

A Comparison of Patients with Different Types of Syndactyly

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Study conducted at Shriners Hospital for Children, Houston, Texas, U.S.A.

Summary: We performed a retrospective review of finger syndactyly releases at Shriners Hospital for Children, Houston Unit, between January 1983 and January 1993. This study was performed in an attempt to compare the long-term postoperative function in patients after release of syndactyly resulting from Poland's syndrome with that in patients with idiopathic forms of syndactyly. Only patients with one involved hand were included in this study. The contralateral hand was used as a control. Twenty-seven patients with only one hand involved underwent syndactyly release during this period. Of these, 13 patients who underwent a total of 30 syndactyly releases were available for evaluation. For each patient, the type of syndac-

tyly was determined. Each patient was subjected to a detailed physical examination and participated in occupational-therapy modalities. We noted statistically significant differences in function between operated-on and control hands in the Poland's group, whereas operated-on hands affected with idiopathic forms of syndactyly did not demonstrate significantly different function compared with contralateral controls. These data suggest that functional deficits in hands affected by Poland's syndrome are attributable to more than the syndactyly alone. Hands affected by idiopathic forms of syndactyly are likely to have little postoperative functional deficit. **Key Words:** Function—Outcome—Poland's syndrome—Syndactyly.

Congenital upper extremity syndactyly is a common feature of ≥ 28 syndromes and occurs at a rate of one per 2,000–2,500 live births (5). At least 50% of all cases are bilateral (5,6,10). Congenital syndactyly is the result of incomplete separation of digital rays during the sixth to eighth week of gestational development (2,3,5–7). Syndactyly can occur as a feature of a syndrome (syndromic syndactyly) or as an isolated entity (idiopathic syndactyly). Idiopathic forms can be inherited as autosomal dominant traits or can occur as a result of constriction bands in utero (5,6,10).

During the past 20 years, several authors have attempted to study the function of hands after syndactyly release (2,4,13). No studies, to our knowledge, have addressed the functional results after syndactyly release by using a patient's own, nonoperated-on contralateral hand as a control. Further, we found no studies that use sophisticated occupational-therapy modalities to assess functional outcome. This study attempts to compare functional outcome after syndactyly release in two popu-

lations: one population of patients with syndactyly as a result of Poland's syndrome and one population of patients with idiopathic forms of syndactyly.

MATERIALS AND METHODS

We performed a retrospective review to determine the outcomes of children having undergone syndactyly release at the Shriners Hospital for Children, Houston Unit, between January 1983 and January 1993. Included in the study were all patients having undergone finger syndactyly release in one hand who had a normal contralateral upper extremity. Excluded from the study was any patient having undergone hand surgery in either hand unrelated to syndactyly, and any patient on the waiting list for future syndactyly releases. Twenty-seven patients met our strict inclusion criteria and were candidates for this study. Of these, 14 patients were seen and examined, and 13 patients were lost to follow-up. One patient was seen for follow-up but was unable to cooperate with the examination; therefore, data on 13 patients were collected and analyzed. Of the 13, six (46%) had a diagnosis of Poland's syndrome, and seven (54%) had idiopathic forms of syndactyly. All of the examinations were performed by one physician (R.C.K.).

Demographic data were recorded from the medical record. There were nine boys and four girls. All patients exhibited nonoperated-on hand dominance except one. Six patients had Poland's syndrome (symbrachydactyly),

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