



An application of sublingual mucosa to establish a new urination passage in male cats with complications after urethrostomy

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ABSTRACT. This is the first study of using sublingual mucosae to establish a new urination passage in male cats suffering from complications from prior urethrostomy. In total, five domestic male cats afflicted with various complications, such as urethra stricture, scalding dermatitis, and urinary tract infection, after urethrostomy were included in the study. Sublingual mucosa was harvested to graft with abdominal muscles and further made into a tube connecting with the remaining urethra of the bladder at the cranial end and with the prepuce at the caudal end, serving as a new passage for urination. Postoperatively, all cats were alive and well recovered with no complications both in the oral cavity and at the surgical site. Radiography with contrast medium at two weeks and six months after surgery showed no leakage, stricture, or abnormality of the new urination passage. Moreover, all cats were able to urinate from the prepuce without any difficulties or signs of discomfort.

KEY WORDS: cat, complications, sublingual mucosa, urethrostomy

At present, feline urinary tract disorders are commonly found in a number of animal hospitals. Those disorders include idiopathic lower urinary tract diseases, urethral plugs, urolithiasis, neoplasms, and laceration or rupture of the urethra from accident or iatrogenic trauma [14]. Focusing on the urethra, major injuries are obstruction, laceration, and rupture. Besides, various clinical signs can be observed from urethral problems, depending on site, severity, and duration of the lesions [5]. In case of minor injuries, such as contusion or small laceration, urethral healing occurs spontaneously [3]. On the other hand, surgical managements are required in case of severe injuries, such as urethra rupture [9] since urine might leak into the peritoneal cavity, resulting in an azothemic status [5]. Primary surgical treatment for urethral rupture is an end-to-end anastomosis between two sides of the tattered urethrae [4]. However, a previous study, in dogs, reported that the anastomotic sites might have high tension, entailing the stricture and/ or rupture again which then requires further surgical corrections [12]. As a result, urethrostomy is one of the outstanding alternatives to repair these urethral damages [1]. Nonetheless, urethrostomy contributes to a great number of complications, including urine infiltration to the subcutaneous tissues, urinary incontinence, stricture of the urethral stoma, bleeding from the urethral mucosa, recurrence of lower urinary tract infection, chronic urine scalding dermatitis, and kinking of the urethra [6, 7, 13]. These complications considerably decrease the quality of the cat's life. Various supportive treatments are applied to the animals, aiming to relieve these complications; for instance, antibiotic treatment in case of urinary tract and skin infections, petroleum oil application around the surgical site in those with dermatitis, permanent urethral catheterization in the cat with urethral stenosis and urine scalding dermatitis, and so on. Furthermore, a previous study revealed that a number of male cats suffered excruciatingly from complications after urethrostomy; some were eventually euthanized [1].

At present, several studies have been conducted in order to correct the complications from urethrostomy and improve quality of life of the affected male cats. Moreover, the number of studies using tissue graft, especially sublingual mucosal graft, as a correction tool for complications after urethrostomy in male cats has been very scant. Consequently, the present study investigated the procedure of using sublingual mucosae for ameliorating complications after urethrostomy in male cats.

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