Elimination of Triamcinolone Acetonide After Intra-Articular Administration to Performance Horses

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The elimination of triamcinolone acetonide after intra-articular administration varied widely among horses. Detection of triamcinolone in plasma samples from horses on day 10 post-triamcinolone acetonide administration suggests careful use of this drug before performance. Authors’ addresses: K.L. Maddy Equine Analytical Chemistry Laboratory, University of California, West Health Science Drive, Davis, CA 95616 (Knych); and Oklahoma Equine Hospital, 2652 Reece Lake Road, Washington, OK 73093-9700 (Fleming, Van Pelt, and Carter); e-mail: hkknych@ucdavis.edu.

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1. Introduction
Triamcinolone is a potent anti-inflammatory agent, and as such, it is commonly used to treat performance-related injuries in equine athletes. Determining threshold values for drugs, such as triamcinolone, administered before performance is a constant challenge for regulatory agencies. This challenge is especially relevant with the advent of increasingly sensitive analytical instrumentation with the ability to detect picogram concentrations of drugs in biological samples. The goal of the study described here was to describe the elimination of triamcinolone acetonide after intra-articular administration to performance horses.

2. Materials and Methods
Eight client-owned performance horses received 6 mg triamcinolone intra-articularly into both tarso-metatarsal joints (total dose of 12 mg). Blood samples were collected at time 0 and at various times up to 10 days post-drug administration. Plasma samples were analyzed by liquid chromatography mass spectrometry for plasma triamcinolone acetonide concentrations.

3. Results and Discussion
The elimination half life varied greatly between horses (155 ± 174 h; mean ± SD). Triamcinolone acetonide was below the limit of detection (0.025 ng/ml) for six of eight horses by 10 days post-drug administration; however, it was still detectable in the remaining two horses. Results of this study suggest careful use of triamcinolone acetonide before performance, and they warrant additional investigation of the disposition of this drug in horses.