Research Article
Preliminary Report of the Effectiveness of Tetracycline Sclerotherapy in Treatment of Ganglion

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Ganglion, a benign cyst, most common soft tissue tumor of the hand, usually occurs in the hand, wrist, and foot. It is difficult to treat as reoccurrence is common after surgery and also following other treatment procedures. In this study, sclerotherapy technique in 20 patients treated using a solution of tetracycline after aspiration is described. Most of the patients in this study were between the ages of 20 and 35 years. 16 patients had ganglion on the dorsum of the wrist, 2 patients had bilateral ganglion, and 2 patients had ganglion on the dorsum of the foot. Under aseptic conditions, the ganglions were aspirated using size 21 G needles, and then 1 mL equivalent to 100 mg/mL solution of tetracycline was injected. In the postoperative followup ranging between 18 months to 5 years, 2 reoccurrences were noticed that required the same technique. This procedure is simple, safe, effective, and cheap when compared to surgery and other nonsurgical procedure of treating ganglion.

1. Introduction

Ganglion accounts for two-thirds of all hand tumours [1]. The commonest site of occurrence is the dorsum of the wrist, the volar aspect of the wrist, and in the fingers in relation to the flexor tendon sheath.

Ganglion also occurs on the dorsum of the foot.

Surgical treatment is required when they cause symptoms. The common indications for surgery are pain or the size of the ganglion for cosmetic reasons. Recurrence after surgical excision is extremely common [2].

An alternative to surgical excision is aspiration with or without injection of local steroids and various other techniques [3, 4].

This is a preliminary report of the result of aspiration followed by instillation of tetracycline as a sclerosant. This procedure is simple, cheap, and has several advantages which outweigh the benefit of surgery. The advantages are the following.

1. No need for anesthesia, local or general.
2. No scar and hence better cosmetic result.
3. It is an office procedure without any complication such as hand edema and peripheral nerve injuring, and above all it is cost effective when compared to cost of surgical therapy.

2. Patients and Methods

This prospective study commenced in September 2002 and is still ongoing. This study had approval of the hospital ethical committee in accordance with the Helsinki Declaration of 2010. The patients in this study have been followed up for a minimum of 18 months and some up to 5 yrs with no sign of recurrence. The major complaint was cosmetic as well as pain.

Each patient has his or her ganglion aspirated with 5 mL syringe and 21 G needle. The gelatious mucous material was aspirated. The content was completely empty, and this was evident by the slight bleeding at the end of procedure. While maintaining the needle in the cavity of the ganglion, 1 mL of tetracycline equivalent to 100 mg/mL (i.e., a capsule of 500 mg with 5 mL of water for injection, properly constituted) was injected. The needle is withdrawn, and a crepe bandage was applied. The same amount of sclerosant 1 mL was used regardless of the size of the ganglion. Again it was one brand of tetracycline from the same manufacturer.
either not effective, with recurrence rates as high as 60%, or
were 14 females (70%) and 6 males (30%), and
with mucin and are attached to the adjacent joint capsule or
declared that, when sclerotherapy is used, a
In conclusion, tetracycline sclerotherapy is judged to be
References
[1] H. G. Stack, “Tumors of the hand,” Postgraduate Medical Jour-

3. Results
A total of 20 patients have so far been treated in the last 5
Most patients were between ages of 20 to 35 years, and
Most of the ganglion occurred in the dorsum of the right
2 patients 2/20 (10%) had bilateral ganglion. 2 patients (10%) had ganglion on the dorsum of
18 (90%) patients had sclerotherapy once with good
Both patients were those who had recurrence after sur-
4. Discussion
Despite the benign nature of a ganglion, it can be problem-
Ganglion is prevalent during the second and third de-
They are usually single and can affect any joint of the
Ganglion is prevalent during the second and third de-
Women are more affected than men, this is reflected in
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The indications for treatment are cosmetic, pains, and
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within 3 months but was successfully treated at the second
The failure in these two patients is either as a result of
Several agents have been used in sclerotherapy. These
include phenol, 4 hyaluronidase, 2 and OK 432 [5] with
modest success. The use of tetracycline is an accepted treat-
ment for pleural effusion, and it obliterates the pleural space
and prevents reoccurrence. The effectiveness of tetracycline
as a sclerosant depends on exciting inflammatory reaction
between two endothelial surfaces. It was this property that
was exploited in the treatment of ganglion. Tetracycline scler-
otherapy appears to be most effective than other sclerosant
previously used. However, one should be cautious in women
of child bearing age to rule out pregnancy because of effect
of tetracycline on the fetus although systemic effect from this
procedure appears to be minimal.
Moreover, it is easily available, and the quality can be
easily standardized and reconstituted even in the rural areas.
This treatment is easily available and can be carried out
by any doctor in contrast to surgery where good outcome
depends on surgical experience, technique, and expertise.
It is recommended that, when sclerotherapy is used, a
maximum of 3 attempts should be done, before failure is as-
ummed [12, 13]. In this study only 2 patients require the 2nd
sclerotherapy, hence it is not yet failure of therapy.
This study is preliminary findings; it will be expanded
with more cases and a longer followup to establish the effect-
lessness of tetracycline sclerotherapy.
In conclusion, tetracycline sclerotherapy is judged to be
very effective, easily available, requires little or minimal ex-
pertise, and is cheap and cost effective when compared to sur-
gery. The success rate also appears to surpass surgery.


