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THE INVALIDISM AFTER CUTTING OF THE TENDONS OF THE HAND[1])

BY
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After *Dubs* in 1911 — on the basis of a large material obtained from the insurance company *Winterthur* — had shown that the invalidism after cutting of the tendons of the hand is far more serious than one was inclined to believe this important question has been reconsidered by means of statistics of various clinics with highly varying results.

The question as to which method of treatment will give the best results is still unsettled; that it is still a burning question appears among other things from the fact that one of the main subjects at the French Surgical Congress in October 1929 was the treatment of lesions of the tendons of the hand. *Bloch* and *Bonnet,* as reporting delegates, stated a number of valuable observations and gave a good survey of our present perception of the various questions about which diverging views are held. On the same occasion comprehensive collective statistics from various hospitals were produced, giving a rather good impression of the seriousness of the prognosis for cutting of the tendons.

In 1914 *Bartels* and *Jørgen Jensen,* in their interesting work »Tendon Suture and Tendon Transplantation«, published the results after treatment of 50 complicated and uncomplicated cases of cutting of the tendons on the basis of a material of the A. F. R. (Workmen's Compensation Council) 1911; none of the

[1]) A lecture at »Forsikringslægernes Forening« (the Insurance Doctors' Association), May the 7th, 1931.

cases obtained good results, 5 became tolerably good and 45 became bad.

Since that time the material of the A. F. R. has not been examined. I therefore believe that it might be of interest to collect a number of cases in order 1) to contribute to the estimation of the prognosis of the Danish cases, 2) to become enabled to compare our results with the results of other countries, 3) to get some guidance, if possible, with regard to the attitude which should be taken to the question of the suitability of the primary suture of the flexor tendons of the hand.

The material comprises 148 uncomplicated cases of cutting of tendons of the hands or fingers, the invalidism of which has been settled by the A. F. R. in the course of the period from 1926 to 1930. In order to get as uniform a material as possible only such cases are included as did not show any lesion of the soft parts, bone lesions, nerve lesions, or infection. *It is thus a selected and propitious material that forms the basis of the estimation.* No cases of cutting of tendons above the wrist have been included. The degree of invalidism has been arrived at on the basis of the so-called Certificate III and the compensation percentage.

The cases have been arranged in two groups: the good cases and the bad cases. Within the good cases there are two subdivisions: 1) good results, only comprising the cases that show a completely normal function, and 2) serviceable results; the function of the fingers is somewhat restricted in this group, not so much, however, that the invalidism is material, it is at any rate below 5 per cent. in this group.

The bad cases are divided into three subdivisions: 1) the passive mobility of the fingers has been maintained, whilst the active mobility is lacking (»÷ act. + pass.«), 2) the finger has become stiff and is straight, 3) the finger has become stiff but is curved.

I believe that it is of interest to divide the poor results into these three subdivisions, because, from the viewpoint of the pro-

