The social and economic consequences of finger amputations

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120 patients with amputation of at least 1 of the 4 ulnar fingers were admitted to hospital. In none was replantation considered to be possible because of serious damage to the soft tissues and bone. 12 (3–18) years after the accident 80 percent of the patients assessed their condition as good or fair, even those with proximal amputation or loss of 2 or 3 fingers. Our observations do not support replantation when only one of the second-to-fifth fingers have been amputated.

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Replantation of amputated fingers is not always possible or desirable. We report the economic and social consequences of amputation of at least 1 of the 4 ulnar fingers at various levels.

Patients and methods

In the period 1972–1987, 142 consecutive patients with amputation of one or several of the 4 ulnar fingers were referred to our hospital. At follow-up 12 (3–18) years after the injury, 9 patients had died and 13 did not want to participate in the study. The remaining 120 patients, 111 men and 9 women, with an age of 37 (8–67) years, were re-examined by questionnaire. The patient's own assessment of the final result was registered as *good* (no impairment of function and no pain), *fair* (slight impairment of function and/or slight pain) or *poor* (severe impairment of function and/or severe pain).

Three quarters of the accidents happened at work and one quarter at home. The most frequent causes of amputation were sawing, crushing in a lawn mower, or traction by rope. The occupations before injury were: 39 semi-skilled workers, 30 unskilled workers, 14 carpenters, 10 apprentices, 2 butchers, 1 retired and 24 others.

In 25 patients more than 1 finger was injured. In 5 cases 3 fingers and in 20 cases 2 fingers were amputated. Consequently, the total number of amputated fingers among the 120 patients was 150. The level of amputation was defined as the level at which the bone terminated (Daniel and Terzis 1977). All insurance payments are updated to present currency according to the Danish consumer price index.

Results

In 103 of the 120 cases, the dominant hand was injured. At follow-up, 4 patients had changed their hand dominance, mainly because of loss of power grip. 82 percent of the patients assessed themselves as good or fair (Table 1), even those with proximal amputations (Table 2) or amputations of more than 1 finger (Table 3).

The most frequent complaint was cold intolerance, experienced by the majority. 55 patients

Table 1. The patients' assessment of their final result following finger amputation

	Finger					
	II	III	IV	V	Total	Percent
Good	16	16	16	13	61	41
Fair	23	21	14	4	62	41
Poor	9	9	6	3	27	18
Total	48	46	36	20	150	

Table 2. The patients' assessment of their final result following amputation in or proximal to the PIP joint

	Finger				
	II	III	IV	V	Total
Good	1	0	4	3	8
Fair	3	2	4	0	9
Poor	1	0	2	1	4
Total	5	2	10	4	21

Table 3. The patients' assessment of their final result following amputation of 2 or 3 fingers

	No. of fingers		
	2	3	Total
Good	2	5	7
Fair	1	12	13
Poor	2	3	5
Total	5	20	25

suffered from hypersensitivity of the stump, 53 had difficulty in picking up small objects, and 45 patients felt pain when using the remaining part of the finger.

The median time off from work following the accident was 47 (14–240) days. Only 3 patients never went back to work. 69 patients (58 percent) reported their amputation to the social insurance authorities. One of these patients was given a disablement pension and 45 received a median one-time payment of DKK 54,000 (3,400–515,000) or USD 7,700. Among the patients not reported to the social security authorities, 13 received a median one-time payment of DKK 66,000 from private insurance.

Discussion

With the microsurgical expertise available today, loss of the thumb or more than 1 finger or a part of the hand is an accepted indication for replantation (Kiil 1978, Tark et al. 1989, Weiland and Raskin 1990). When treating finger amputations, many individual factors must be considered. If the amputated parts are crushed or for other reasons cannot be replanted, the main purpose of surgery is to provide sufficient soft-tissue cover and to prepare for further surgery, such as skin or tendon grafting.

Only 16 percent of the patients estimated the result as poor. Even at amputation in or proximal to the PIP joint, only 19 percent were dissatisfied. When 2 or 3 fingers were partly amputated, the results were only slightly worse in the patients' opinion. Amputation of 1, 2 or 3 fingers, except for the thumb, thus seems to have a good prognosis regarding remaining symptoms and ability to return to work. Our study did not demonstrate a demand for replantation if only 1 of the second-to-fifth fingers was amputated.

References

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