Advisory Comment on Altrenogest contraception in dolphins (Tursiops truncatus)  
by  
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Altrenogest (Regumate ®) is a synthetic progestin approved for use in horses and pigs for the purpose of suppressing estrus. Administered orally as an oil solution, the labeled dose of altrenogest is 0.044 mg/kg. At this dosage, it is effective as a contraceptive and has been used off-label for estrous suppression/cycles synchronization in female bottlenose dolphins (Tursiops spp.) and female killer whales (Orcinus orca) when administered daily. It has been demonstrated to be generally safe when administered short-term with females reported to resume fertility and deliver healthy calves post-treatment, though Robeck et al. 1,2 previously reported that, unlike in other animals, Regumate® may provoke a delay and/or suppression of follicular cycles post removal.

After initiating treatment with altrenogest, it may take several days to effectively suspend cycling and fully suppress estrus. Therefore, administration should be planned in accordance with the need for estrous suppression. In general, daily dosing is required to maintain adequate suppression of estrus and an accurate knowledge of the animal’s weight is mandatory. Though highly effective, it is important to mention that the drug does not provide a 100% contraception guarantee and cases of follicular development and/or ovulation (followed by pregnancies) have been reported when using altrenogest 3.

Altrenogest has a labeled contraindication for use in mares with uterine inflammation and as this drug is not risk free, uterine and ovarian ultrasonographic evaluation, blood work and reproductive hormone testing (e.g. progesterone, estradiol, etc.) should be done prior to starting the medication and regularly during the treatment. A weekly ovarian ultrasonographic control is recommended for the identification of potential follicular development. The duration of treatment is often tailored to individual management needs, but experiences from veterinarians active in the cetacean field show that long-term altrenogest administration could be associated with irregular cycles (longer, shorter and/or delayed), cyst development or retained CL among others, but further scientific publications are still needed.

June 1, 2020
It is at this point difficult to define what is long-term use, but based on current clinical experiences in the field, the consensus recommendation - in order to maintain female fertility and minimize risks of potential side effects of this progestin - would be to use it continuously only in sexually mature females for no longer than the length of a full pregnancy (one year in a dolphin) before allowing the female to cycle at least twice before reestablishing it back again. Due to possible delays for estrus to resume or the development of some abnormal structures, accurate sonographic controls and endocrinological status follow-up need to be implemented to identify normal cycles and, whenever practical, with vaginal cytology. Ideally resuming altrenogest administration only occurs after the completion of these two normal cycles, however facilities particular circumstances (older females – space – groups separation – medical conditions etc.) should be addressed in a case per case scenario to prevent negative medical impact on specific animals or global negative impact on the population welfare. Human safety must also be considered for individuals handling the solution. All persons handling the drug will need to wear gloves.

For further information about altrenogest use in marine mammals please consult “EAZA Reproductive Management Group Database” @: contraception@chesterzoo.org or https://www.egzac.org/

Literature cited: