

# CARBOXYTHERAPY IN BENIGN OSTEO-ARTHRO-MYOFASCIAL PAIN TREATMENT (GAS-ANTALGIK)

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## INTRODUCTION

Carboxitherapy was first used in 1930 in France at the Royat (Clermont-Ferrand) spa, where it was used to treat people with diseases of the venous system.

The purpose of this study was to assess the analgesic and healing effect of subcutaneous insufflations of carbon dioxide in patients with benign osteo-arthro-myofascial pain. Subcutaneous CO<sub>2</sub> insufflations (SCI) are used almost exclusively in Central Europe as a treatment methodology in Physical Medicine and Pain Therapy, using gas from natural sources or injecting medical, purified gas from Carbon Dioxide (CO<sub>2</sub>) cylinders.

Some authors have suggested that analgesia is a result of a local increase of subcutaneous blood flow and of the stimulation of local receptors, others speculate on the inhibitory secondary influences of inflammatory cytokines, and others yet on the possibility of direct action with trigger point inhibition.

## METHOD

The choice of points to be treated -which I have called pain points- in some cases correspond to trigger points. These vary depending on the disease or trauma suffered by the patient.

Also the choice of the type of treatment varies and in particular: the amount of injected CO<sub>2</sub>, the selected flow, the gas temperature in the moment of perfu-

sion, the greater or lesser depth of the localization (subcutaneous, intradermal, in the tendon sheath, in the articular capsule) all vary according to the pathology.

Many cases of Achilles tendinopathies are brought to my attention. These are usually related to people who either play sports at amateur level -mostly football, basketball and volleyball players- or sedentary people who are overweight and have a metabolic syndrome. As a matter of fact among the main causes of Achilles tendonitis we may find: repeated microtrauma due to intense sport efforts and to insufficient training of the athlete, insufficient muscle elongation, a premature return to sport activity after a period of inactivity, a very hard playing field, a sudden increase in the intensity of the sport activity or unsuitable footwear, no muscle warming up activity, a lack of compensation training, disregarding the first symptoms.

For non-athletes patients suffering from Achilles tendinopathy the causes are manifold, in particular: old age, metabolic disorders ( i.e. diabetes or gout), collagen related diseases (systemic lupus erythematosus; rheumatoid arthritis, etc), repeated cortisone injections or the intake of medicines such as antibiotics (ciprofloxacin) or statins, congenital factors, (pronation or supination of the foot), a muscle structure in with an excessive agonists / antagonists ratio ( the tendon works also to compensate the bad muscles), overweight or obesity.

## CONCLUSIONS

The following factors have been evaluated: actual perceived pain, functionality and mobility degree after the treatment at time zero - immediately after the treatment- and three months after a set of treatments. More specifically, I treated Achilles tendinopathy exclusively with Carboxytherapy, the patient did not take any NSAIDs or corticosteroids. I combined physio kinesiotherapy and postural therapy.

The effects were: Analgesic and healing on musculoskeletal pain, on tendinitis, on rheumatic diseases and on the early stages of arthrosis. It should be considered a good support for physio kinesiotherapy as it reduces the use of pharmacological substances.