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CHRONIC NON-SPECIFIC TENOSYNOVITIS OF THE TIBIALIS POSTERIOR TENDON

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In 1954 the author was consulted by a woman who had tenderness and swelling in the region of the tendon sheath of the posterior tibial tendon. Textbooks gave no support for a preoperative diagnosis, and possible alternatives seemed to be tenosynovitis, tumor or ganglion. Operative exploration with discission of the tendon sheath and the microscopic finding revealed chronic non-specific tenosynovitis with effusion. The operation led to rapid permanent healing. When the next case was encountered eight years later the condition was so similar that there did not seem to be much doubt about the diagnosis. Since then four additional cases of this condition have been seen.

Chronic non-specific tenosynovitis with effusion of the posterior tibial tendon seems to be a rare condition. Since inefficient conservative treatment without a diagnosis seems to be common in these cases, and since a complete cure can be expected from operative treatment, a report of the six cases seen by the author has been considered justified.

In 1950, *Lapidus & Seidenstein* reported two cases of tenosynovitis of the posterior tibial tendon treated in the Hospital for Joint Diseases in New York. They wrote: "Non-specific chronic tenosynovitis must be considered a rarity, particularly at the ankle. A thorough search of the literature disclosed only one case somewhat similar to the authors' Cases 2 and 3, that reported by *Kulowski,* in which the posterior tibial tendon sheath was affected." In both cases reported by *Lapidus & Seidenstein* incision and excision of the tendon sheath, in one case total excision and in the other partial, cured the condition.

In 1955, *A. W. Fowler* reported seven cases treated by operation. The following quotation from his brief report is given: "The condition was

Table

Case No.	Age when first seen (years)	Duration of symptoms before diagnosis	History	Sedimentation rate before operation
1	64	A few months	Local tenderness. Pain when walking.	Record destroyed.
2	56	2 years	Chronic tenderness after acute stage. Progressing valgus of the foot.	29 mm/1 hour
3	46	7 years	Chronic tenderness. Pain when walking.	8 mm/1 hour
4	52	5 months	Accessory scaphoid excised from the same foot with good result six years earlier.	12 mm/1 hour
5	59	6 months	Tonsillitis six months before swelling of ankle.	29 mm/1 hour
6	60	8 months	Chronic tenderness after acute stage.	34 mm/1 hour

seldom diagnosed early and it was often mistaken for osteoarthritis of the ankle and treated conservatively without relief."....."At operation the tendon sheath was found to be swollen and thickened and the tibialis posterior tendon was greatly enlarged. The inflamed synovium was excised, with relief in all cases."

Three additional reports of this condition have been found in the

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Operative findings	Microscopical finding	Result of operation	Follow-up time	Condition at last follow-up examination
Thickening of the tendon. Sheath covered by red granulations. Yellow fluid in tendon sheath.	Non-specific synovitis	Free of pain and tenderness two months after op.	5½ years	No symptoms
Thickening of the tendon. Oedema and adhesions of tendon. Usuration in the tibial aspect of the tendon sheath.		Free of pain and tenderness a few months after op.	3 years	Free of pain. Persisting valgus of the foot.
Partial rupture of the tendon. Reddish brown granulations and viscid fluid in the tendon sheath. Thickening of tendon sheath.	Chronic non-specific synovitis	Slight tenderness five months after op. Patient satisfied with result of treatment.	1 year and 9 months	Free of pain. Some thickening in the region of the scar.
Oedema outside the tendon sheath. Reddish granulations and clear fluid in the tendon sheath which had thickened.	Chronic non-specific synovitis	Free of pain and tenderness a few months after op.	1 year and 8 months	Free of pain. Some thickening in the region of the scar.
Reddish granulations on the tendon and in its sheath. Clear yellow fluid in the sheath.	Chronic teno-synovitis	Free of pain one month after op.	Two months	–
Reddish granulations. Clear yellow fluid in the sheath. Thickening of tendon.	Chronic teno-synovitis	Free of pain six weeks after op.	1½ years	Free of pain.

literature by the present author. In 1956, *Hauser* reported good results of treatment of tenosynovitis at the ankle by Hydrocortone injections. His series included only one case of tenosynovitis with effusion of the tibialis posterior tendon. In this case the condition was relieved after operation.

In 1963, *Williams* reported fifty-two cases of chronic non-specific

tendovaginitis of tibialis posterior. In twelve of these cases division of the tendon sheath was performed with complete relief in eleven. In 1965, *Cozen* reported five cases in one of which operation was carried out.

CASE REPORTS

The reports of the six cases seen by the present author are summarized in Table 1. All the patients were females aged between forty-six and sixty-four years. They had all been working in occupations in which standing for long periods is required. Otherwise no common factor of possible etiological significance could be pointed out. In two cases the symptoms had been present for years, resisting conservative treatment before operation gave relief.

The local signs were very typical as swelling and tenderness was strictly located to the area of the posterior tibial tendon sheath. At systematic palpation there could be no doubt about which organ was tender.

All affected feet showed a marked valgus tendency. This had appeared and progressed markedly after the pain occurred. This progressing valgus tendency has been interpreted by the present author as a sign of reflectory weakness of the tibialis posterior muscle. *Cozen* interpreted the tenosynovitis as an irritation secondary to valgus strain. Possibly both factors contribute to the clinical picture.

At the operation oedema, viscid fluid and reddish granulomatous tissue in the tendon sheath was a regular finding. At all the operations the tendon sheath was incised along its whole length and was not sutured when the wound was closed. Radical excision of the whole tendon sheath was not carried out in any of the cases but reddish granulations were curetted from the sheath and from the tendon itself. Adhesions between the tendon and its sheath were excised and in most cases a part of the tendon sheath was removed.

After the operations, oedema around the scar mostly persisted for several weeks. When the sutures were removed, walking was already less painful than before operation and after a couple of months the tenderness of the scar had subsided. Some thickening of the region of the tendon sheath regularly persisted but was not disturbing. A foot support was prescribed to all patients in order to promote the return of power of the tibialis posterior muscle.

SUMMARY

Six cases of chronic non-specific tenosynovitis of the tibialis posterior tendon are reported. Conservative treatment had failed but incision of the tendon sheath and removal of granulation tissue gave relief in all cases.

RESUME

Six cas de ténosynovite chronique non-spécifique du tendon tibial postérieur sont rapportés. Un traitement conservateur n'a pas donné

de résultat, mais une incision sur la gaîne du tendon et l'enlèvement du tissu granulé a apporté un soulagement dans tous les cas.

ZUSAMMENFASSUNG

Sechs Fälle von chronischer unspezifischer Tenosynovitis der Sehne des Musculus tibialis posterior werden beschrieben. Konservative Behandlung hatte versagt, aber Incision der Sehnenscheide und Entfernung von Granulationsgewebe wurde in allen Fällen von Heilung gefolgt.

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