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EVERSION OF THE URINARY BLADDER IN THE RABBIT

EVERSÃO DA VESÍCULA URINÁRIA NO COELHO

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SUMMARY

A rare case of complete urinary bladder inversion was verified in a female adult new zealand white rabbit. Under the macroscopical analysis, the mucosal lining had a red hue and irregularly distributed in the distal, portion of the organ papillomatous structures were verified. In this region, a mucosal erosion overlaid in some places by fibrin with erythrocytes scab was observed under a microscopical aspect. The same pattern as described above was observed in other regions of the bladder, where the focal areas had a more intensive inflammatory infiltrate. These results allowed to conclude a inespecific chronic cystitis aspect.

UNITERMS: Rabbits; Bladder.

INTRODUCTION

A rare case of complete eversion of the urinary bladder is reported in an adult, female, New Zealand white rabbit (Fig. 1a). The animal was sacrificed with an overdose of anesthetic and the pelvic region was dissected to expose the urinary bladder and adjacent structures. After a longitudinal incision that revealed the overlying peritoneal bladder (Fig. 1b), the block containing the urinary bladder, vaginal and uterus was removed and the ureteral orifices were exposed (Fig. 1c).

Irregularly distributed, reddish, papillomatous structures, measuring 3 to 7 mm in length, were observed in the mucosal lining of the distal portions of the organ (Fig. 2a). Erosion of the mucosa overlaid in some areas by fibrin with a erythrocyte scab was present. In the urinary bladder wall (0.4 to 0.6 mm thick), a multi-focal, inflammatory infiltrate composed by plasma cells, intense edema and a fibrotic scar pattern were seen in all layers (Fig. 2b). The same pattern was observed in other regions of the organ, where the focal areas exhibited more intense inflammatory infiltrate.

These results suggest a non-specific chronic cystitis. An analysis for the papilloma virus, using the immunoperoxidase reaction with polyclonal, anti-bovine papilloma virus (BPV, Dako-B580), processed according to the avidin-biotin-peroxidase method (HSU et al.¹, 1981), was performed to detect probable antigenic similarity with the rabbit papilloma virus (reaction resulted negative). The human papillo-

ma virus has also been recognized by the polyclonal anti-BPV test (KURMAN⁶, 1984).

COMMENTS

Eversion of the urinary may occur during parturition in large animal and women, owing to weakness of the muscular and pelvic ligaments (THAVARASAH; ATTYGALE¹, 1978; WEGMANN¹⁰, 1987; FRAZER¹, 1988; PETER⁷, 1989).

Such eversion has been frequently related in the mare, in which the urethral diameter is large and parturition particularly powerful (ARTHUR², 1977; ALVARENGA et al.¹, 1993). According to ROSLAN⁸, 1987), inversion of the urinary bladder in the absence of at least one of these factors is an extremely rare condition.

In the present report, dissection of the perineal region did not reveal muscular weakness considering the negative result for the papilloma virus test, and supposing that the observed eversion was caused by the non-specific chronic cystitis without evidence of neoplastic lesion, multiparity associated with tenesmus may then be one of the determining factors of eversion. Fluid infiltrate into the serosal lining, due to ureteral torsion, as described by JONES⁹ (1984) in cows, was not observed, since the ureters were not obstructed.

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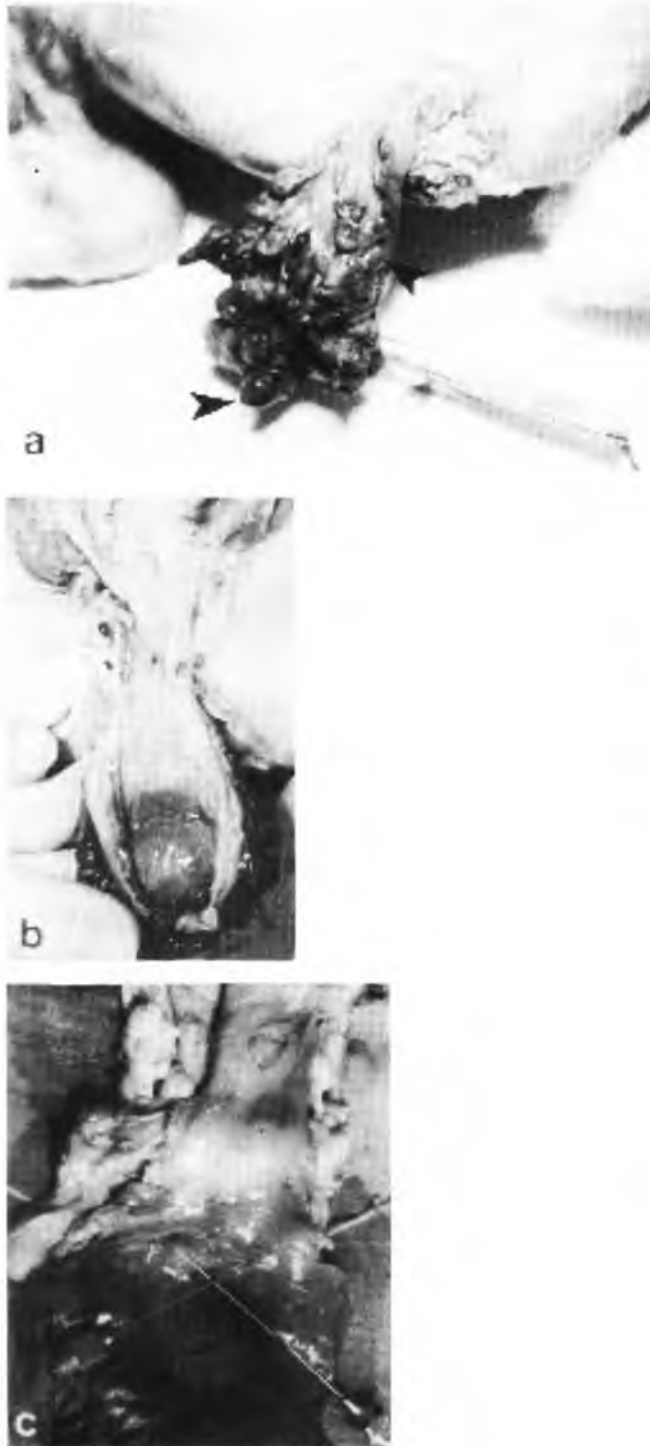


FIGURE 1

Complete eversion of the urinary bladder in a rabbit. a. Pappillomatous structures (arrowheads); b. Reddish overlying peritoneal urinary bladder; c. Needles into ureteral orifices.