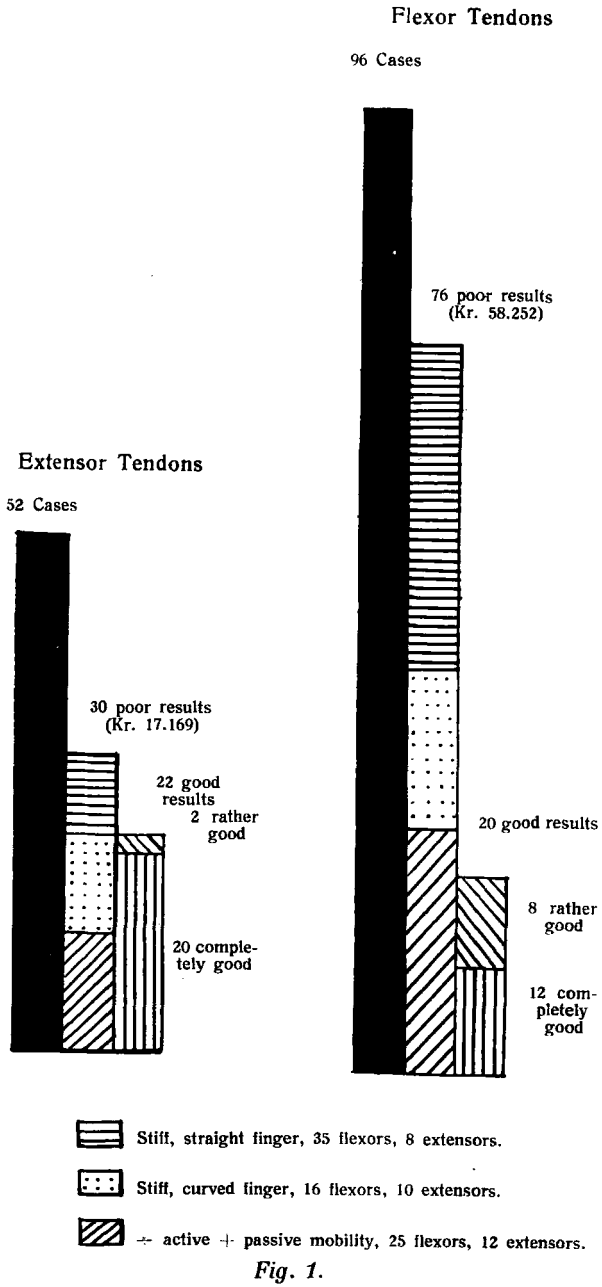
Flexor Tendons
96 Cases
76 poor results
(Kr. 58.252)
20 good results
8 rather good
12 completely good
Extensor Tendons
52 Cases
30 poor results
(Kr. 17.169)
22 good results
2 rather good
20 completely good
Stiff, straight finger, 35 flexors, 8 extensors.
Stiff, curved finger, 16 flexors, 10 extensors.
-:- active +- passive mobility, 25 flexors, 12 extensors.

Fig. 1.

fession in question, there is a difference between the invalidism of these groups.

For a supple finger that can be flexed but which lacks the active mobility will as a rule be less invaliding than a stiff finger. With regard to treatment the cases have been grouped according to treatment in hospital (casualty ward, hospital department, clinic) and according to treatment by general practitioner. I have moreover stated whether suturation has been performed or not. *With the exception of three cases of secondary suture, primary suture, i. e. suture within the 24 hours following the trauma, was performed in all the sutured cases.* By secondary suture is understood suture after partial or complete healing of the lesion of the soft parts.

The results will appear from the two tables for the flexor tendons and the extensor tendons respectively.

The results in the case of the flexor tendons are as follows: (Fig. 1 and Table I) 79 out of 96 cases were treated in hospital, but only one was not sutured. 16 were treated by general practitioners, 9 of these not being sutured. 7 were sutured. One case was neither treated by general practitioner nor in hospital.

20 of the 96 cases became good, 76 bad. 12 cases out of the 20 good cases became completely satisfactory, 8 became fit for use with an invalidism below 5 per cent.

Among the 76 bad cases 35 got a stiff, straight finger, 16 got a stiff, curved finger. 25, however, retained the passive mobility, but lacked the active mobility. These 76 cases cost the community Kr. 58.252,— in all.

Unfortunately it is impossible for a comparison with *Bartels* and *Jørgen Jensen*'s material of 1911 to be made, as this material is not »clean« and as the results for the flexor tendons and the extensor tendons are not stated separately.

78 out of the 79 hospital patients were sutured with the following results:— 14 good, 19 »÷ act. + pass.«, 31 with a stiff, straight finger, and 14 with a stiff, curved finger. The one patient who was not sutured got a finger that was fit for use.

In the 16 patients who were treated by general practitioner the results were, in the case of 7 patients who were sutured, 2

Results after Suturation of the Flexor and Extensor Tendons of the Hand.

