Surgical techniques for the treatment of intramural ectopic ureter in dogs. Use of minimally invasive techniques

Alicia García Ferrer Final Degree Project – June 2020



INTRODUCTION

FACULTAT DE

VETERINÀRIA

The ureteral ectopia is a congenital malformation where one or both ureters open at a distal position than the trigone area of the bladder. According to their path, ureteral ectopia can be classified as intramural or extramural.

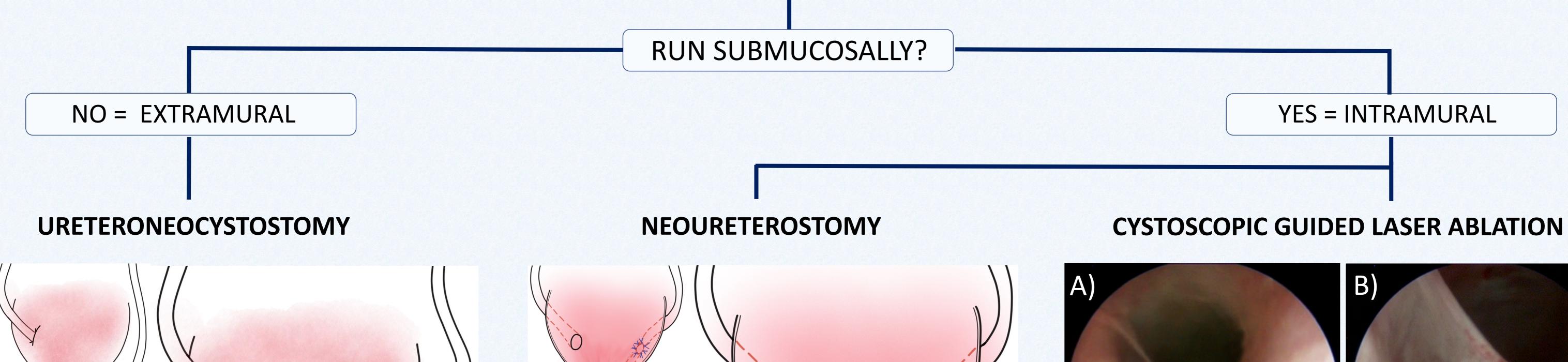
The main problem of this disease is the continuous or intermittent dribbling of urine and the secondary disturbances that can worthen animal's health.

OBJECTIVES

This project aims are, firstly, to perform a bibliographic review from the available surgical techniques including minimally invasive ones and determine their advantages for the treatment of intramural ectopic ureters.

Secondly, to assess whether minimally invasive therapies have higher post-surgical success rates than conventional ones. And lastly, to determine if the presence of other genitourinary abnormalities can influence the success rate.

SURGICAL TECHNIQUES FOR ECTOPIC URETERS



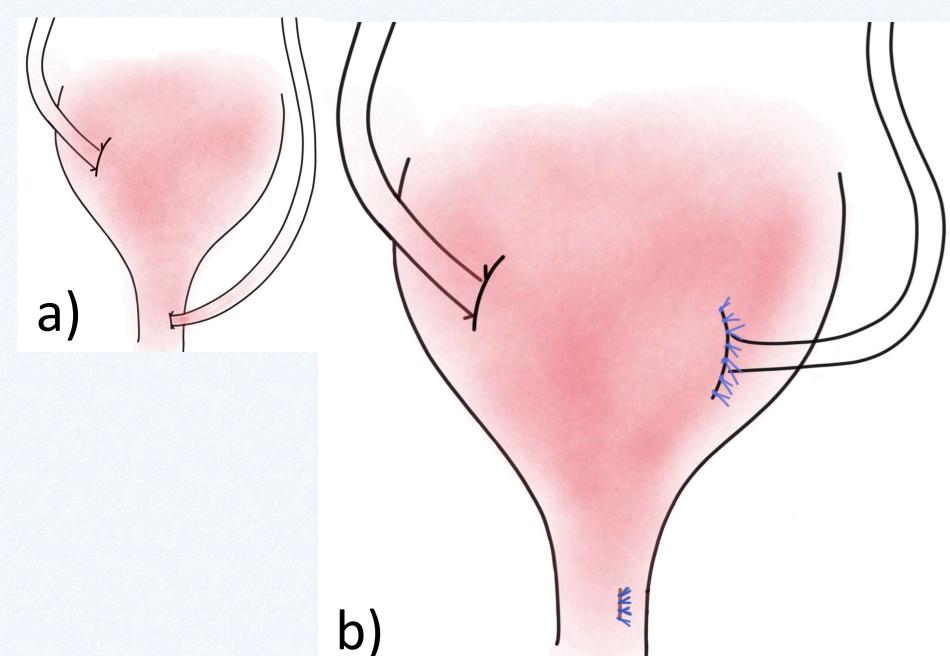


Figure 1. a) Dorsal view of the bladder with an extramural ectopic ureter opening in the urethra. b) Replacement of extramural ectopic ureter.

