Tendinopathy and Doppler activity: the vascular response of the Achilles tendon to exercise.

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BACKGROUND: Intratendinous Doppler activity has been interpreted as an equivalent of neovessels in the Achilles tendon and as a sign of tendinosis (AT). AIM: To evaluate the vascular response as indicated by color Doppler activity after repeated loading of both symptomatic and non-symptomatic Achilles tendons. MATERIAL AND METHODS: Ten non-trained, healthy subjects ran 5 km. Ultrasound (US) Doppler activity was determined before and after the exercise. Eleven patients with chronic AT performed 3 x 15 heavy-load eccentric exercise. The Achilles tendons were scanned before and immediately after the exercise.

RESULTS: Non-symptomatic: six Achilles tendons in five subjects had intratendinous Doppler activity before the exercise. All but two subjects (80%) had intratendinous Doppler activity after running. Symptomatic: all patients had Doppler activity in the tendons, with a median color fraction before eccentric exercise of 0.05 (range 0.01-0.33). The Doppler activity did not disappear after exercise. Tendons with a color fraction below the median at baseline increased significantly after the exercise (P=0.02). CONCLUSION: The mere presence of Doppler in the Achilles tendon does not per se indicate disease. Eccentric exercise does not extinguish the flow during or after one training session in patients with chronic AT.