	Extensor		Flexor	
	Number of Cases	Good Results	Number of Cases	Good Results
1896 *Haegler*	65	77 %	35	45 %
1914 *Bartels. Jørgen Jensen* (hospitals)	10	80 %	17	5 %
1919 *Dubs* (Swiss Insurance)	235	50 %	117	10 %
1921 *Lier*	270	61 %	138	38 %
1923 *Just* (v. *Eiselberg*)	84	90 %	126	62 %
1926 *Närvi (Krogius)*	68	70 %	52	17 %
1929 *Bloch. Bonnet* (French collective statistics)	366	81 %	358	53 %
1931 *Sven Kiær* (A. F. R.)	52	42 %	96	21 %

1914 *Bartels. Jørgen Jensen.* A. F. R. 1911. Complicated and uncomplicated cases of cutting of tendons in hand and forearm. 50 cases. 0 good. 5 rather good. 45 bad.

Fig. 2.

good, 3 stiff, straight fingers, and 2 stiff, curved fingers. 9 patients were not sutured, the results being: 3 good, 5 »÷ act. + pass.«, and 1 stiff, straight finger. One untreated case got a finger with »÷ act. + pass.« mobility. Thus the total of the results was:— 5 good, 6 »÷ act. + pass.«, 4 stiff, straight fingers, and 2 stuff, curved fingers.

The total result for the patients treated in hospital (79) was therefore:— 15 good and 64 bad, whilst the result for the 17 patients treated by general practitioner was:— 5 good and 12 bad. These figures should, of course, not be used for purposes of estimating whether treatment by general practitioner or treatment in hospital should be preferred.

If now a comparison with the statistics of other authors be drawn, it is especially interesting to compare our results with those of *Dubs* from 1919, because his material, too, consists of uncomplicated cases (117) selected and estimated according to the same principles as my material (Fig. 2).

Dubs' statement is based upon an insurance material obtained from the insurance company *Winterthur*. The great majority of cases originates from Germany, Switzerland, and France, and a small number of cases from Holland, Spain, Denmark, and Algiers. The results are, therefore, average results. There is no difference worth mentioning between our results; whilst *Dubs* has 10 per cent. we have 21 per cent. good results after cutting of the flexor tendons of the hand.

A comparison with the other results given in the table (Fig. 2) is not justified. Nor can the French collective statistics from 1929 be used for this purpose, for they are based upon statements from various French surgeons and, therefore, it has been impossible to avoid disagreement with regard to the conception of where the limit between bad and good results had to be fixed. It will, therefore, hardly be unjustifiable to regard such results as being judged rather too favourably than the reverse. With regard to *Lier*'s many cases from 1921 it has been impossible for me to get further information, as the periodical in which they were published cannot be had in this country.

The other statistics originate from various clinics and there

is, therefore, as one might expect, considerable variation between the results, as the operator's skill doubtless is of the greatest importance to the attainment of good results in tendon surgery.

The 62 per cent. good results from *von Eiselberger*'s clinic are absolutely remarkable. When the statement from *Krogius*' clinic at Helsingfors only shows 17 per cent. good results it is of special interest that *Närvi* at the same clinic in 19 cases of cutting of the flexor tendons got a satisfactory result in 17 cases, when he personally treated all the cases. *Bartels* and *Jørgen Jensen*'s hospital material is very heterogeneous and is only of interest from the viewpoint that it gives an indication of how bad the results were in 1914 after suturation of the flexor tendons.

On the whole it can be said now that the chances for a good result after treatment of cut flexor tendons of the hand lie about 30 per cent.

If, on the other hand, we look at the results after cutting of *the extensor tendons* the picture is, as one might expect, brighter (Fig. 1 and Table II). There were 52 cases in all, 22 of these became good, and 30 bad. 38 were treated in hospital, 14 by general practitioner. Only 10 were not sutured. 16 out of 38 patients treated in hospital showed good results, 8 »÷ act. + pass.«, 7 stiff, straight finger, and 7 stiff, curved finger. 14 cases were treated by general practitioner, but 7 were not sutured, the results being:— 6 good, 4 »÷ act. + pass.«, 1 stiff, straight finger, and 3 stiff, curved fingers. The two cases treated in hospital that were not sutured (1 case of cutting of the tendon at the level of the outer joint, and 1 case of cutting at the level of the basal phalanx of the I' finger) gave the following results:— 1) the outer joint »÷ act. + pass.« and 2) stiff, curved finger. The 8 tendon lesions treated by general practitioner and not sutured gave the following results:— 4 good, 2 »÷ act. + pass.«, and 2 stiff, curved fingers.

