THU0357

NAIFOLD CAPILLARY MICROSCOPY HAS LIMITED PROGNOSTIC VALUE IN PREDICTING FUTURE DEVELOPMENT OF CONNECTIVE TISSUE DISEASE IN CHILDREN WITH RAYNAUD'S PHENOMENON.

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Background: For adults with Raynaud's phenomenon (RP), nailfold capillary microscopy (NCM) is established to be an effective method for differentiating between PRP and SRP (1,2). Although Raynaud's phenomenon (RP) is very common in childhood, studies on diagnostic methods to differentiate between primary RP (PRP) and secondary RP (SRP) at a young age are scarce (3,4).

Objectives: The general aim of this study was to determine the prognostic value of nailfold capillary microscopy (NCM) in addition to antinuclear antibodies (ANAs) for later development of connective tissue diseases (CTD) in children with RP.

Methods: This was a case-control study, in which 83 patients diagnosed with RP and having undergone NCM in childhood were retrospectively included. Based on whether they were diagnosed with a connective tissue disease (CTD) during follow-up, they were classified as PRP or SRP. PRP and SRP patients were compared on demographics, NCM and ANA positivity. Variables associated with SRP were included in a multivariate logistic regression model. Predictive values were calculated for NCM, ANA positivity and the combination of NCM and ANA positivity.

Results: At the time of the baseline NCM, the mean age of the RP patients was 15.4±2.3 years. Averagely 6.4±3.2 years after the baseline NCM, 65 of the 83 patients were classified as PRP and 18 as SRP. The most common CTDs were MCTD and undifferentiated CTD. ANA positivity was associated with SRP (p<0.001). Of the NCM parameters, only capillary loss was associated with SRP (p=0.01). Abnormal numbers of dilated capillaries, giant capillaries and haemorrhages were not significantly associated with SRP. In a multivariate logistic regression model, only ANA positivity was predictive for SRP (OR 11.19, CI 3.07-40.79). ANA alone had a sensitivity of 66.7% and a specificity of 85.9% for SRP. ANA combined with capillary loss had a sensitivity of 33.3% and a specificity of 96.8%.

Conclusion: This study demonstrates that childhood RP is primary in most cases. Whereas RP in adulthood is most strongly associated with SSc, children with RP seem to be at risk of developing other CTDs with less apparent NCM abnormalities. Dilated capillaries, giant capillaries and haemorrhages on NCM are not associated with the spectrum of CTDs that children are at risk for, and do not differentiate between primary and secondary RP. Although capillary loss on NCM is associated with SRP, capillary loss may add little to the predictive value of serology. To clarify which NCM parameters are helpful for early detection of SSc-like CTDs, additional research is required.

References:

- [1] Koenig M, Joyal F, Fritzler MJ, Roussin A, Abrahamowicz M, Boire G, et al. Autoantibodies and microvascular damage are independent predictive factors for the progression of Raynaud's phenomenon to systemic sclerosis: A twenty-year prospective study of 586 patients, with validation of proposed criteria for early systemic sclerosis. *Arthritis Rheum.* 2008;58(12):3902-12.
- [2] Pavlov-Dolijanovic S, Damjanov NS, Stojanovic RM, Vujasinovic Stupar NZ, Stanisavljevic DM. Scleroderma pattern of nailfold capillary changes as predictive value for the development of a connective tissue disease: a follow-up study of 3,029 patients with primary Raynaud's phenomenon. *Rheumatol Int.* 2012;32(10):3039-45.
- [3] Jones GT, Herrick AL, Woodham SE, Baildam EM, Macfarlane GJ, Silman AJ. Occurrence of Raynaud's phenomenon in children ages 12-15 years: Prevalence and association with other common symptoms. *Arthritis Rheum.* 2003;48(12):3518-21.
- [4] Pavlov-Dolijanovic S, Damjanov N, Ostojic P, Susic G, Stojanovic R, Gacic D, et al. The prognostic value of nailfold capillary changes for the development of connective tissue disease in children and adolescents with primary Raynaud phenomenon: A follow-up study of 250 patients. *Pediatr Dermatol.* 2006;23(5):437-42.

