Poor results after resection for Haglund's heel

Analysis of 35 heels in 23 patients after 3 years

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We reviewed 23 patients 3 (1–6) years after resection of the calcaneus for 35 Haglund's heels. 19 heels had been treated with a small resection and 16 with a large resection. The effect on the heel pain was independent of the size of the resection, but stiffness and ankle pain were more frequently associated with large than small resections. At follow-up, persistent heel pain was found in 12 heels and additional various late complaints in 22. The overall clinical outcome was good in 20 heels, satisfactory in 10 and poor in 5 heels.

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Submitted 92-12-30. Accepted 93-06-26

Haglund's heel is defined as a tender thickening of the soft tissue, most pronounced just lateral to the attachment of the achilles tendon (Haglund 1928, Fuglesang and Torup 1961). The treatment is mainly conservative. 2 different surgical procedures have been recommended in the literature: resection of the posterosuperior part of the calcaneus (Haglund 1928) and wedge osteotomy of the calcaneus (Zadec 1939). We evaluated our results after resection.

Patients and methods

26 consecutive patients had resection for Haglund's heel during 1985–1990. The diagnosis was based only on the clinical findings reported by 13 surgeons. We succeeded in reaching 23 patients (16 women and 7 men) with 35 operated on heels for follow-up examination (Table 1). Their median age was 21 (16–43) years at the time of operation. The median follow-up was 3 (1–6) years. Case 24 had had a previous resection elsewhere.

A 100-mm long visual analog scale, graded 0–100, was used for evaluating the subjective symptoms pre- and postoperatively. Zero represented no pain and 100 intolerable pain. A score of 15 or less was arbitrarily classified as good, 15–50 as satisfactory, and 50 or more as a poor result. The preoperative symptoms were pain whenever walking in 3 cases, pain in all shoes with a heel counter in 28, and pain in only some types of shoes in 4 cases. No patients were operated on for cosmetic reasons. For 34 heels the patients experienced the pain preoperatively as severe by scoring more than 15 on the visual analog scale. However, 1 patient indicated that the preoperative symptoms had been slight by scoring only 15. The preoperative median score was 50 (15–95).

Conservative treatment such as avoiding tight shoes or shoes with a stiff heel counter had been tried for 29 heels. This had no effect in 12 heels, and some, but not sufficient, effect in 17 heels. Injections of cortisone in the retrocalcaneal bursa had not been tried in any cases. 13 surgeons performed the operations. All patients were operated on under local anesthesia. 2 patients found it painful. A lateral approach was used in all but one heel in which a medial incision was used. A lateral radiograph of the operated on heel was compared to radiographs of the opposite, unoperated heel or to radiographs obtained before surgery. In 16 heels the resection was large, clearly visible on the radiograph, and in 19 it was small, not visible (Angerman 1990).

Chi-square tests and the Pearson correlation test were used for statistical analysis.

Results

All patients indicated at follow-up that they had had some alleviation of the original symptoms. For 20 heels the result was good, 10 were satisfactory and 5 poor. Cases 5, 6, and 31–33 with persisting pain were reoperated with a larger resection 5–11 months after the primary operation because the surgeon felt that the resection had been too small. However, 2 had originally undergone a large resection, and only 1 became

Table 1. Observations in 35 heels treated with resection of the calcaneus

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	21	2	1	1	1	2	90	1	37	75	0	4	2	1	75	2	P
2	21	2	2	1	1	2	75	1	37	5	0	2	2	0	0	1	G
3	16	1	1	1	1	3	70	2	24	5	0	3	2	4	10	1	G
4	16	1	2	1	1	3	70	2	24	5	0	3	2	3	5	1	G
5	33	1	1	1	1	2	50	2	25	5	4	6	3	4	5	1	G
6	33	1	2	1	1	2	50	2	12	88	99	6	6	4	60	2	P
7	16	2	1	2	2	1	30	1	23	0	0	3	2	0	0	1	G
8	16	2	1	2	2	1	30	1	23	0	0	3	2	0	0	1	G
9	25	1	1	1	2	1	35	1	30	0	2	3	5	0	0	1	G
10	25	1	2	1	2	1	35	1	30	0	2	3	5	1	5	1	G
11	22	1	1	2	1	2	80	2	30	30	7	6	3	0	0	1	S
12	22	1	2	2	1	2	80	2	30	25	7	6	3	0	0	1	S
13	20	1	1	1	1	3	90	2	33	10	0	3	3	4	50	1	P
14	20	1	2	1	1	3	85	2	33	10	0	3	3	4	50	1	P
15	17	1	1	1	1	2	40	1	31	0	4	3	2	3	15	1	G
16	17	1	2	1	1	2	40	1	31	0	4	3	2	2	0	1	G
17	17	1	1	1	1	3	15	2	24	0	0	6	6	2	15	1	G
18	17	1	2	1	1	3	20	2	16	0	0	3	4	0	0	1	G
19	24	2	1	1	1	2	40	1	22	30	14	6	6	3	10	2	S
20	24	2	2	1	1	2	40	1	22	30	14	6	6	3	10	2	S
21	30	1	1	1	1	2	50	1	30	0	2	6	2	1	10	1	G
22	30	1	2	1	1	2	50	1	30	0	2	6	2	1	10	1	G
23	20	1	1	1	1	2	20	1	19	5	0	3	3	1	5	1	G
24	22	1	2	1	1	2	30	2	27	5	1	6	3	0	0	2	G
25	16	1	1	1	1	2	80	2	12	20	5	6	2	4	25	1	S
26	32	2	1	1	1	3	95	1	36	20	2	3	1	0	0	1	S
27	43	1	2	1	1	3	45	1	36	40	3	6	5	4	50	1	P
28	21	1	1	1	1	2	50	1	34	40	3	4	2	0	0	1	S
29	18	1	1	3	1	3	80	2	68	30	0	1	6	4	30	1	S
30	21	2	2	1	1	3	65	2	18	5	0	3	1	3	5	1	G
31	18	1	1	3	2	1	55	1	12	0	0	2	1	0	0	1	G
32	16	1	1	1	1	3	40	2	12	20	0	3	6	4	30	2	S
33	37	2	2	3	1	2	85	2	48	10	1	3	1	0	0	1	G
34	19	1	1	1	2	1	80	1	17	5	4	6	3	0	0	1	G
35	18	2	1	1	1	1	40	1	38	15	1	2	2	4	30	1	S

