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Chemical Castration in Cats

Chemical castration, a nonsurgical approach to male contraception, has been investigated using various agents in pet animals. This study evaluated calcium chloride solutions injected into feline testicles. Thirty cats were divided into 5 groups of 6 cats per group. Groups I through III received a single bilateral intratesticular injection (0.25 mL) of either 5%, 10%, or 20% calcium chloride dihydrate in saline solution containing the local anesthetic lignocaine hydrochloride. Groups IV and V served as controls; group IV cats received single bilateral intratesticular injections of 0.25 mL saline solution and group V cats were surgically castrated. Most cats receiving injections showed mild discomfort approximately 1 to 5 minutes after injection; this was attributed to excessive fluid pressure. There were no significant alterations in the serum concentrations of blood urea nitrogen, cortisol, fasting blood sugar, packed cell volume, or total serum protein concentrations. The testes were collected at 60 days and treated testes showed complete necrosis and replacement with fibrous tissue. Low sperm counts were also noted; cats receiving the 20% dose had at least a 70% reduction in serum testosterone levels.

Commentary

It is assumed, although the authors did not state specifically, that the 20% solution is recommended for use as the 5% solution

only reduced the sperm count from 6540/mL suspension in control cats to 4250/mL suspension. Serum testosterone levels only decreased from approximately 8 ng/mL in the control group to 5.5 ng/mL in the 5% solution group. Sperm were still found in the testes of the 20% concentration group at 60 days (102/mL suspension), although the viability was not discussed. In the same group, the serum testosterone level was still about 7 times higher than the surgically castrated group. One of the purported main goals of the experiment was to eliminate the unwanted sex-based behavior associated with testosterone, but this was not evaluated. CaCl injection seemed to remove most of the reproductive capacity of the testes with little untoward side effects, which suggests a potential use in feral cat population control, but the results still were not quite as good as surgical castration for the client-owned cat.—*Jonathan Miller, DVM, MS, DACVS*

Source

Clinical evaluation of non-surgical sterilization of male cats with single intra-testicular injection of calcium chloride. Jana K, Samanta PK. *BMC VET RES* 7:39, 2011.

