ACP 2017 ABSTRACT

Vein valve defects and insufficiency in children

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Introduction: Venous insufficiency of the lower extremities is regarded to be a genetically determined, acquired disease. Children have rarely been examined. In earlier studies, the incidence is commonly estimated to below 1%.

Methods: In an ongoing study, the legs of 26 young relatives of vein patients, aged 6 – 16 (13 m, 13 f) were examined with high frequency ultrasound (X 700, 12-16 MHz; Vevo MD, 16 – 32 MHz).

Results: In 9/26 children (34.6%) venous pathology was found: Valvular defects of the GSV with reflux (n = 3) or without macroscopic reflux (n = 3), reflux of GSV without detectable valve defect (n = 1), valvular lesion of SSV (n = 1), perforator insufficiency (n = 1). 4/9 cases (44.4%) showed changes of regional superficial veins (diameter increase, more intense colour).

Conclusions: The incidence of detected valve lesions in children was above all expectations, even if taking a bias by case selection into account. Supposed that the development of valvular insufficiency by mechanisms like hypertension, dilatation or inflammation takes decades, the shown pathologies should be best explained by congenital valve defects. Without therapy, the well known vitious circle of increasing flow disturbance and consecutive further valve insufficiency is initiated, meaning continuous progression, modified by genetic factors and individual patterns of muscle activation. It is yet unknown how many of “acquired“ insufficiencies are based on non-detected congenital lesions. Now, representative studies of populations have to be performed, Minimal invasive valve repair would be the best option.