

SYMPATHETIC NERVE BLOCKS IN REFRACTORY SYMPATHETIC DYSTROPHY SYNDROME

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The authors tried to evaluate the benefit of sympathetic nerve blocks with guanethidine in 32 patients with a sympathetic dystrophy syndrome who failed to respond to conventional treatment.

Keywords : reflex sympathetic dystrophy syndrome ; sympathetic block ; guanethidine.

Mots-clés : syndrome de dystrophie réflexe sympathique ; bloc sympathique ; guanéthidine.

INTRODUCTION

Reflex sympathetic dystrophy syndrome (RSDS) is characterized by diffuse locoregional burning pain, abnormal vascular tone, and excessive sweating, which are suggestive of a sympathetic disturbance (3). For these reasons, sympathetic nerves blocks have been used in order to alleviate the symptoms (1, 2, 4, 7). Nevertheless, the efficacy is poorly documented in the literature (5). We therefore decided to do our own experiment in refractory RSDS with an intravenous regional sympathetic block (6).

PATIENTS AND METHODS

Thirty-two patients with RSDS refractory to several courses of injections of salmon calcitonin, combined with physical medicine including massage and heat rehabilitation techniques, were included in this retrospective study. All patients fulfilled the criteria for RSDS (3); the mean duration was 267 days ranging from 60 days to 2 years. The localization of RSDS was in the lower

limb in 20 patients and in the upper extremity in 12 patients. The efficacy parameters were pain, present in all of the 32 patients; reduced joint motility in 26 patients; edema and skin changes, observed in 29 patients, and vasomotor instability manifested by 16 patients. They were recorded as improvement/no change.

In this study we used the intravenous regional "guanethidine" block as described by Hannington Kiff (4). Blocks were repeated twice a week for two weeks and then once a week. With the patient lying on the table, a saline infusion was inserted in the unaffected side; continuous ECG monitoring was employed; blood pressure measurements were recorded before and every 5 minutes after injection, for 30 minutes. An intravenous catheter was inserted in a vein near the most affected part. Before the block, an Esmark bandage was used to drain the venous blood cut-off of the extremity. A pneumatic tourniquet was applied and maintained for 20 minutes at a pressure of 250 mm Hg. When possible, a small venous tourniquet was applied to limit the extension (spread) of the drug. To reduce the pain induced by the liberation of epinephrine after guanethidine injection, 20 ml of prilocaine 0.5% was injected 3 minutes before the injection of the mixture of prilocaine 0.5% with guanethidine, 10 to 30 mg in a 20 ml solution.

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The patient had to lie in bed for one hour after the block to avoid the possible effects of unbound guanethidine appearing when the cuff was released. In addition, we took advantage of the analgesia induced by the local anesthetic to improve the mobility of the affected extremity. Blood pressure and the development of possible side effects (pain, edema, bradycardia, diarrhea, and nausea) were regularly monitored for the duration and the follow-up of the procedure.

RESULTS

Since the aim of our therapy was pain relief, intravenous blocks were repeated twice a week as long as a clinical improvement was observed. Under these conditions, our 32 patients received an average number of 8 blocks. Significant pain relief was achieved in 25/32 patients, and joint mobility was improved in 23/26 patients; vasomotor instability was subjectively decreased in 14/16 patients, edema and dystrophic changes in 28/29. Side effects included local pain at the injection site (16/32), diffuse erythema (2/32) and phlebitis (3/32). As a consequence, guanethidine had to be discontinued in 6/32 patients.

DISCUSSION

Data with sympathetic nerve blockade in RSDS are scarce in the literature; moreover the clinical approach is variable and therefore, the experience can vary from one center to another. In this work, we retrospectively report our clinical experience in refractory RSDS. Repeated guanethidine block appeared capable of achieving a clinical benefit; pain, joint mobility, vasomotor instability and dystrophy were improved in the great majority of them; an average of 8 blocks was necessary. Some undesirable effects were observed, but they were transient and mild (6/32 patients discontinued the therapy).

A series of drugs has been used for sympathetic blockade, but from the literature, guanethidine seems to be the most efficient. Guanethidine has

been shown to displace norepinephrine stores, to inhibit its reuptake and to have a strong affinity for the vessels surrounding the tissues. In addition, it blocks the neurotransmitter release. Before depletion, guanethidine can induce a transient release of norepinephrine responsible of pain exacerbation. Care should be taken not to administer guanethidine to patients receiving monoaminoxidase inhibitors.

To conclude, this study provides additional information concerning the benefit of guanethidine blocks in refractory RSDS. The results are still preliminary since this study was retrospective, not conducted under blind conditions with an independent observer. The efficacy parameters were subjective; they therefore need to be confirmed.

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SAMENVATTING

D. HENNART, M. LEON, P. SYLIN, Th. APPEL-BOOM. Sympathische zenuwblocks in het resistente RSD syndroom.

We proberen de activiteit van sympathetische blocks met guanethidine bij 32 patiënten lijdend aan een algodystrophie niet behandelbaar met een klassieke behandeling te evalueren.

RÉSUMÉ

D. HENNART, M. LEON, P. SYLIN, Th. APPEL-BOOM. Le bloc nerveux sympathique dans l'algodystrophie rebelle.

Les auteurs ont essayé d'évaluer l'efficacité des blocs sympathiques à la guanéthidine chez 32 patients souffrant d'une algodystrophie n'ayant pas répondu au traitement conventionnel.