

CALCIUM CHLORIDE IN ALCOHOL NEUTER INJECTION; EVALUATION OF INTRATESTICULAR VS INTRAEPIDIDIMAL INJECTION IN STRAY OR OWNED DOGS

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It is well known that stray dog overpopulation is increased by free roaming owned dogs: almost 46% of roaming dogs are actually owned dogs with an identifiable owner but allowed to roam and mate freely. Controlling reproduction of companion animals to achieve effective population management is essential. Yet many owners of male dogs are reluctant to have their dog castrated. Nonsurgical methods of sterilization could be better accepted and yield positive impacts on canine overpopulation.

Previous studies (Leoci et al, 2014) have shown that intratesticular injection of calcium chloride dihydrate at 20% in 95% ethanol (CaCl_2) at a dose based on the scrotal width is a promising alternative to surgery. This approach showed long-term efficacy, sterility was achieved for at least 9 months, and sexual and aggressive behavior decreased with a durable reduction of testosterone as compared to baseline levels. It is important to avoid CaCl_2 seepage to avoid side effects: just a little practice is needed. This procedure is quite easy to perform and many dogs can be injected in a short time - therefore it can be performed on a large scale as in trap/neuter/release programs.

A recent study (Leoci et al., 2017) evaluated epididymal injection of CaCl_2 and found this approach to be effective, inducing long term sterility for at least 9 months. For the study, 148 healthy, crossbred male owned dogs were selected (18 to 26 months of age and 6 to 26 kg of body weight). Different from intratesticular injection, no drop in the testosterone serum levels and no changes in sexual behavior were noticed. Moreover the injection in the epididymis was very challenging due to the small anatomical dimension and flexibility of structures. Better results were achieved with echographically guided injection (Leoci et al., 2017). Performing the intraepididymal injection was as time consuming as orchiectomy.

These findings suggest that both techniques are suitable to chemically castrate dogs. Intratesticular injection is better to perform in stray dogs for all the reasons previously reported. Intraepididimal injection could represent a useful option for owned dogs where testosterone is preferred to be kept within the physiological range, and it may be accepted by owners reluctant to castrate their dogs.

Chemical sterilization by an intratesticular or intraepididimal injection of CaCl_2 might provide an effective, efficient alternative to surgical castration to fight dog overpopulation on both the public and private side.