and methods: Thirty-one male adolescents (16·1 ± 1·1) with Down syndrome performed a 12-week aerobic training program with 3 days/week, consisting of warm up (15 min), main part (20–35 min) at a work intensity of 60–75% of peak heart rate [HRmax = 194·5 – (0·56 age)] and cool-down (10 min). Control group included seven age, sex and BMI-matched adolescents with trisomy 21 that did not performed any training program. Blood samples were collected from antecubital vein 72 h before starting the program and after its ending. The identification and quantification of fatty acid methyl esters by gas-liquid chromatography was made possible by the use of an external standard mixture supplied by Sigma. The poly unsaturated fatty acid (PUFA) concentrations were expressed as the percentage of total fatty acids in the erythrocyte membrane.

Written informed consent was obtained from all their parents. This protocol was approved by a local Ethics Committee.
Results: Pre and post-exercise n3 PUFA contents were 7·20 ± 0·92% (6·27–8·13 mmol/L) and 7·31 ± 0·88% (6·53–8·09 mmol/L) respectively. Regarding n6 PUFA contents they were 20·48 ± 1·61% (18·40–22·56) and 21·16 ± 1·43% (19·38–22·94) pre and post-exercise respectively. When compared to baseline, concentrations of both n3 PUFA (7·20 ± 0·92% vs. 7·31 ± 0·88%; $P > 0·05$) and n6 PUFA (20·48 ± 1·61% vs. 21·16 ± 1·43%; $P > 0·05$) were not changed significantly after being exercised Consequently the n3/n6 ratio also remained unchanged (0·35 ± 0·07 vs. 0·34 ± 0·06; $P > 0·05$). Similarly no significant differences were found in control group ($P > 0·05$).
Conclusions: It may be concluded a 12-week exercise program did not change significantly erythrocyte membrane fatty acid composition in adolescents with Down syndrome. More detailed studies concerning the influence of exercise on redox metabolism are required in this population.

Subspeciality session: Nephrology and hypertension

25
Molecular kinetics of the endothelin system in unilateral ureteral obstruction

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Background: Unilateral ureteral obstruction (UUO) leads to nephron loss. A number of vasoactive substances are involved in the response to early (<5 h) and late UUO. The aim of this study was to investigate the kinetics of the endothelin system in UUO.
Material and methods: The kidneys of male Sprague-Dawley rats were harvested after 10 predefined time slices (0–30 days) of UUO. In each group sham-operated animals were included to account for the bearing of the operation stress. Endothelin-1, endothelin-converting-enzyme, endothelin A-receptor and endothelin B-receptor mRNA expression was determined in kidney extracts from obstructed, non-obstructed (contralateral) and control kidneys via semi-quantitative reverse-transcriptase polymerase chain reaction (RT-PCR).
Results: In early UUO, a change in the expression of endothelin A-receptor (30 min; $P < 0·05$) was detected, but not in endothelin-1, endothelin-converting-enzyme and endothelin B-receptor. In late UUO, risings in the expression of endothelin-converting-enzyme (4 days, 30 days; $P < 0·05$), endothelin A-receptor (30 days; $P < 0·05$) and endothelin-1 (2, 4 and 30 days; $P < 0·05$) in the obstructed kidneys were demonstrated. No significant variation occurred in the expression of the non-obstructed and control kidneys in early or late UUO.
Conclusions: Endothlin-1, endothelin-converting-enzyme and endothelin A-receptor expression increased over time in the obstructed kidney. The established models indicate that kinetics for the endothelin system exists in late and presumably in early UUO. Endothelin-1 could be the major cause for nephron loss, manifesting in renal failure of the obstructed organ by mediating renal vasoconstriction.

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Urinary albumin concentration or albumin to creatinine ratio in urine for screening for microalbuminuria in diabetic outpatients?

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Background: A new discussion is emerging aimed at the redefinition of microalbuminuria in diabetic and non-diabetic patients. Microalbuminuria has been commonly accepted as a marker for the development of nephropathy and/or increased cardiovascular morbidity and mortality, particularly in diabetic patients. For pathophysiological and logistic reasons, the determination of albumin to creatinine ratio in urine (UACR) should be superior to that of urinary albumin concentration (UAE) in the screening for microalbuminuria. Therefore, we compared the clinical validity of both methods in diabetic outpatients.
Materials and methods: Forty-four non-diabetic controls and 146 unselected diabetes patients were studied (87 females and 103 males aged 18–79 years). UAE and UACR were measured in random urine samples (DCA 2000, Bayer).
Results: In non-diabetic female controls, UAE averaged 8·6 mg/L, in male controls 8·3 mg/L. Mean UACR was 10·3 and 7·7 mg/g creatinine, respectively. Maximal values in controls were 19 mg/L and 25 mg/g creatinine, respectively. In 13% of the patients, measuring UAE and UACR lead to controversial and/or clinically not substantiated results. According to clinical criteria, the specificity of UAE was 93%, the sensitivity 90%. With the ADA cut-off point for microalbuminuria (UACR >30 mg/g creatinine), UACR had a specificity of 100% and a sensitivity of 80%. Decreasing the cut-off to >25mg/g creatinine increased sensitivity to 90% and decreased the rate of misclassified patients by 64% ($P < 0·05$) according to clinical criteria.
Conclusions: From the clinical viewpoint, measuring UACR in diabetic outpatients is superior to measuring UAE in random urine samples. A cut-off point of >25 mg/g creatinine appears more appropriate than the ADA cut-off point (>30 mg/g creatinine) for deciding about further diagnostic and therapeutic measures.

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Anemia and iron status in end-stage renal disease

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Background: Erythropoietin supplementation is the main treatment of the end-stage renal disease (ESRD) anemia, however, iron deficiency may also contribute to existing anemia. We studied iron status markers in ESRD patients with anemia persisting beside the standard treatment.
Material and methods: Complete blood count (CBC), total iron binding capacity (TIBC), ferritine and CRP concentrations were measured in 54 women and 49 men with ESRD

