

The Association Between Spontaneous Flexor Tendon Rupture and Corticosteroid Injection as Treatment for Stenosing Tenosynovitis.

Sophia Jacobi, Jonah X Dewing, Janos Barrera, Jacques Henri Hacquebord

INTRODUCTION:

Corticosteroid injections are an effective, conservative treatment for stenosing tenosynovitis; however, their use is often limited by concerns about a potential causal relationship between repeated injections and spontaneous tendon rupture. However, the true risk of spontaneous flexor tendon rupture following corticosteroid injection remain unclear in the existing literature. This study aims to evaluate the relationship between corticosteroid injection and the occurrence of spontaneous flexor tendon rupture. We hypothesize that there is a rather weak association between corticosteroid injections and spontaneous flexor tendon rupture with a nominal incidence.

METHODS: A retrospective review of all patients with trigger finger from January 2020 to December 2024 at a single center institution was conducted. Chart review was performed to determine whether the patient had a diagnosis of a spontaneous flexor tendon rupture at any point after the trigger finger diagnosis date. Patient demographics and comorbidities were noted. Additionally data from the US nationwide electronic health record Epic Cosmos was used to conduct an analysis of trigger finger patients from January 2020 to December 2024. Patients grouped by those that had received a corticosteroid injection into the hand and those who did not for both reviews. The primary outcome was diagnosis of spontaneous flexor tendon rupture.

RESULTS:

A total of 21,219 patients were included in the retrospective review from a single institution. 14,276 patient received a corticosteroid injection in the affected finger. Of these, 3 patients had a spontaneous flexor tendon rupture. 6,943 patients did not receive a steroid injection however, 2 patients still went onto spontaneous flexor tendon rupture. The incidence rate of tendon rupture post steroid injection is 0.02%. Further, the odds ratio of the association between corticosteroid injection and spontaneous tendon rupture is 0.72.

From Epic COSMOS, a total of 1,678,278 patients diagnosed with trigger finger from 2020 to 2024 were included in this review. 544,385 patients received corticosteroid injection in the affected finger. Of these 154 patients had a non-traumatic flexor tendon rupture within 6 years, highlighting an incidence rate of 0.028%. Conversely 1,133,893 patients did not receive an injection as treatment for trigger finger, however, 296 still went onto spontaneous flexor tendon rupture at an incidence rate of 0.026%. The odds ratio of the association between corticosteroid injection and spontaneous tendon rupture is 1.084.

DISCUSSION AND CONCLUSION:

Corticosteroid injections are a highly effective treatment for trigger finger, associated with minimal morbidity and low complication risk. Currently, many hand surgeons limit the number of corticosteroid injections for trigger finger due to the prevailing concern that injections may increase the risk of tendon rupture. We found that this is an extremely rare complication with an incidence rate of 0.02 to 0.03%. Therefore, corticosteroid injections should remain a standard of care not limited by the risk of tendon rupture.

Table 1: Epic COSMO Incidence of Spontaneous Flexor Tendon Rupture in Patients Diagnosed with Stenosing Tenosynovitis

	Patients Spontaneous Flexor Tendon Rupture	Patients Without Spontaneous Flexor Tendon Rupture	Total	Incidence Rate of Rupture	Odds Ratio
Patients Who Received Injection	154	544,231	544,385	0.028 ± 0.002	1.084
Patients With No Injection Treatment	296	1,133,597	1,133,893	0.026 ± 0.002	