Dupuytren's Disease in African-Americans

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DUPUYTREN'S DISEASE IN AFRICAN-AMERICANS

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Seventeen African-American patients were operated on for Dupuytren's contracture over a 14-year period. Six-month minimum follow-up was available for 16 patients. The initial deformity, and results of surgical release of Dupuytren's contracture in this population was similar to that described in North Europeans.

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Dupuytren's is rare among Asians and blacks (McFarlane et al, 1990). There have been several single case reports of African-Americans and Africans with Dupuytren's disease, and three published series each with less than 10 patients (Furnas, 1979; Haeseker, 1981; Mennen, 1986; Mennen and Gräbe, 1979; Mitra and Goldstein, 1994; Muguti and Appelt, 1993; Plasse, 1979; Rosenfeld et al, 1983; Sladicka et al, 1996; Zaworski and Mann, 1979). This study was undertaken to examine the behaviour of Dupuytren's disease and the results of surgery in a group of African-American patients.

PATIENTS AND METHODS

A retrospective review of all African-American patients undergoing Dupuytren's release from June 1981 to June 1995 was carried out at Cook County Hospital, the West Side Veteran's Hospital and the University of Illinois Hospital. Seventeen patients were identified.

Hospital records were reviewed and all patients were asked to return for follow-up. One patient declined. Sixteen patients were examined at a minimum of 6 months postoperatively, and are included in the study. The average length of follow-up was 25 months (range, 6–168 months). There were 13 men and three women. A total of 24 digits were operated on. Four patients had bilateral involvement, but one had minimal deformity on one side. Three patients had bilateral operations. None of the patients had knuckle pads. The average age at the time of initial operation was 64 years (range, 43–84).

The indications for operation were a metacarpophalangeal (MP) joint contracture greater than 30°, any contracture of the proximal interphalangeal joint and any painful nodule or contracture regardless of severity.

The distribution of digits operated on was: small, 13; ring, seven; long, two; and thumb, two. One patient had bilateral involvement of the thumb. Fifteen digits had involvement of the PIP joint, and 21 digits had involvement of the MP joint. Both thumbs had involvement of the metacarpophalangeal and interphalangeal joints. Neither had involvement of the first web space.

The notes were reviewed for details of the surgical procedure including the incision used. The preoperative range of motion was obtained from the records. Postoperative range of motion was measured at review. A social and family history was obtained from all patients.

One patient had a family history of Dupuytren's disease affecting his maternal grandmother. Seven patients had a history of alcohol use of greater than a pint a day of beer or wine.

RESULTS

Two operative procedures were used. Five patients (seven digits) had selective fasciectomy of diseased fascia with a Z-plasty incision. Eleven patients (17 digits) underwent a segmental fasciectomy as described by Moermans (1991). Of this group two digits had multiple curvilnear incisions as described by Moermans, and 15 had limited Z-plasties.

The average preoperative flexion contracture of the proximal interphalangeal joint in 15 digits was 48° with a range of 10° to 95°. The interphalangeal joints of both thumbs affected had 45° flexion contractures. Immediately after surgery all patients had complete correction of the flexion contracture. At follow-up the average PIP flexion contracture was 8° (range, 0–38°). The IP joints of the thumbs were both corrected to 0°.

The average preoperative flexion contracture of the metacarpophalangeal joint in 21 digits was 37° (range, 10°–65°). Twenty digits had complete correction of the flexion contracture, and one showed a 10° flexion contracture in the immediate postoperative period. At follow-up the average flexion contracture was 1° (range, 0–20°). All but two digits maintained full correction of the flexion deformity. These two had flexion contractures of 10° and 20°. There were no infections.

DISCUSSION

Sladicka et al (1996) in a literature review documented 47 reported cases of Dupuytren's contracture in the black population. Mitra and Goldstein (1994) have reported on a series of eight cases, five of which were bilateral, from the USA. Haeseker (1981) described the case of a black woman from Surinam with Dupuytren's disease and the sickle cell trait. Zaworski and Mann (1979) and Plasse (1979) described Dupuytren's in black men from the United States. In all four of these studies the complete lineage of the patients was unknown, and the possibility of a European blood line could not be ruled out. Mennen (1986) has reported on six blacks with Dupuytren's disease. One, a male black African from

South Africa had bilateral Dupuytren's disease and plantar fibrosis (Mennen and Gräbe, 1979). Blood genotyping suggested that the man did not have European ancestry. Furnas (1979) described a case of a black man from Tanzania with bilateral Dupuytren's. The patient was born in an area before European settlement. Furnas commented that Dupuytren's disease has a small but definite incidence in pure blacks. Muguti and Appelt (1993) reported on four indigenous black Zimbabweans with Dupuytren's disease. McFarlane et al (1990) compiled 1,150 patients with Dupuytren's in an epidemiological study by questionnaire from the International Federation of Societies of Surgery of the Hand. Nine black Americans (1%) and five black Africans (0.5%) were reported.

McFarlane et al (1990) analysed the preoperative contracture in North Europeans reported in the study. Because the results were stratified by finger and year of follow-up it is difficult to make an exact comparison with our study. However, the average preoperative MCP contractures were: middle, 29°; ring, 37°; small, 43°. Our value of 37° is well within this range. Similarly the preoperative PIP contractures were: middle, 34°; ring, 50°; and small, 51°. Our value of 48° is also well within this range.

The results in this population have been satisfactory. Nineteen of 21 MP contractures and ten of 15 PIP contractures had complete correction. At follow-up, none of the PIP joints had a contracture greater than 40°, and only two had a contracture greater than 30°. None of the MCP joints had a contracture greater than 20°.

Our results suggest that the presentation of Dupuytren's disease and the outcome of surgical release are both very similar to what is found in North Europeans.

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