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THU0358

NEGATIVE CHANGES OF BODY COMPOSITION IN MYOSITIS PATIENTS AND THEIR ASSOCIATION WITH DISEASE SPECIFIC CHARACTERISTICS, PHYSICAL ACTIVITY AND NUTRITIONAL STATUS.

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Background: Skeletal muscle, pulmonary and articular involvement in idiopathic inflammatory myopathies (IIM) limit the mobility/self-sufficiency of patients, and can have a negative impact on body composition.

Objectives: The aim was to assess body composition and physical activity of IIM patients and healthy controls (HC) and the association with selected inflammatory cytokines/chemokines and laboratory markers of nutrition and lipid metabolism.

Methods: 54 patients with IIM (45 females; mean age 57.7; disease duration 5.8 years; polymyositis (PM, 22) / dermatomyositis (DM, 25) / necrotizing myopathy (IMNM, 7)) and 54 age-/sex-matched HC (45 females, mean age 57.7) without rheumatic/tumor diseases were included. PM/DM patients fulfilled Bohan/Peter criteria for PM/DM. We assessed body composition (densitometry: iDXA Lunar, bioelectric impedance: BIA2000-M), physical activity (Human Activity Profile, HAP questionnaire), serum levels of 27 cytokines/chemokines (commercial multiplex ELISA kit, Bio-Rad Laboratories) and serum levels of selected parameters of nutrition and lipidogram. Disease activity (MITAX and MYOACT activity score) and muscle involvement (manual muscle testing, MMT-8, and functional index 2, FI2) were evaluated. Data are presented as mean±SD.

Results: Compared to HC, patients with IIM had a trend towards significantly increased body fat % (BF%; iDXA: 39.9±7.1 vs. 42.4±7.1 %, p=0.077), but significantly decreased lean body mass (LBM; iDXA: 45.6±8.1 vs. 40.6±7.2 kg, p=0.001; BIA: 52.6±8.8 vs. 48.7±9.0 kg, p=0.023), increased extracellular mass/body cell mass (ECM/BCM) ratio (1.06±0.15 vs. 1.44±0.42, p<0.001), reflecting deteriorated nutritional status and predisposition for physical activity, and significantly lower bone mineral density (BMD: 1.2±0.1 vs. 1.1±0.1 g/cm², p<0.001). Disease duration negatively correlated with BMD and LBM-BIA. Disease activity (MITAX, MYOACT) positively correlated with LBM (by BIA and DXA), similarly as with basal metabolic rate (BMR), and fat free mass (FFM). CRP was positively associated with BF% (BIA and DXA). Higher BF%-DEXA was associated with worse physical endurance (FI2) and worse ability to perform physical activity (HAP). MMT-8 score negatively correlated with ECM/BCM ratio. Serum levels of several inflammatory cytokines/chemokines (specifically IL-1ra, MCP, IL-10) and markers of nutrition (specifically albumin, C3-, C4-complement, cholinesterase, amylase, insulin and C-peptide, vitamin-D, orosomucoid), and lipid metabolism (specifically triglycerides, high-density lipoprotein, apolipoprotein A and B, atherogenic index of plasma) were significantly associated with alterations of body composition in IIM patients. (p<0.05 for all correlations)

Conclusion: Compared to healthy age-/sex-matched individuals we found significant negative changes in body composition of our IIM patients associated with their disease activity and duration, inflammatory status, skeletal muscle involvement, and physical activity. These data could reflect their impaired nutritional status and predispositions for physical exercise, aerobic fitness and performance.

Serum levels of certain inflammatory cytokines/chemokines and markers of nutrition and lipid metabolism were associated with alterations of body composition in IIM patients. This might further support the role of systemic inflammation and nutritional status on the negative changes in body composition of IIM patients.

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THU0359

GENDER IMPACT ON LOWER URINARY TRACT INVOLVEMENT IN SYSTEMIC SCLEROSIS PATIENTS

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