Treatment of ganglion using hypertonic saline as sclerosant

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Summary

Twenty-nine patients with ganglion of the wrist were treated in this hospital using hypertonic saline as sclerosant. All patients were treated as outpatients. Under aseptic conditions, the ganglia were aspirated using #18 hyperdermic needle. A mixture of 2cc of hypertonic saline and 1cc 1% xylocaine were injected into the empty cavity and crepe bandage applied for 24 – 48 hours. After a follow-up period of 24-36 months, there was only one recurrence which was believed to be accidental injection of the saline outside the empty cavity. This was treated by the same procedure.

The most common complication was swelling of the wrist and dorsum of the hand which were seen in 50% of cases. This subsided spontaneously within 72hrs of treatment. Severe pain necessitating ingestion of analgesics (Paracetamol) was reported in 6 patients (20%), which subsided within 48 hours.

It is hoped that this new treatment which is cheap and less invasive may be a break through in the treatment of ganglia which hitherto was characterised by high recurrence rate of up to 23%.

Keywords: ***Ganglion, Treatment, Hypertonic saline, Sclerosant.***

Résumé

Vingt-neuf malade avec ganglion du poignet était traite dans cette hôspital utilisant hypertonique salin comme sclerosante, Toutes les malades etait traitee comme consultation extenes. Sous conditions aseptique chaque ganglion était aspire employant 18 seringue hypodermique. Une melange de 2cc de hypertonique salin et 1cc 1% Xylocasine était injects dans la cavité vide et un bande relpeau mis pendant 24-48 heures. Apres une period de 24 – 36 mois de poursuite, il y'avez qu'un cas de reappanition peut-etre a cause de injection accidental de salin a exterieur de cavite vide. C'était traiter suivant la même methode.

Le complication le plus frequent était le gonflement du pour porgnet en 50% des cas. Sace de ganfler spontanement pendant 72 heure de traitement. Dandeur vcocentre necessitant le ingestion de analgesique (paracetamol) était reporter en 6 malade (20%), qui se baisser pendant 48 heures.

Ont espere que cet nouvaux traitement qui nest pas cher est moin invasive peut-etre un bond en avant dans le traitement de ganglion qui était characterise par un haut reapparition' de presque 23%.

Introduction

Ganglia, sometimes defined as myxomatous degeneration of fibrous tissue elements derived from lining of synovial joints, tendon sheaths and embryological remnants of synovial tissue are common. Though they commonly occur around the writ and hand1, they could also occur in other areas like the foot[2], knee[3], bones[4], and even lumbar spinal canal[5].

Ganglia are believed to have arouse more interest than their clinical importance warrants, their usual presentation being swelling, pain and impairement of function.

Various treatment modalities have been tried including excision under general anaesthesia and tourniquet, transfixion with seton suture of two strands of black silk loosely tied over skin for ten days, aspiration of ganglia and injection of hyaluronidase or triamcinolone, incision of capsule as well as pressure rupture[6]. Their recurrence rate were however generally high.

We hereby present our experience in the treatment of ganglion at the University of Maiduguri Teaching Hospital using aspiration and injection of hypertonic saline as sclerosant which is minimally invasive with low recurrence rate.

Materials and methods

Twenty-nine (29) patients with ganglion of wrist seen at the surgical outpatients of the University of Maiduguri Teaching Hospital by authors between January 1996 and January 1999 were included of tehe study.

Informed consent was obtained from every patient recruited for the study. Treatment was given as outpatient. One patient with recurrent ganglion was included in the study.

Ganglia were aspirated under aseptic condition using #18 hypodermic needle and needle left in place.

A mixture of 2cc of saturated solution of sodium chloride (prepared by first author) and 1cc of 1% xylocain drawn in a 5cc syringe were injected into the empty cavity via the aspirating needle. The needle and syringe are then removed together and elastic crepe bandage was firmly applied over ganglion site for 24-48hrs. Patient were advised to keep the forearm in a collar and cuff sling to reduce reactionary oedema and to report back to us at one week for initial evaluation of treatment.

They were followed up for variable period of time and advised to report any recurrence of lesion to us.

Results

All our patients were between the ages of 20 to 49. There were 11 males and 18 females giving a male, female ratio of 1:1.6.

All the ganglia treated were located at the dorsal wrist and hand. The commonest complication of this treatment was swelling of the wrist and dorsum of the hand which occurred in 50% of cases. This however subsided spontaneously within 72 hours of treatment.

Severe pain necessitating ingestion of analgesics (Paracetamol) was reported in 20% of cases. This was said to be worse on the day of treatment but subsided with 48hrs. There was only one recurrence seen over a 24 to 36 months period of follow-up. This was again treated by the same procedure without further recurrence.

Discussion

Various practitioners including religious leaders,

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rheumatologist, surgeons and general practitioners have attempted to treat ganglia but the recurrence rate had remained notoriously high. Of all the treatment modalities attempted, surgical excision under genral anaesthesia has been the treatment of choice in many centres[1,7,8] despite the high recurrence rate. In a review of 60 cases by Onuigbo[7], the post excision recurrence rate was 23% which was similar to findings by Zacharia and Nibe-Hansen[1]. To reduce the high recurrence rate in dorsal hand lesions, some workers have advocated more radical excision to include the scapholunate capsule and ligament[9]. But when one considers the fact that up to 40% of cases could disappear spontaneously[1] and that satisfactory result could be obtained in upto 70% of cases using aspiration and injection of steriods,[10,11,12] the merit of such radical approach may have to be left for few resistant cases.

The results in our series using aspiration and injection of hypertonic saline was excellent with very minor complications when compared to other modalities. The recurrence noted in one of our patients, in a series of 29 cases was thought to be due to accidental injection of the hypertonic saline solution outside the ganglion capsule and was successfully treated by the same procedure. This patient has been followed up for about 12 months without further recurrence.

It is our opinion that this new treatment technique which is simple and cheap with good result will offer better chance of treating ganglia which hitherto was characterised by high recurrence rate.

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