

## Pattern of trigger finger among patients attending a musculo-skeletal clinic

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### Abstract

**Background:** Trigger finger is a common finger problem thought to be due to thickening of tendon sheath with or without localized tendon thickening, resulting in a narrowed tunnel for tendon excursion with ultimate restriction of tendon movement. It can be seen in anyone, it is however seen frequently in diabetic patients and in women, typically in the fifth or sixth decade of life.

**Objective:** To determine the pattern of trigger finger among patients attending a musculo-skeletal clinic.

**Design:** A prospective study.

**Setting:** The study was conducted at the Olabisi Onabanjo University Teaching Hospital, a tertiary hospital located in the South west, Nigeria. The study was conducted over four years between July 2009 and June 2013.

**Patients and Methods:** All the patients that presented with trigger finger at the outpatient clinic were enlisted for the study. Demographic and clinical information was obtained by direct interview of patients.

**Results:** Thirty four cases of trigger finger were seen. There were 22(64.7%) females and 12(35.3%) males with a female to male ratio of 1.8:1. The age range of patients was 32 to 65 years. The mean duration of symptom was 1 year and 3 months. The ring finger (61.8%) was the commonest finger affected, and the left ring finger was predominantly affected (66.7%). The left hand (76.5%) was commonly affected. There were no cases of multiple finger involvement.

**Conclusion:** Response to intra-lesional steroid injection was uniformly effective, surgical intervention may be un-necessary in many cases of trigger finger.

**Key words:** Trigger finger, Pattern, Musculo-skeletal clinic, Nigeria

### Introduction

Trigger finger was first described by Notta in 1850. It earns its name from the painful clicking sound elicited by flexion and extension of the affected digit. It is one of the most frequently seen disorders of

the upper limb. It is caused by a difference in diameter of a flexor tendon and its retinacular sheath due to thickening and narrowing of the A1 pulley through which the flexor tendon passes at the metacarpal heads, leading to restricted movement of the tendon through the pulley<sup>1</sup>.

Inflammation and hypertrophy of the retinacular sheath progressively restrict the motion of the flexor tendon. The retinacular sheath normally forms a pulley system comprised of a series of annular and cruciform pulley in each digit that serves to maximize the flexor tendon's efficiency of motion<sup>2</sup>.

Trigger finger presents with discomfort in the palm during movement of the involved digit. The flexor tendon causes a painful click as the patient flexes and extends the digit<sup>3</sup>. The patient may present with a digit locked in a peculiar location, usually in flexion which may need gentle passive manipulation into full extension<sup>4</sup>. Management strategies include physiotherapy, splint application, non-steroidal anti-inflammatory drugs, steroid injection, and surgery<sup>5</sup>.

The aim of this research work was to determine the success rate of steroid injection of trigger finger among patients seen in the rheumatology clinic.

### Materials and Methods

This was a prospective study of consecutive patients who presented with trigger finger to the rheumatology outpatient clinic of a University Teaching Hospital in the South West, Nigeria. These patients were seen over a period of four years (July 2009- June 2013).

Detailed demographic, occupation and medical history were taken to determine the presence of work related trigger finger and systematic diseases respectively. Physical examination was performed to ascertain the presence of any other local pathology that mimics trigger finger.

### Results

Thirty four cases were seen over the study period. Females were 22 (64.7%) with age range of 38 years to 64 years and males 12 (35.3%) with age range of 32 years to 65

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years. Female to male ratio was 1.8:1. The mean duration of symptoms was 1 year and 3 months. The ring finger was affected in 21 (61.7%) patients made up of 6(28.6%) males and 15(71.4%) females. The right ring finger was involved in 2(28.6%) males and 5(71.4%) females while the left ring finger was involved in 4(28.6%) males and 10(71.4%) females. The middle finger was involved in 9 (26.5%) patients with 3(33.3%) males and 6(66.7%) females. The right middle finger was involved in one (33.3%) male and 2(66.7%) females, while the left middle finger involved 2(33.3%) males and 4(66.7%) females. The thumb was involved in 4 (11.8%) patients with one (25%) male and 3(75%) females. Only one female had right thumb involvement while the left thumb was involved in one (33.3%) male and 2(66.7%) females. Eight patients had diabetes mellitus (23.5%), there were 5 females and 3 males.