There is thus a good correspondence between our 42 per cent. good results and *Dubs*' 50 per cent. If the results be compared with the other statistics I believe that we may reckon with a satisfactory result in about 60 per cent. of the cases

after treatment of cut extensor tendons of the hand and the fingers.

If *the invalidism of the various regions of the hand* be examined there is a difference between the results. If we first consider the condition of the flexor tendons and give the number of good results as a percentage compared with *Dubs* we get the following results — my results being shown in parenthesis — :— Immediately above the wrist: 16 per cent.[1]), metacarpus: 0 (40 per cent.), metacarpophalangeal joint: (9 per cent.), basal phalanx: 3 per cent. (10 per cent.) middle phalangeal joint: 27 per cent. (23 per cent.), middle phalanx: (50 per cent.), outer phalangeal joint: 0.

Bloch and *Bonnet* estimate the chances of a good result in the following manner:— above the wrist: very good; the canalis carpalis: rather good; the metacarpus: good; the basal phalanx: very poor; the middle phalanx: poor. In the case of the thumb the same applies to the metacarpus as in the case of the other fingers, whilst the chances for the basal phalanx are poor, although not very poor.

Practically speaking it may be said that the chances of a good result after tendon suture become poorer as the cutting is situated more distally. The chances are, however, poorest in the case of the basal phalanx of the finger.

If we look at the conditions in the case of the extensor tendons we find, at the level of the wrist, 42 per cent. good results, the metacarpus 55 per cent. (44 per cent.), the metacarpophalangeal joint: (90 per cent.), the basal phalanx: 43 per cent. (35 per cent.), the middle phalangeal joint: (29 per cent.), the middle phalanx: 44 per cent. (0), the outer phalangeal joint: 15 per cent. (17 per cent.). *Bloch* and *Bonnet* state that the chances in the case of cutting at the level of the wrist are good, in the case of the metacarpus excellent, in the case of the metacarpophalangeal joint very good, in the case of the basal phalanx good, in the case of the middle phalangeal joint rather

[1]) Of course the term *per cent.* is used with every reservation, as is the case everywhere in these statistics. The term per cent. is only used as a suitable denotation.

good, and in the case of the outer phalangeal joint poor. The prospects of a good result depend on very much the same rule as applies to the flexor tendons with the exception that the poorest results are found at the distal half of the middle phalanx and at the level of the outer phalangeal joint.

It is tempting to discuss the reasons of the poor results in this part more closely, but as it is beyond the scope of this work I shall only draw the attention to the fact that — in contradistinction to the rules otherwise applying to tendon suture in this part of the hand — a secondary suture after preceding immobilisation for about 3 weeks in a hyperextended position may sometimes be recommended. (See moreover *Fenger:* Ugeskrift for Læger, 1931).

It is only natural in connection with this examination of A.F.R.-cases more closely to examine the question whether suture of the flexor tendons of the finger should be made. It is a question that has been discussed frequently after it had been realised how poor the results were after primary suture. At the Surgical Congress in Berlin (*Bier*) and in Paris 1921 there was a great majority in favour of dissuading from primary suture, a view that has been supported later on by surgeons who are specially engaged in industrial surgery (*Saviraud, Hübsman* (Solingen), *Legoutte* (*Creusot*), *Bloch* and *Bonnet,* 1929, *Böhler*), It is maintained that it is much better for the patient to get a supple finger that can be flexed, but which lacks its active mobility, instead of getting a stiff, straight finger or, at best, a stiff, curved finger. As there is only a 10—20 per cent. chance of getting a finger that is functionally fit for use, it is believed that it is better to give up suturation, because experience shows that the patients soon learn to use the sound finger beside as a leader; if this is insufficient the cooperation between the injured finger and the sound one can be secured by means of a small ring.

