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Carboxytherapy: New approach in conservative treatment of Peyronie's disease

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Peyronie's disease (PD) is an acquired disorder of tunica albuginea characterized by the formation of plaques of fibrous tissue often associated to symptoms like erectile dysfunction (ED) and coital pain. The inflammatory process is unknown, even if it is known that activated inflammatory cells produce many radicals of Oxygen (ROS), leading to fibroblast proliferation and collagen synthesis. Endothelial dysfunction is the responsible of inflammatory chain reaction in which an inflammatory protein, NF-kB seems involved in ROS synthesis. Conservative treatments (laser, ultrasound, iono/iontophoresis) seem to have poor therapeutic effects in PD. Clinical studies have indicated that altered CO₂ levels can impact upon disease progression. CO₂ levels can be sensed by cells resulting in the initiation of pathophysiologic responses with a sensible reduction of oxidative phenomena (Bohr/Haldane effects). We have tried carboxytherapy by using sovrapubic subcutaneous injection of sterile CO₂ gas in 25 patients aged from 40 to 65, affected by PD. After the cycle of treatment of 15 weekly applications, we have observed in all patients a subjective reduction of penile deviation, an improvement of quality of erections and a sensible reduction of plaque's dimensions, documented by ultrasound controls and IIEF questionnaire before and after the end of cycle. We should consider CO₂ as a powerful antioxidant against endothelial dysfunction and oxidative stress. NF-kB is a target of CO₂ antioxidant power. Preliminary qualitative results could encourage an extended use of carboxytherapy in PD treatment.

Biography

Fabrizio Muzi has completed his studies as General Surgeon from Tor Vergata University of Rome. He works in the Department of Oncologic Urology as an Assistant of the Director Prof. Gaetano Tati. He has completed his Master's degree in Andrology from Pisa University and in Surgical Andrology from Trieste University. He has published some papers and participated in national congresses related about the use of gas therapy in urology.

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