British Journal of Plastic Surgery (1977), 30, 149-150

A STUDY OF THE EFFECT OF RECURRENT TRAUMA ON THE DEVELOPMENT OF DUPUYTREN'S CONTRACTURE

By R. C. BELL, M.B., F.R.C.S.

Plastic Surgery Unit, Shotley Bridge General Hospital, Consett, DH8 oNB

and

J. A. FURNESS, B.Sc., Dip.O.R., F.S.S.

Regional Statistical Section, Northern Regional Health Authority, Benfield Road, Walker Gate, Newcastle upon Tyne NE6 4PY

DURING the 19th and the early part of this century, it was a generally accepted medical opinion that Dupuytren's contracture was one of the occupational hazards of certain types of employment and many of the early papers on the disease stress its relationship with hard manual labour or repeated minor trauma. For example, in the days of horse drawn vehicles, the constant trivial injury incurred by cab drivers clutching the reins and whip apparently gave rise to fibrosis and deformity, and "cabby's hands" became a well known condition (for review see Skoog, 1948). However, in 1912, a Government committee deliberated on the possibility of a relationship between trauma and Dupuytren's contracture and found that there was no conclusive connection (Collis and Eatock, 1912). This decision, which resulted in the exclusion of the condition from the list of occupational diseases and subsequent claims for compensation, has since been supported by more recent studies (Smith and Masters, 1939; Hueston, 1963). Notwithstanding contemporary medical opinion which has not been universally accepted as being correct (Skoog), the clinical experience of one of the authors of this paper caused him, over the years, to be increasingly unconvinced by the findings of the 1912 Committee and the following study was carried out.

PATIENTS AND METHODS

The Plastic Surgery Unit at Shotley Bridge General Hospital provides a service to the northern part of County Durham where the heavy industries of steelmaking, shipbuilding and coal mining predominate. Male patients suffering from Dupuytren's contracture were interviewed by the consultant who completed a questionnaire for each which recorded the history of the condition and the nature of both the patient's current employment and that at the onset of the condition, and whether they involved minor trauma to, or heavy use of the hand. Information was also obtained on any abuse of the hands in activities other than employment, such as hobbies.

There were 53 patients and the disease was bilateral in 36. Eleven had a close relative who was also afflicted.

RESULTS

It will be seen from the Table that although there was no demonstrable association between the development of the disease and trauma to the hand incurred through the patient's current occupation, significantly more of those patients developing an established

TABLE

Occupation		Time for the disease to develop: Six months or less (%)		Time for the disease to develop: Over 6 months (%)	
At time of interview	Very heavy manual	3	(50)	15	(45)
	Heavy manual	3		19	
	Light	6	(50)	41	(55)
At time of onset of disease	Very heavy manual	7	(83)	17	(40)
	Heavy manual	3		13	
	Light	2	(17)	45	(60)

contracture within 6 months of onset were heavy manual labourers at the time of onset ($P < 0.01$). Trauma to the hand in the pursuit of hobbies played no demonstrable part in the progress of the condition.

DISCUSSION

The results confirm that there is no simple causal relationship between trauma to the hand and the onset or development of Dupuytren's contracture. It would appear that many patients have a diathesis towards the condition, which also sometimes seems to be familial. Accepting that a patient may have a predisposition, the results indicate that the rate of development can be adversely affected by repeated trauma to the hands. This commonsense finding has been anticipated by clinicians who for many years have been advising patients with early disease to change to a lighter job or take measures to reduce trauma to their hands.

The possibility remains that some patients, who have developed Dupuytren's contracture, would not have done so until later had they been engaged in a lighter occupation.

REFERENCES

COLLIS, E. L. and EATOCK, R. (1912). Report of an inquiry on Dupuytren's contraction as a disease of occupation, with special reference to its occurrence among minders of lace machines. London: Home Office.

HUESTON, J. T. (1963). "Dupuytren's contracture." Edinburgh and London: E. & S. Livingstone.

SKOOG, T. (1948). Dupuytren's contraction. *Acta Chirurgica Scandinavica*, **96**, Supplement 139.

SMITH, K. D. and MASTERS, W. E. (1939). Dupuytren's contraction among upholsterers. *Journal of Industrial Hygiene and Toxicology*, **21**, 97.