Teaching NeuroImage: Absence of Wrinkles in Small Fiber Neuropathy

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A 48-year-old woman with clinical diagnosis of small fiber neuropathy, supported by abnormal thermal thresholds using quantitative sensory testing, underwent the water immersion wrinkling test showing lack of digital wrinkles (Figure.). Normally, in the glabrous skin of the distal phalanges, water penetrates the sweat ducts provoking electrolytic changes that increase the firing of sympathetic terminals leading to vasoconstriction of the glomus bodies, generating wrinkles\(^1\). Sympathetic fiber damage is responsible for the absence of wrinkles. This test has a sensitivity of 71\%(58\%-82\%) and a specificity of 73\%(56\%-85\%)\(^2\). This is a simple, non-invasive, frequently forgotten bedside test that contributes to the diagnosis of small fiber neuropathy.

Bibliography


Figure

Title: Water immersion wrinkling test

Legend: (A) Patient with small fiber neuropathy, (B) control subject. Both hands were immersed in water at 40°C for 30 minutes. A complete lack of wrinkles was observed in the patient (A) at the end of the test. Two or fewer digital wrinkles is consistent with distal sympathetic dysfunction².
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