

NAILFOLD CAPILLAROSCOPY IN COMPLEX REGIONAL PAIN SYNDROME: THE ROLE OF THE PHYSICAL AND REHABILITATION MEDICINE SPECIALIST IN MICROCIRCULATORY MORPHOLOGICAL EVALUATION

Sime Mijic, Ivan Novak

Poliklinika Faktor zdravlje, Croatia
e-mail: sime.mijic@gmail.com

Background and Aims

Complex regional pain syndrome (CRPS) is characterized by chronic pain, autonomic dysfunction, and microcirculatory abnormalities. Vasomotor instability and trophic changes are common features, yet standardized non-invasive tools to assess microvascular changes are limited. Nailfold capillaroscopy, although traditionally used in rheumatology, may offer diagnostic value in CRPS. The aim of this study was to examine whether distinct morphological alterations can be identified in nailfold capillaries of CRPS patients, and to highlight the role of the physical and rehabilitation medicine (PRM) specialist in early evaluation and differential diagnosis.

Methods

A total of 22 patients diagnosed with CRPS type I, according to the Budapest criteria, underwent standardized nailfold capillaroscopy of all fingers on both hands. Parameters analyzed included capillary density, presence of megacapillaries, avascular zones, microhemorrhages, and capillary disorganization. Results were compared to those of 22 healthy age- and sex-matched controls.

Results

Pathological findings were observed in 17 out of 22 patients (77%), including enlarged and tortuous capillary loops, avascular areas, and microhemorrhages, predominantly on the clinically affected hand. In 6 patients, alterations were also detected contralaterally. None of these findings were present in the control group ($p < 0.01$).

Conclusion

Capillaroscopy reveals significant morphological abnormalities in CRPS patients and may serve as a useful tool in the differential diagnosis of pain and trophic disorders. Given their expertise in musculoskeletal and autonomic dysfunction, physical and rehabilitation medicine specialists are well positioned to apply capillaroscopy as a non-invasive, accessible diagnostic method in the early assessment of CRPS.

Keywords: CRPS, Capillaroscopy