

Trigger Digits and Diabetes Mellitus

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Abstract

The problem of finger in the patient with diabetes mellitus is important consideration in diabetology. Generally, peripheral neuropathy that manifests with finger paresthesia is common. However, some recent reports mention the concern on trigger digits in diabetic patients. In this brief article, the authors focus review and discussion on this specific topic. The searching of standard database, PubMed, on available publication on this area selecting by keywords trigger digits and diabetes mellitus was done and all derived papers were extracted and further synthesized in this review article. Epidemiology and management of the condition are the mainly focused reviewed areas and presented in this article.

Keywords: Diabetes mellitus, Problem, Trigger digits

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Introduction

The problem of finger in the patient with diabetes mellitus is important consideration in diabetology. Generally, peripheral neuropathy that manifests with finger paresthesia, numbness, and blanching is common.^[1] The symptoms are usually bilateral.^[1] Nerve conduction studies, vibration and temperature threshold measurements, and neurovascular function tests are useful for assessment of these cases.^[2] However, some recent reports mention the concern on trigger digits in diabetic patients. In this brief article, the authors focus review and discussion on this specific topic.

Epidemiology of Trigger Digits in Diabetic Patients

Indeed, trigger digits can be seen in any population. However, some recent publications report on the importance of this disease in diabetes mellitus. Koh *et al.* studied on the incidence of this condition and found that "the incidence of trigger digits was about four times

higher than in the general population."^[3] However, this publication is a questionnaire study without confirmation for actual pathology. Another interesting report is from India by Sarkar *et al.*^[4] In this work, the trigger digits can be seen in 1:20 (cases with trigger digits: All diabetic patients).^[4] However, some other reports such as that by Aydeniz *et al.*^[5] show no significant increase in the incidence of this condition in diabetic patients.

It is concluded that the trigger digits are an important problem for the diabetic patients.^[6] Koh *et al.* suggested that "Screening for diabetes may be warranted in patients with involvement of more than three digits."^[6] The summary of the important publications reporting on the prevalence of the problem can be seen in Table 1.^[7-11] Although there is a difference in the rate of reported prevalence and whether the prevalence among diabetic patients is higher than that of normal population or not is still questionable, it cannot be refused for the important of the problem on trigger digits among diabetic patients.

However, there is no clear evidence that diabetes mellitus increases the risk for development of trigger digits. The study shows only a possible relationship.^[12] Although it is not questionable that overall musculoskeletal problems increases in diabetic patients, there is no conclusion on the specific trigger digits problem.^[5]

Focusing on the existed evidences, trigger digits are common in old diabetic patients but not relating to sex, age, and type of diabetes.^[7-11,13] It is of interest that there

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10.4103/1947-2714.93879

Table 1: Summary on some important publications reporting the prevalence of trigger digits among diabetic patients

Authors	Country	Important finding
Koh <i>et al.</i> ^[5]	Japan	The prevalence of trigger digit in diabetic patients is about 10%
Ravindran Rajendran <i>et al.</i> ^[7]	India	The prevalence of trigger digit in diabetic patients is not higher than that of controls
Ray <i>et al.</i> ^[8]	India	The prevalence of trigger digit in diabetic patients is about 7%
Melamed <i>et al.</i> ^[9]	Israel	The prevalence of trigger digit in diabetic patients is about four times higher than that of normal population
Sarker <i>et al.</i> ^[10]	India	The prevalence of trigger digit in diabetic patients is about 5%
Yosipovitch <i>et al.</i> ^[11]	Israel	The prevalence of trigger digit in type 1 diabetic patients is about 5%

is an observation that limited joint mobility is related to multiple digits involvement in diabetic patients with trigger digits, but there is no relationship with age, sex, type of diabetes.^[14]

Management of the Trigger Digits in Diabetic Patients

Although the trigger digits can be seen and similarly diagnosed in both normal and diabetic patients, natural history of the condition in diabetic patients and the outcome of treatment may not be the same.^[9] There is an association between trigger digits and diabetes control.^[15] Hence, the first thing to do is the good control of blood glucose. It is reported that the insulin-dependant cases usually have more severe symptoms and multiple digits involvement and require surgical release for relief of symptoms.^[16]

Focusing on treatment, physiotherapy is generally used. The steroid injection might be used although it does not provide a good success rate (about 30%).^[17-19]

In addition to use of steroid injection, the use of nonsteroidal anti-inflammatory drugs can provide a little relief from the symptoms.^[17-19] The use of steroid injection (either methylprednisolone acetate or triamcinolone acetonide) is proved to be safe;^[20] however, there is also a report showing that the use of steroid injection can result in hyperglycemia.^[21] In addition, the recurrent rate is very high in the diabetes type 1 cases.^[22,23] Focusing in detail, the recurrence is earlier seen in

the case with methylprednisolone acetate injection.^[20] For the surgical treatment, it is used in the severe cases.^[17,24-26] The recommended surgical technique is “surgical release of the first annular (A1) pulley.”^[23] The surgery might be a definitive treatment (success rate up to 99%) but the complications can be seen and the postsurgical physiotherapy is still required for a long time.^[17,23] Of interest, a recent report indicated that diabetes was not a risk factor for trigger digits and postoperative complications of trigger digits surgery.^[27] However, closed observation and special care are still recommended for the cases with diabetes mellitus due to the risk for existence of microangiopathy.^[27,28]

Conclusion

Trigger digits is an important problem in diabetic patients, especially for the old ones. However, the cause–result relationship between diabetes mellitus and trigger digits is still the topic for further study. In management, glucose control is important and the standard managements for the general population can be effectively used for the diabetic cases.

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How to cite this article: Wiwanitkit S, Wiwanitkit V. Trigger digits and diabetes mellitus. *North Am J Med Sci* 2012;4:117-9.

Source of Support: Nil. **Conflict of Interest:** None declared.