

EFFECTS OF FUROSEMIDE ON URETERAL DIAMETER AND ATTENUATION USING COMPUTED TOMOGRAPHIC EXCRETORY UROGRAPHY IN NORMAL HEALTHY DOGS

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ABSTRACT

A number of imaging techniques have been employed to try and diagnose ureteral disease, including ectopic ureters. CTEU has overcome those disadvantages and has become the imaging modality of choice for evaluating human and canine patients with ectopic ureters. However, this imaging modality is not perfect. A fundamental problem with CTEU is that normal ureteral peristalsis can prevent identification of the ureters by causing intermittent and inconsistent contrast filling.

The aim of this study is to determine if the addition of furosemide to the standard CTEU protocol will improve identification of the ureters by overcoming normal ureteral peristalsis and increasing attenuation and distention of the ureters. A secondary aim of the study was to determine any side effects associated with this technique.

Based on 14 volunteer dogs, this study demonstrated that the addition of furosemide to the CTEU protocol improved visualization of the ureters by increasing both the number of ureteral segments that could be identified as well as increasing ureteral diameter. No difference in percent ureteral filling was identified. In addition, no side effects associated with furosemide were documented and thus it was considered safe to use at the 4 mg/kg IV dose in healthy dogs.