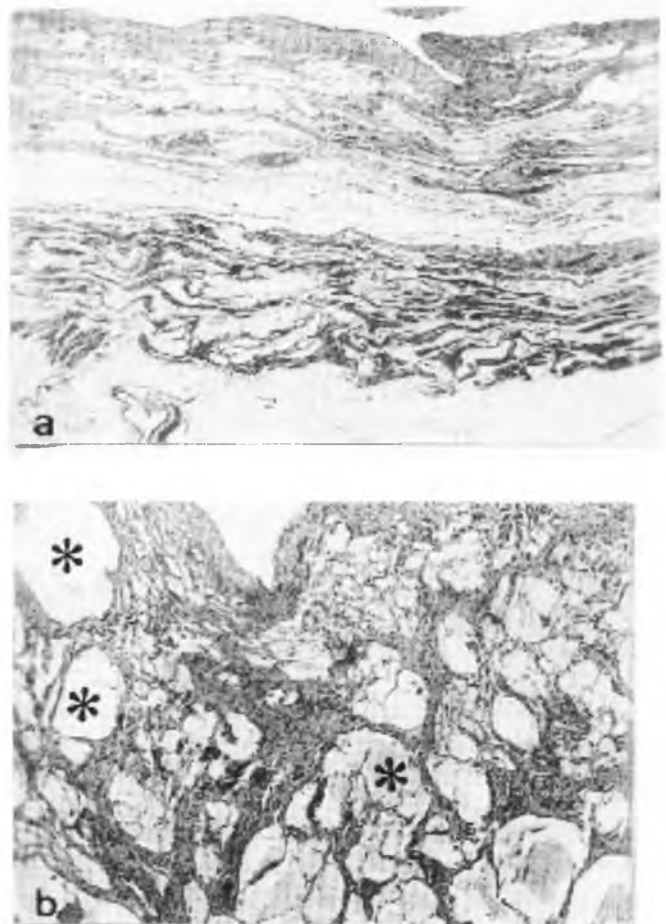


FIGURE 2

Histologic sections of the urinary bladder. a. Pappilomatous structures; b. Intense edema in all layers of the organ (hematoxylin and eosin; a - 30x; b - 70 x).

RESUMO

No setor de criação de coelhos da DTAEP- F.M. USP foi verificada em uma coelha N.Z.W. adulta a eversão completa da vesícula urinária. Ao exame macroscópico, a superfície mucosa apresentou-se de coloração avermelhada e com formações papilomatosas de 3 a 7 cm irregularmente distribuídas na porção distal do órgão. Cortes histológicos da área papilomatosa demonstraram uma erosão da mucosa recoberta por crosta de fibrina e hemáceas em alguns pontos. Preparados histológicos em outras regiões apresentaram quadro semelhante, com áreas focais de infiltrado inflamatório mais intenso. Tais resultados permitiram concluir um quadro de cistite crônica inespecífica.

UNITERMOS: Coelhos; Vesícula urinária

REFERENCES

- 1-ALVARENGA, J.; OLIVEIRA, C.M.; SILVA, L.C.L.C.; LUZ, M.F. Prolapso com inversão de bexiga em égua. *A hora Veterinária*, v. 75, p. 56-8, 1993.
- 2-ARTHUR, G.H. **Veterinary reproduction and obstetrics**. 4 ed. London. Bailliere and Tindall. 1977, p. 238.
- 3-FRAZER, G.S. Uterine torsion followed by jejunal incarceration in a partially everted urinary bladder of a cow. *Australian Veterinary Journal*, v. 65, p. 24-5, 1988.
- 4-HSU, S.M.; RAINE, I.; FANGER, H. Use of avidin-biotin-peroxidase complex (ABC) in immunoperoxidase techniques: A comparison between ABC and unlabeled antibody (PAP) procedures. *Journal of Histochemistry and Cytochemistry*, v. 29, p. 577-80, 1981.
- 5-JONES, G.; Bladder eversion in dairy cows. *Modern Veterinary Practice*, v. 65, p. 930, 1984.
- 6-KURMAN, K.J. Detection of human papillomaviruses by Immunocytochemistry. In: EL ELLIS, R.A., ed. **Advances in immunohistochemistry**. New York. Masson publishing, USA, p. 201-21, 1984.
- 7-PETER, A.T.; ARIGHI, M.; GAINES, J.D. Herniation of distal jejunum into partially everted urinary bladder of a cow. *Canadian Veterinary Journal*, v. 30, p. 830-1, 1989.
- 8-ROSLAN, A. Recurrent inversion of the urinary bladder. *British Journal of Urology*, v. 59, p. 91, 1987.
- 9-THAVARASAH, A.S.; ATTYGALE, L.S. Inversion of the urinary bladder. *British Journal of Urology*, v. 50, p. 353, 1978.
- 10-WEGMANN, E. Urinary bladder eversion in a mare with colic. *Modern Veterinary Practice*, v. 68, p. 174, 1987.

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