ABSTRACTS

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Effect of intratesticular injection of zinc gluconate as a contraceptive method for captive capuchin monkeys (Cebus libidinosus) – Preliminary results

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INTRODUCTION: Reproductive control is ironically important for the management of certain wild species. In some situations, it may be desirable to develop methods for large-scale sterilization in animal species that are clearly not in danger of becoming extinct but whose population has become so excessive that starvation or other problems arise. For example, the improvement in animal husbandry and veterinary care has led to low adult mortality and an increase in longevity of species like the captive capuchin monkey (Cebus libidinosus), which have also adapted successfully to captive conditions at the zoos in Brazil. Widespread overpopulation of such species has caused problems at the zoos which are becoming overcrowded due to the expansion of these animals reared in captivity. This results in the demand for population control. The majority of agents used for contraception in animals are targeted specifically for the female but earlier studies in wildlife populations have shown that to successfully reduce populations of wildlife, all males must be contracepted or the bachelors will take over the harems (1). Fortunately, contraceptive targets directed toward the male may be more practical for use in zoos and situations where the numbers of males exposed to females are limited and can be controlled more easily. Vasectomy has been the traditional method for controlling capuchin monkeys (Cebus Libidinosus) in Brazil but due to postoperative complications this method has limitations. Therefore, the aim of the present study was to evaluate the efficacy of intratesticular injection of zinc gluconate (Testoblock®) as a permanent contraception for captive capuchin monkeys (Cebus Libidinosus).

MATERIAL AND METHODS: This study was approved by the Animal Experimentation Ethics Committee of Federal Rural University of Pernambuco. Measurements included testicular volume and sperm production. Six adult males of captive capuchin monkey (Cebus Libidinosus) received one single injection of Testoblock® into each testis. The volume of Testoblock® was based on testis width measured with a caliper (it was considered the relation of 1mL of Testoblock® solution for a 25 mm testis width). Sterilization of male capuchin monkeys was chosen to control the growing number of this captive species population at Dois Irmãos State Park in Recife, PE. Physical examination, testis volume assessed by ultrasound and semen characteristics were evaluated on Day 0 (before Testoblock® injection) and at 60 d after treatment.

RESULTS AND DISCUSSION: It was noteworthy that there was no apparent scrotal or testicular pain or tenderness, since animals did not evidence any behavioral changes after the procedure. There was evidence of testicular atrophy based on reductions in testis volume (approximately 25%) on Day 60 when compared to Day 0 (1.33±0.69 and 1.00±0.79mL, on Day 0 and Day 60, respectively; P=0.2910). Regarding sperm parameters, on Day 60, two treated capuchin monkeys were azoospermic, three had lower sperm counts and one still had viable sperm. To our knowledge, this is the first report regarding sterilization of male captive capuchin monkeys (Cebus Libidinosus) by a one-time bilateral intratesticular injection of zinc gluconate. Although the contraceptive effect for wildlife population control must be reversible, sometimes, permanent sterilization is desirable and, in these cases, this study shows the enormous potential of intratesticular injection of zinc gluconate for the management of a wildlife population. Studies are currently being undertaken to adopt the use of intratesticular injection of zinc gluconate at the routine in zoos as this agent has proven to be an effective agent for contraception in a variety of animals, including canids (2) and felids (3).

CONCLUSION: We concluded that intratesticular injection of the zinc gluconate-based chemical sterilant Testoblock® has great potential as a permanent contraceptive for captive capuchin monkeys (Cebus Libidinosus).

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