Genetic and epigenetic influences on the pathogenesis of Dupuytren's disease

Valerie J. Lequen MSc, Jonathan A. Britto BSc

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To the Editor:

We read with interest the latest in a series of reports of Dupuytren's disease (DD) occurring in childhood.1 This evidence adds to that mounting to suggest that genetic influences modulate the presentation of palmar fibromatoses in conjunction with environmental factors. In our review of palmar DD following trauma (Ragoowani et al, presented at the IFSSH meeting, 2001), we agree with Murrell and Houston2 that a proportion of patients seem to have a genetic predisposition to the disease, which is triggered by an environmental, traumatic, insult. Epidemiologic studies indicate that the disease is most severe in Northern Europe and predominantly affects men.3 These types of data support a genetic origin of DD with variable expression by race and gender. Genetic/epigenetic modulation probably also accounts for the predisposition for DD to affect the ring finger and for that proportion of patients, nearly 50% in our series, to have variable severity of DD on the radial side of the hand (Britto et al, presented at the IFSSH meeting, 2001). Consideration that genetic predisposition facilitates a disease phenotype, which is then precipitated in clinical form by an environmental trigger, is well established in other fields. For example, craniosynostosis, the premature fusion of skull sutures, occurs in conjunction with activating mutations in the FGFR2 gene expressed in human cranial sutures.4 Weakly activating FGFR2 mutations may cause a subclinical phenotype that with obstetric breech presentation precipitate cranial suture fusion.5 Other examples such as hypertension6 and diabetes7 also illustrate the point. We keenly anticipate clarification of these hitherto unknown genetic influences, perhaps from established Dupuytren's families,8,9 affecting the presentation of DD. This genetic information will greatly enhance molecular studies of the etiology of the condition, the pathogenesis of the flexion contracture, and the interrelationship between Dupuytren's cords and nodules.

St. Andrew's Centre for Burns and Plastic Surgery Broomfield Hospital Court Rd, Chelmsford Essex CM1 7ET, England
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References


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