



Case Report

Contrast Bath Treatment in Post Stroke CRPS

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ABSTRACT

Complex Regional Pain Syndrome (CRPS) is a painful and incapacitating disorder that typically develops as a result of injury or surgery and is linked to severe discomfort and disability. It is one of the common complications in stroke patients. A therapeutic technique known as a contrast bath includes alternate bathing in both warm and cold water. This method might aid in enhancing blood flow within your body. **Case Summary:** We present a case of complicated regional pain syndrome, a stroke-related complication in a 55-year-old businessman treated with a contrast bath. **Conclusion:** Contrast bath treatment improves pain in patient's right arm, ranges of upper extremities and this technique also improves blood circulation.

INTRODUCTION

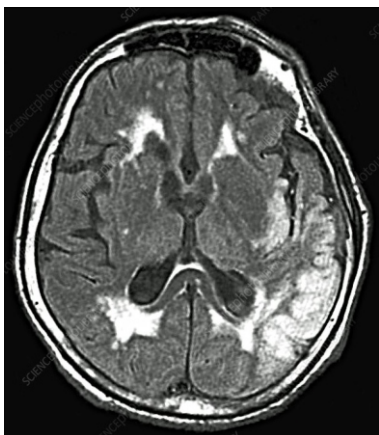
There are several labels for Complex Regional Pain Syndrome (CRPS), although reflex sympathetic dystrophy and causalgia are typically the most common ones. It is a syndrome that causes chronic, excruciating pain along with anomalies in the autonomic nervous system, sensory system, and motor system, regardless of the degree of injury [1]. Although the underlying pathophysiology is uncertain, it's been stated that sympathetic nervous system disorder, that's ideal to play a crucial function, happens due to a microcirculatory disturbance inside the sensory ganglion with peripheral nerves and noradrenergic sympathetic fibers. Among the most frequent headaches experienced by stroke patients is pain in the affected upper extremity. It has been reported that between 21% and 31% of stroke survivors experience CRPS, which is a serious disabling condition. A persistent neurological condition,

CRPS is characterized by non-dermatomal, distal important incapacitating pain, swelling, vasomotor instability, sudomotor abnormalities, and impairment of motor function. Pain in CRPS may be expressed as continuing spontaneous evoked nearby pain frequently disproportionate in time and degree to any trauma or any other lesion. CRPS is an unusual ailment with an occurrence of <2% in maximum retrospective studies. A better occurrence of CRPS is pronounced in sufferers among the long time 61-70 years and in girls (76%) [2]. In CRPS, there's interaction between significant and peripheral pathophysiology. a few studies finish that an initial noxious stimulus within the outer edge outcomes in a kingdom of hyper excitability in the spinal cord neurons. In sympathetic-mediated pain, the nociceptive enter is maintained by means of an interplay among number one

afferent and sympathetic efferent through an adrenergic mechanism. Considerable changes in sensory perception and peripheral (autoimmune and somatosensory) adaptations in CRPS must be viewed as a manifestation of changes in the mind [3]. Injuries that are acute or subacute can be treated using contrast bath therapy (CBT). By forcing the blood vessels to contract and relax, it will boost blood flow, lowering edema and discomfort in the areas where odd findings are present. Moreover, elevated blood go with the flow facilitates the delivery of extra oxygen and vitamins to the tender tissues and allows restore broken tissue [4].

CASE PRESENTATION

M. Shafique, a 55-year-old businessman presented with history of blood pressure and diabetes type 2. He had developed right sided hemiparesis. He visited physiotherapy clinic 6 months after stroke. On examination he was oriented and his language was intelligible, his both eye fields were full to confrontation. Sensory examination revealed his both extremities having normal sensations except his right hand occasionally show allodynia to touch. He feels pain in his right hand [5]. Motor examination shows right upper extremity were in flaccid stage have power 0/5, but right side lower extremity having power 3/5 in all muscles other than dorsiflexors, evertors in 1/5. DTRs of upper extremity were unremarkable but lower extremity DTRs were in 3+, ankle clonus elicited. Babiniski's positive. Tone of upper extremity was flaccid but lower extremity was spastic MAS 2. When moving his right hand his hands were in profuse sweating, cyanosis and pain VAS 6/10. Even touch of any cloth elicits pain in his hand. As seen in this Fig., a thrombotic stroke has impacted the left hemisphere of the brain. During this kind of stroke, atherosclerotic plaques frequently develop thrombi (blood clots). The resulting brain swelling and infarction (tissue death) of the left hemisphere can be seen in white.



He was admitted to the physiotherapy department, diagnosed with CRPS and contrast bath treatment was prescribed. He had treatment for three weeks in a contrast

bath. First, give his limb a three-minute bath in warm (38°–40°C) water. Then immerse the limb for two minutes in ice-cold (8°–10°C) water. Then, immerse the limb for four minutes in hot water and then alternate with a one-minute soak in cold water. Repeat three more times, alternate four-minute immersions with one-minute immersions [6]. This gets done at a specific rate, temperature, and time. Blood vessels may contract and dilate because of the frequent changes in temperature, creating a pump action. His stiff joints, muscle spasms, and aching limbs (upper and lower) are treated with CBT. After treatment his VAS was 1/10, he feels no pain in his right arm and also improves his upper extremity ranges [7]. This technique improves blood circulation through his body. And he was not worried about his hand physiotherapy.

DISCUSSION

This situation described a 55-year antique businessman who became diagnosed with CRPS and underwent with comparison bathtub remedy. CRPS affects women more than men, but not exclusively. Girls have been affected at the least three times more often than men (ratio: three.4). The best incidence occurred in women inside the age class of 61–70 years. Many instances were said with special causative agents. It happens in approximately 7% of patients who've limb fractures, limb surgical operation, or other injuries. There is no loss of professional consciousness, although CRPS not often takes place in patients however there may be no delay in patient's remedy [8]. Within this case, CRPS happens as a trouble of put-up stroke. CT experiment of left hemisphere confirms that affected person had right sided hemiparesis. Motor exam in addition confirms that affected person had complex regional pain syndrome by using checking his extremities tiers which are zero/5 in right upper higher extremity and right side decrease extremity having strength 3/five in all muscle groups except dorsiflexors, evertors in 1/5. Tone of upper extremity become flaccid but lower extremity become spastic MAS 2. While transferring his right hand his arms were in profuse sweating, cyanosis, and ache VAS 6/10. This provides a potential diagnosis of CRPS, a put-up stroke complication [9]. The treatment consists of a multidisciplinary method covering an aggregate of pharmacological, bodily, occupational, and psychological treatment plans. As a control, we pick contrast bath treatment. His stiff joints, muscle spasms, and aching limbs (upper and lower) are treated with CBT (10). After treatment his VAS became 1/10, he feels no pain in his right arm and additionally improves his upper extremity tiers. This technique improves blood stream via his body.

CONCLUSIONS

This case describes a 55-years old businessman who was

diagnosed with (CRPS) complex regional pain syndrome as a complication of stroke and then underwent a contrast bath treatment. Contrast bath treatment improves pain in patient's right arm, ranges of upper extremities and this technique also improves blood circulation. However, treatment used in this case study has limited evidence.

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