If now we consider our material from these viewpoints, however, refraining from a differentiation of the results on the basis of the small number of cases with a view to the localisation of the tendon lesion, we find that of 78 cases of cutting of the

tendons in the fingers which were sutured there were 13 good results (17 per cent.), 18 (23 per cent.) had retained the passive mobility but lacked active mobility, 32 (41 per cent.) got a stiff, straight finger, and 15 (19 per cent.) got a stiff, curved finger.

Of 10 cases which were not sutured 4 became good and 6 bad, but 5 of the 6 bad cases retained a flexible but actively immobile finger. Only 1 got a stiff, straight finger. The results are apparently much better in this group, both with regard to good and relatively good cases, than in the group with sutured tendons.

Of course it arouses suspicion when there are 4 cases with a functionally good result among those that have not been sutured, and the diagnosis is supposed to have been wrong. It is, however, not altogether out of the question — it is known from the literature and I have seen it in 2 cases myself — that a fairly active mobility will develop later on despite a positive cutting through of the flexor tendons. For the ends of the tendon may coalesce with the tendon sheath and use the latter as a connecting link when transmitting the pull from one tendon end to the other. It may also have been a case of partial cutting of the tendon so that there is only a narrow but too long bridge between the two ends of the tendon. In the cases in which the tendon sheath has operated as a connecting link it has always been in the parts where it is loose and yielding, viz. opposite the joints, but such a mechanism cannot develop where the tendon sheath is stiff, forming the fibrous tunnel, i. e. at the middle of the basal phalanx and at the middle phalanx. It is in these parts that we find all the poor results. Returning to the comparison between the sutured cases and those that have not been sutured, it seems to me to be in favour of the latter that in half the number of cases the patient retained a supple finger that could be flexed, whilst 60 per cent. of the sutured cases got a stiff finger.

The difference is more conspicuous on comparison of the results within the group of »bad cases«. Within this category there are 65 sutured flexor tendons and only 15 of these got a

supple finger that could be flexed, whilst 47 got a stiff, straight or curved finger.

In the group of »flexor tendons that have not been sutured« there are 60 bad cases, but 5 of these retained a supple finger that could be flexed, only 1 becoming stiff.

I therefore believe that the correct view is not to suture the cuttings of the flexors in the fingers. The I' finger is, how-

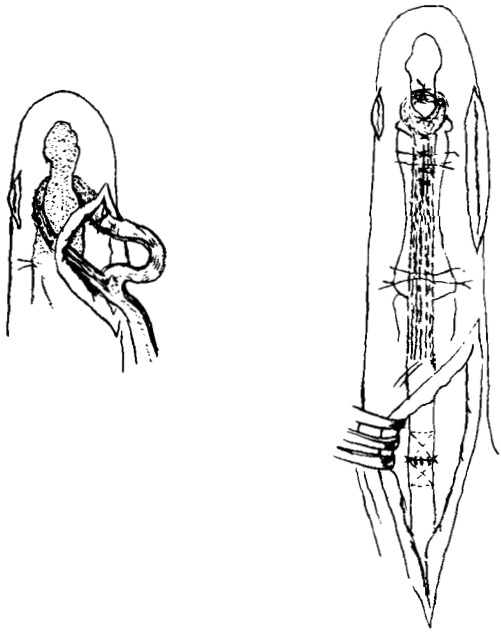

Fig. 3. (After Summer L. Koch).

ever, an exception, because it seems as if the functional result after primary suture becomes very good in many cases, and if the suture proves abortive it is less invaliding when the thumb is stiff than when it is supple without active mobility.

It will perhaps be said that there are patients, as is known, to whom the maintenance of the active mobility of the fingers is of great importance and, therefore, it would be natural to make an exception and try a primary suture in such cases. I will advise against this viewpoint, because to begin with it will

be more advantageous to such patients to get a supple finger that can be flexed and which has no mutilating cicatrice, and then about 6 months afterwards — when it proves to be of importance to the patient to do something in order to obtain an improvement of the function of the finger — I shall advise a tendon transplantation by means of tunnellisation.

