

Dupuytren's disease in a rock climber with an unaffected identical twin

Dear Sir,

There is strong evidence of an inherited susceptibility to Dupuytren's disease. Identical twins are a useful tool for studying diseases with genetic influences. Very few reports have been published on identical twins with Dupuytren's disease and only two are in English (Couch, 1938; Lyall, 1993). We report identical twins, of which only one has developed Dupuytren's disease, and we hypothesize that rock climbing might have been the environmental trigger in this case.

Twin 1 is a secondary school teacher who started high-intensity climbing at the age of 22. A few months later, a first nodule appeared in his left palm. Now, aged 34, he has two in the left hand and one in the right hand. He is a high-level climber who climbs up to 7c+ routes on the French scale and goes climbing 4–5 times a week. His twin brother, Twin 2, is a psychologist who runs marathons and has no nodules (Figure 1). They have no family history of Dupuytren's disease and no serious illnesses. Twin 1 is a moderate drinker (8 units per week) and Twin 2 has a dust mite allergy and asthma.



Figure 1. Left hands of the identical twins. The one with Dupuytren's disease is on the left.

Many risk factors have been proposed for Dupuytren's disease, including the genetic influence. Hindocha et al. (2006) calculated a sibling recurrence risk ratio of 2.9. Factors that increase oxygen free radicals, such as alcohol, cigarettes and diabetes mellitus, and trauma including manual work, vibration exposure and overuse of the hand, which would include rock climbing, have been implicated.

Couch (1938) reported a pair of twins with identical Dupuytren's contractures. Lyall (1993) reported two pairs of identical twins of whom only one in each pair had the disease and suggested that the genetic background alone is not sufficient for onset of the disease and that an unknown environmental trigger must be present. Logan et al. (2005) found that rock climbing might be associated with an early onset of Dupuytren's disease in male climbers owing to repeated microtrauma in the palmar area.

The twins reported here are both healthy, with no serious illnesses and no apparent risk factors predisposing to Dupuytren's disease, other than climbing in one twin. Alcohol consumption in Twin 1 is the only additional feature that might possibly have some minor influence of the appearance of Dupuytren's disease, although he is only a moderate consumer of alcohol. It is noteworthy that the appearance of the first nodule coincided with the beginning of high-intensity climbing. Therefore, this case report tentatively suggests that repeated microtrauma has a determinant influence in the early manifestation of Dupuytren's disease and supports the findings of Logan et al. (2005). The onset of the disease in the climber does not contradict the hypothesis of a genetic influence, since his brother might still contract the disease in the future.

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Conflict of interests

None declared.

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