Vibration white finger and Dupuytren’s contracture: are they related?

Sir,

This paper by Clarke and Thomas (Occup. Med. 1992; 42: 155-8) has recently been brought to my attention. The authors pose a question in the title – whether or not the two conditions are related. They answered this question by concluding that their statistical analysis ‘may indicate’ an aetiological relationship.

I do not believe that this statistical analysis is sufficiently convincing to make such a conclusion. The authors state that they are dealing primarily with an Irish-Welsh population who would be of Celtic stock and therefore the incidence of Dupuytren’s contracture would be very high. Table 2 of their paper shows that 13.6 per cent of their group had Dupuytren’s contracture. This is not surprising and in fact one would expect a prevalence somewhat higher than this.

Both hand–arm vibration and Dupuytren’s contracture are difficult to diagnose in the early stages of disease. In this series the authors did not detect a single case of Dupuytren’s contracture in the age group from 25 to 44 which indicates that some patients were overlooked. The diagnostic accuracy of hand–arm vibration would be clearer in the later stages of disease. For instance, as shown in their Table 3, 346 subjects had hand–arm vibration from stages 2 to 4. In this group only 37 subjects had Dupuytren’s disease (as indicated in Table 4) for a prevalence of 10.7 per cent. Interestingly, this was the prevalence reported in their control group. Would it not be more appropriate to design a control group who work in the same industries as the subjects, but without hand–arm vibration? With a statistical analysis of numbers of this size, one would hope for a P value certainly less than 0.01 and perhaps closer to 0.001.

The problem with this and many other epidemiological studies is that we do not understand the fundamental pathological process. It is clear that Dupuytren’s contracture is a genetic disease of variable penetrance. Individuals of Celtic extraction have an increased penetrance. Associated diseases such as epilepsy, diabetes mellitus and alcoholism increase both the incidence and severity of the disease. It has been suggested that smoking and even AIDS may be a factor in increasing the incidence. To date there is no concrete evidence that relates Dupuytren’s contracture to manual labour or hand–arm vibration.

This is a study that should be continued, perhaps with the addition of an epidemiologist and a statistician, but also a surgeon who is experienced in the diagnosis of Dupuytren’s disease.

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