In this operation a piece of heterologous preserved tendon or a piece of autologous tendon is transplanted into the tendon sheath without splitting the latter, the transplantation material being pulled through the tendon sheath by way of two lateral incisions in the distal and the proximal end of the tendon sheath respectively (Fig. 3).

Sterling Bunnel has 90 per cent. good results in 300 cases. Other surgeons who have performed the operation a few times have not so good results, about 50 per cent. (*Bloch, Iselin*). Personally I have operated on 3 cases: 1 with a poor result: stiff, curved finger, and 2 with a rather good result: movements to half the normal extent.

The considerable divergence with regard to the results is among other things due to the fact that the technique is difficult and requires no small amount of manual skill.

There is, however, no doubt that some surgeons can get good results after primary suture when they themselves treat and — what is not the least important — aftertreat the patient.

I have referred to *Närvi*'s 17 good results in 19 cases. It is especially such cases of cutting of the tendons as lie opposite to the yielding parts of the tendon sheath that give good results — provided the operation is performed with a rational technique:— lateral incision of the tendon sheaths, a suitable method of suturation, no drawing out of the tendons whereby the nutrient vinculae are torn, and at last a careful aftertreatment during which attention is paid first and foremost to mobilisation from the 1st—2nd day, application of heat carried on for a long period, ionisation, and exercise.

The fact that after a few weeks the function becomes less satisfactory and perhaps is very poor during the following months should not disappoint the operator; the treatment should

be continued, for in many cases it appears that the function improves again. The ultimate functional result cannot be judged until at least one year after the suturation of the tendon (*Sterling Bunnel*). This applies, of course, only to the cases in which the tendon suture has not ruptured.

Unfortunately it is outside the scope of this communication to describe the suture technique that should be preferred; but I may perhaps draw the attention to some of the most important points. 1) Primary suture should as far as possible always be

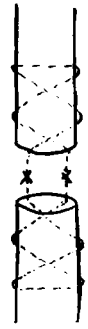

Fig. 4.
Sterling Bunnel-Cuneo's Lace Suture.

performed except in the case of the flexor tendons in the fingers. 2) The loose tissue round the tendon (paratendon) that is of paramount importance to the healing of the tendon should be spared in such a manner that it is retained as a sort of tunic surrounding the sutured tendon. This is also the best method to combat the adhesions. 3) The suture should be arranged in such a manner that it will be able to bear a weight at once, that it does not compromise the nutrition of the tendon by constriction of the single fibrils, that it approaches the ends of the tendon so as to allow of a satisfactory contact, and that it lies buried in the tendon tissue in order to avoid adhesions. Only one method meets all these requirements, viz. *Sterling Bunnel-Cuneo*'s lace suture (Fig. 4). 4) As suture material a strong, thin thread should be used, which does not act as a capillary and thus in the case of a slight infection becomes imbibed with

bacteria. Therefore thin aluminium-bronze is recommended (*Delagenière*). The ideal suture would be catgut; but a catgut that keeps its strength for more than 6 weeks — for only then will the tendon cicatrice be so resistant that it can bear a weight — does only exist as chromicized catgut. (Dr. *Bartels* has kindly informed me that it appeared in some experimental investigations, which have not been published, that chromicized catgut had an irritating and necrosing effect on the tendon tissue). Silk is not strong enough in the thin sizes, so linen thread is better; but it suffers from the same defect as silk, it can keep up infection. 5) It is important — not only to avoid adhesions but in order to get as good a tendon cicatrice as possible — to begin the mobilisation at as early a date as possible. It is difficult to understand that there still are surgeons who believe that immobilisation for weeks is the ideal, when we know that all the experimental investigations speak in favour of mobilisation and weighting of the tendon from the first days (*Bartels, Närvi, Bloch, Bonnet* a. o.) and that some of the surgeons who are especially engaged in tendon surgery, *Sterling Bunnel, Koch, Närvi,* maintain that mobilisation is Alpha and Omega. 6) During the first 3 weeks the finger should be placed in such a manner that there is a suitable tension on the tendon wound, whereby the tendon cicatrice obtains the greatest strength, therefore the finger should be bandaged in the middle position e. g. on a wire- og plaster-of-Paris — splint.