**Table 1:** Demography and analysis of trigger finger cases

	No.	(%)
Female	22	(64.7)
Male	12	(35.3)
Ring finger	21	(61.7)
Middle finger	9	(26.5)
Thumb	4	(11.8)
Right hand	8	(23.5)
Left hand	26	(76.5)
Multiple finger involvement	Nil	
Age range (years)	32-65	
Associated conditions- Diabetes	8	(23.5)
-Rheumatoid arthritis	2	(5.9)

**Table 2:** Age range involvement of trigger finger

Age (years)	Female No. (%)	Male No. (%)
21-30	2 (66.7)	1 (33.3)
31-40	5 (62.5)	3 (37.5)
41-50	12 (66.7)	6 (33.3)
51-60	3 (75)	1 (25)
61-70	0 (0)	1 (100)
Total	22	12

**Table 3:** Occupational involvement of trigger finger

Occupation	No.	(%)
Student	2	5.9
House wife	2	5.9
Trader	14	41.2
Teacher	3	8.8
Medical practitioner	1	2.9
Farmer	8	23.5
Manual labourer	4	11.8

Three females and 2 males had good glycaemic control while the other 3 patients were poorly controlled. Two patients (5.9%) had associated rheumatoid arthritis. The right hand was involved in eight (23.5%) patients with 2(25%) males and 6(72%) females, while the left was affected in 26(76.5%) patients with 10(38.5%) males and 16(61.5%) females. Nobody had multiple finger involvement. All the patients had intra-lesional methylprednisolone steroid injection. Only three patients had recurrence of the trigger finger up to date.

## Discussion

Trigger finger is a common finger problem. The diagnosis is usually fairly straightforward, as most patients present with locking of the finger. Primary trigger finger occurs commonly in the middle fifth to sixth decades of life.

The causes of trigger finger are multiple and in each individual often multifactorial. There are reports linking trigger finger to occupations requiring extensive gripping and hand flexion, such as use of shears or hand held tools<sup>6,7</sup>. This relationship is questionable, as some studies find no such association between trigger finger and the workplace<sup>8,9</sup>. Women were predominantly affected in this study. Literature also supported the predominance of trigger finger in women than men. The reason for this sex predilection is not entirely clear<sup>10</sup>.

In line with earlier studies, the ring finger was also most affected in this study, followed by the middle finger. Though, this study did not record any patient with multiple trigger fingers, studies in patients with multiple triggers recorded the occurrence in decreasing order as ring finger, the thumb, long, index, and the small fingers<sup>11</sup>.

Twenty-three percent of our patients had diabetes mellitus. The lifetime risk of trigger finger in the general populace is 2-3%, but it is said to be up to 10% in diabetics<sup>12,13</sup>. The incidence in diabetes is associated with the actual duration of the disease, and not with glycaemic control<sup>14</sup>. Higher incidence of trigger finger has also been found in people with hypothyroidism, rheumatoid arthritis, renal disease, and amyloidosis<sup>15,16</sup>.

Intra-lesional injection of steroid with or without oral non-steroidal anti-inflammatory drugs was the principal treatment modalities in our patients. All the patients treated had symptomatic relief of symptoms with a success rate of 91.2%. Only three (8.8%) patients presented with recurrences of trigger finger. All the patients presented after one year of onset of symptoms. Most of them had visited other sources of medical care before visiting the teaching hospital. They all at various times took different analgesics, and this therefore informed the intra-lesional injection of steroid as the available option at the time of presentation to our clinic. The three patients with recurrent trigger finger had a repeat injection. No direct relationship was found between the duration of symptoms and the response to treatment because all the three patients with recurrent trigger finger presented above one year of onset of symptoms just like other patients.

Steroid injection into the flexor sheath was advocated as a method of treatment in 1950 with a success rate between 38 to 93%<sup>17</sup>. It was difficult to determine the actual duration of symptoms in most of our patients; however, higher rates of success are likely in patients who present with less than six months symptom duration<sup>18</sup>. All our patients had blinded intra-lesional injections of steroid. The shortcoming of this study was the inability to perform ultrasound guided injection because of its non-availability.

In conclusion, although, none of our patients had noticeable complication from the blinded intra-lesional steroid injection, ultrasound guided injection is however, more preferable because of a better clinical outcomes and fewer complications.

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