

**Zuurmond WW, Langendijk PN, et al. Treatment of acute reflex sympathetic dystrophy with DMSO 50% in a fatty cream. Acta Anaesthesiol Scand 1996;40:364-367.**

Design: Randomized clinical trial

Brief summary of findings:

- 31 patients (14 men, 17 women, mean age 47) were treated for CRPS-I in anesthesiology department in Amsterdam
- Eligibility for inclusion required 4 of these 5 symptoms: (1) unexplained diffuse pain, (2) difference in skin color relative to other limb, (3) diffuse edema, (4) difference in skin temperature (warmer) in affected limb, (5) limited active range of motion
- Patients with CRPS-II were excluded
- Eligibility criteria were used to construct a CRPS score on a scale from 0 to 5; this was the primary outcome measure
- Secondary outcome measure was pain on VAS from 0 to 10
- Randomized to either DMSO 50% in a fatty cream or to fatty cream without DMSO as a placebo
- Patients were instructed to apply cream to proximal part of involved extremity for two months
- At the end of 2 months, both groups had lower CRPS and VAS scores compared to baseline
- The DMSO group had more improvement in its median CRPS score than the placebo group
- The improvements in the pain VAS did not differ between treatment groups
- 13 patients using DMSO cream showed mild scaling of the skin in the treated area; this was seen in 3 patients using the placebo cream
- A majority of patients noted a garlic-like taste or odor after using DMSO

Authors' conclusions:

- Treatment of acute CRPS with DMSO can be recommended
- The study observers did not ask patient about taste or odor of the applied cream, and did not know about the appearance and smell of the cream which was dispensed

Comments:

- Several problems create a risk of bias; the lack of blinding (due to garlic taste and odor of DMSO) is the main one, but the method of randomization is unclear as well
- The main outcome is not well explained; the reader must infer that one point was recorded for each of the entry criteria defining CRPS-I, but the meaning of the scores is not clear
- The method for determining the entry criteria is not clear; the discussion section states that temperature measurement can be determined by palpation

when the difference is greater than 2° C, but it is not clear whether this was the method used to examine patient for eligibility for the study

- The scoring system cited (Veldman et al 1993) used “difference in skin temperature relative to other limb” as a diagnostic criterion; eligibility for entry to this study appears to have been a higher temperature in the affected limb, which would exclude patients whose affected limb is cooler
- The pain VAS, in contrast to the CRPS score used as the main outcome measure, is a well-known and validated outcome measure; it did not differ between treatment groups
- The application of the cream is not described, except that the patients were instructed to apply it for two months

Assessment: Inadequate for evidence about DMSO (high risk of bias, unclear entry criteria, no difference in pain scores, and unclear description of treatments)