I ask Mr. *Axel Birkmose,* the leader of the office of the Workmen's Compensation Council, to accept my best thanks for the kind permission to use the material of the Council; and

I thank Mr. *Paulsen,* the head clerk, very much for the great work he has performed in finding the suitable cases.

SUMMARY

For the years 1926—1930 148 cases of settled compensations for uncomplicated cutting of tendons of the hand were found in the A.F.R.'s (Workmen's Compensation Council), material. 42 cases obtained a good result, 116 a bad result, and the latter cost the community Kr. 75.421. 117 cases were treated in hospit-

Table 1.

Localisation	Hosp.	Gen. Pract.	Total number of cases	Good results	Good Service-able results
Metacarpus II-V finger	4	1	5	1H	1sH
Metacarpophalang. joint II-V finger	8	3x	11	1H	
Basal phalanx II-V finger	28	1,1x	30	1H	2H
Middle phalang. joint II-V finger	7	2,4x	13	1H 1xGP	1xGP
Middle phalanx II-V finger	11,1x	2	14	3H 1GP	2H 1xH
Outer phalang. joint II-V finger		1x	1		1xGP
Metacarpus I finger	3		3	1H	
Metacarpophalang. joint I finger	5		5	1H	
Basal phalanx I finger	10	1 untreat.	12	1GP	
Outer phalang. joint I finger	2		2		
Total	79	17	96	12	8

Abbreviations: x = no suture. H = hospital. GP = general practitioner

al, 31 by general practitioner (*Bartels:* 23 treated in hospital, 27 by G.P.).

The statement shows that the prognosis in the case of cutting of the flexor tendons is bad, whilst it is rather good in the case of the extensor tendons, which is in conformity with the results from other countries.

The poor results after suturation of the flexor tendons in the finger speak in favour of rejecting primary suture in this part of the fingers.

The result is so sad that it encourages further deliberation with a view to the measures that might be taken in order to spare the community these great expenses and to decrease the invalidism. It is on purpose that I mention the invalidism in the

Flexor Tendons.

cases		Bad cases			
Total number of goodcases	÷ active + passive mobility	Stiff straight finger	Stiff curved finger	Total number of bad cases	Total amount of compensation in Kroner
2	1H	1H	1GP	3	1800 Kr.
1	3xGP	4H	3H	10	6705 -
3	6H 1sH	11H 1xGP 1GP	7H	27	20047 -
3	2H 2xGP	2H 1GP	2H 1sGP	10	7336 -
7	3H	2H 1GP	1H	7	4484 -
1					
1		1H	1H (18%)	2	3576 -
1	1H	3H		4	4556 -
1	3H 1 untreat.	7H		11	8682 -
	2H			2	1066 -
20	25	35	16	76	58252 -

s = secondary suture.

second instance, because we know that the effective invalidism after injuries to the fingers is not so bad as one is inclined to suppose after an estimation according to figures (*Aage Kock*).

It is, however, desirable in all cases that the tendon lesions are treated by skilled surgeons and not, as it may be seen, by »des mains non autorisées«.

RÉSUMÉ

Les registres du A. F. R. (Conseil d'Assurance contre Accident des Ouvriers) pour les années 1926—1930 comptent 148 décisions dans les questions de dédommagement après coupure noncompliquée des tendons de la main. Dans 42 cas, le traitement amena un bon résultat, dans 116 cas le résultat resta mauvais,

Table II.