A Age at operation
B Sex
  1 male
  2 female
C Heel operated
  1 right
  2 left
D Symptoms
  1 pain in all shoes
  2 pain in some shoes
  3 pain whenever walking
E Tried conservative treatment
  1 yes
  2 no
F Effect of conservative treatment
  1 yes
  2 some
  3 none
G Visual analog scale score preoperatively
H Size of resection
  1 small
  2 large
I Follow-up time (months)
J Visual analog scale score at follow-up
K Sick leave (weeks)
  0 students
L Time before toleration of shoes (weeks)
  6 6 weeks or more
M Time of restrictions in physical activities (months)
  6 6 months or more
N Late complications
  0 no complications
  1 sore scar
  2 ugly scar
  3 disturbed/changed sensation in the heel
  4 stiffness/pain in the heel/ankle region
O Visual analog scale score for late complications
P Would have undergone the operation if the result was known in advance
  1 yes
  2 no
Q Overall clinical rating
  G good
  S satisfactory
  P poor

free of symptoms after the new resection. Cases 5 and 6 were operated on 3 times without complete relief of the pain. 17 patients were employed at the time of operation and were on sick leave during a median of 3 (1–90) weeks; Case 6, with nearly 2 years sick leave, had acquired a chronic inflammatory condition of the achilles tendon after the operation.

In 13 heels, more than 6 weeks were neccessary postoperatively before shoes with a heel counter could be worn. 6 cases had restrictions in physical activities during 6 months or more postoperatively. A small resection had been done in 19 heels, and 16 heels had undergone a large resection. The 2 groups were equal concerning distribution of age, sex, preoperative symptoms and time to follow-up (Table 1). At follow-up there was no difference in relief of symptoms. The median score on the visual analog scale was 5 mm for both groups.

Table 2. The distribution of late complications in 35 operated heels at follow-up

	Total	Large resection	Small resection
Late complications			
Ugly scar	2	1	1
Sore scar	5	0	5
Altered sensation	5	2	3
Stiffness/heel pain	10	8	2
No late complications	13	5	8
Total	35	16	19

At follow-up, late complications were found in 22 heels (Table 2), and in 9 the discomfort was considerable. 8/9 heels had stiffness in the achilles tendon or the ankle region in the mornings or after activity. The heels with a large resection had a higher frequency of stiffness than those with a small resection (Table 2). 3 patients indicated that the residual symptoms were equally or more disabling than the original symptoms had been. For 29 out of the 35 heels the patients answered that they still would have submitted themselves to the operation if they had known the result in advance.

Discussion

Haglund's heel is usually a transient, functional problem and may respond to conservative treatment with, e.g., felt pads in the heelpiece or open-backed shoes which relieve pressure of the heelcounter on the heel (Fuglesang and Torup 1961, Taylor 1986, Angermann 1990). Taylor (1986) warned against surgery and reported poor results in half of the 61 heels operated on. He also found that the protuberance of the calcaneus was situated posterolaterally in most of the treated heels. A resection concentrated on the posterolateral corner of the calcaneus should therefore be sufficient. However, even a relatively small resection passing through the posterior calcaneus from lateral to medial is visible on the lateral radiograph and is therefore classified by us as a large resection; also, it will interfere with the achilles tendon insertion. On the other hand, a relatively large resection centered on the lateral aspect of the posterior calcaneus is not visible in the lateral radiograph, and it does not interfere with the tendon insertion. This can explain the tendency of stiffness and ankle pain especially after large resections.

However, a large resection of the upper posterior corner of the calcaneus is usually recommended (Steffensen and Evensen 1958, Fuglesang and Torup 1961, Dickinson et al. 1966, Huber and Waldis 1989). We found no difference in relief of the original heel pain between large or small resection while large resections led to more severe late complaints. In our study, 12 patients had persistent complaints at follow-up and 5 heels had been treated with new resections. Huber and Waldis (1989) reported that 13 percent of the operated heels had persistent heel pain for more than a year after surgery. Commonly, there appears to be a relatively long period of rehabilitation after resection.

In general, the frequency of poor results after resection of Haglund's heel appears to be high.

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