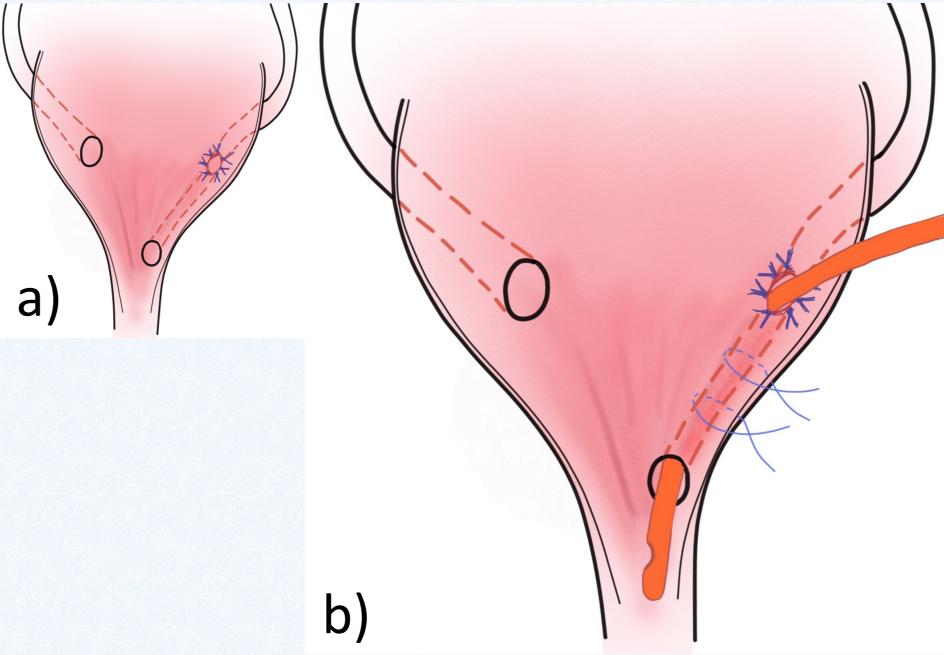
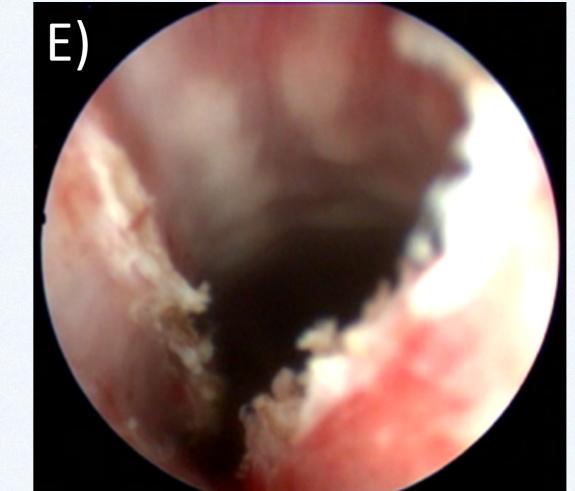


Figure 2. a) Ventral view of the bladder with intramural ectopic ureter opening in the urethra. Replacement of intramural ectopic ureter. b) Catheterization and ligation of the distal remnant of the ectopic ureter.

A) URETHRA URETER D) E) F)



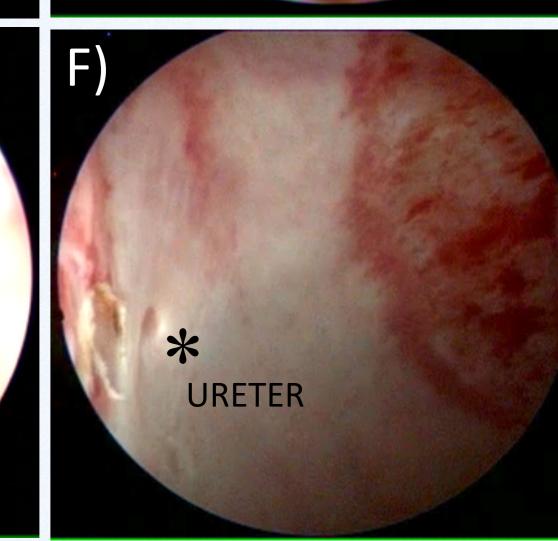


Figure 3. Replacement of intramural ectopic ureter. A) Intramural ectopic ureter opening in the urethra. B) Guidewire inside the ureter. C) Use of the laser with the guidewire. D) Ablation of the medial wall of the ureter with the diode laser. E) Ablated ectopic ureter. F) New opening of the ectopic ureter in the trigone's area.

CONVENTIONAL SURGERY

(Figure 1 and 2)

Laparotomy and cystotomy
Requires hospitalization
Suture → Scar → Ureteral stenosis
83% Urinary tract infections
Requires previous knowledge
Current surgery for a surgeon

MINIMALLY INVASIVE TECHNIQUE

(Figure 3)

Less painful
Faster recovery
Correct hydronephrosis and hydroureter
37% Urinary tract infections
Expensive specialized material
Practical experience and knowledge
Diagnosis and treatment of other
abnormalities

CONCLUSIONS

- Nowadays, two different techniques are described for the correction of intramural ectopic ureters: neoureterostomy and cystoscopic guided laser ablation. Whereas for extramural ones the used therapy is ureteroneocystostomy.
- Welfare and post-surgical recovery are the noticeable advantages of guided laser ablation compared to neoureterostomy.
- Minimally invasive techniques reduce intraoperative and post-surgical complications and allow to correct other diseases but do not provide better outcomes in relation to incontinence rates.
- The presence of other genitourinary abnormalities (like urethral and vesical function and position) influence post-surgical success rates according to incontinence, whereas ureteral abnormalities do not affect directly the surgical outcome.