Localisation	Hosp.	Gen. Pract.	Total number of cases	Good results	Good — Serviceable results
Metacarpus I-V finger	7	2x	9	4H	
Metacarpophalang. joint I-V finger	5	2 3x	10	4H 2GP 2xGP	1xGP
Basal phalanx II-V finger	8		8	5H	
Middle phalang. joint II-V finger	4	1 1x	6	2H	
Middle phalanx II-V finger	3		3		
Outer phalang. joint II-V finger	3 1x	2x	6	1xGP	
Basal phalanx finger	5 1x	3	9		1H
Outer phalang. joint finger	1		1		
Total	38	14	52	20	2

et ces derniers ont coûté aux fonds publics 75,421 couronnes. 117 sujets furent traités dans les hôpitaux, 31 par des médecins pratiquants. (Bartels cite: 23 sujets hospitalisés, 27 traités par des médecins pratiquants).

La statistique montre que pour coupure des tendons des fléchisseurs la prognose est mauvaise, tandis qu'elle est assez bonne pour les tendons des extenseurs; ces résultats correspondent à ceux obtenus dans d'autres pays.

Les résultats fâcheux après suture des tendons fléchisseurs du doigt encouragent à condamner la suture primaire dans cette région du doigt. Les résultats sont si tristes qu'ils invitent à des réflexions, visant la question de savoir ce qu'on pourra faire pour épargner à la société de si grosses dépenses et pour diminuer l'invalidité. C'est de propos délibéré que je mentionne ici l'invalidité en second lieu, parce que c'est un fait acquis que l'invalidité effective par suite de lésions des doigts est un peu moins grave que ne le ferait supposer l'évaluation en chiffres (Aage Kock).

Extensor Tendons.

cases		Bad cases			
Total number of goodcases	÷ active + passive mobility	Stiff straight finger	Stiff curved finger	Total number of bad cases	Total amount of compensation in Kroner
4	1H 1xGP	1H	1H 1xGP	5	3350
9	1H			1	480
5	1H	1H	1H	3	1822
2		2H 1GP	1xGP	4	3285
	1H		2H	3	958
1	1xH 1xGP	2H	1H	5	1120 (2 cases)
1	3H 2GP	1H	1GP 1xH	8	5674
			1H	1	480
22	12	8	10	30	17169 Kr.

Cependant il est à désirer que les lésions tendinelles soient traitées dans tous les cas par des chirurgiens compétents et non pas, comme cela se voit quelquefois »par des mains non autorisées«.

ZUSAMMENFASSUNG

In den Jahren 1926—1930 kamen in dem Material des A. F. R. (Arbeiter-Versicherungsrat) 148 Schadenersatzfälle wegen unkomplizierter Sehnendurchschneidungen in der Hand vor. In 42 Fälle war die Behandlung erfolgreich, während die 116 Fälle ein schlechter Resultat gaben und die soziale Fürsorge mit 75,421 Kronen belasteten. 117 Fälle wurden auf dem Hospital, 31 vom prakt. Arzte behandelt (*Bartels:* 23 Fälle mit Hospitals-, 27 mit ärztlicher Behandlung).

Aus der Zusammenstellung geht hervor, dass die Prognose für die Flexorsehnen ungünstig dagegen für die Extensorsehnen

recht günstig ist, was mit den Resultaten aus andern Ländern übereinstimmt.

Die schlechten Resultate nach Sutur der Flexorsehnen im Finger sprechen dafür, in dieser Region primäre Sutur zu verwerfen. Das Ergebnis ist so traurig, dass es zu der Erwägung auffordert, was getan werden könnte, um der Oeffentlichkeit diese grossen Ausgaben zu ersparen und die Invalidität zu verringern. Die Invalidität wird hier mit vollem Bewusstsein in zweiter Reihe angeführt, weil erfahrungsmäss die Invalidität nach Fingerbeschädigungen keineswegs so gross ist, wie man nach der zahlenmässigen Bewertung geneigt wäre anzunehmen (*Aage Kock*).

Bei allen Fällen ist es jedoch wünschenswert, dass die Sehnenläsionen von kundigen Chirurgien behandelt werden, und nicht, wie man es sehen kann, von »des mains non autorisées«.

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