



Robot-Assisted Boari-flap after Orthotopic Neobladder Using the KangDuo Surgical Robot-01 System

Guanpeng Han^{1, 2, 3}, Xiang Wang^{1, 2, 3}, Zhihua Li^{1, 2, 3}, Kunlin Yang^{1, 2, 3}, Liquan Zhou^{1, 2, 3}, Xuesong Li^{1, 2, 3}

¹ Department of Urology, Peking University First Hospital, Beijing, China; ² Institution of Urology, Peking University, Beijing, China; ³ National Urological Cancer Center, Beijing, China

ABSTRACT

Purpose: Benign ureteroenteric anastomosis stricture (BUES) is a well-recognized long-term complication following urinary diversion (1). While endourological interventions are often first-line, their success rates are limited (2, 3). Open uretero-ileal reimplantation remains the gold standard but is technically challenging and carries high complication risks (2). Robotic surgery offers a promising alternative with comparable success rates and minimally invasive benefits (4). In addition to the da Vinci® system, several new surgical robotic systems have been developed, demonstrating comparable safety and efficacy (5–7). This study reports our experience with robotic-assisted Boari-flap using the KangDuo-Surgical-Robot-01 (KD-SR-01) System in managing long-segment BUES after radical cystectomy with orthotopic neobladder.

Materials and Methods: A 64-year-old man developed left BUES 2.5 years after robot-assisted radical cystectomy with orthotopic neobladder. After nephrostomy drainage for 6 months, a robotic-assisted Boari-flap was performed using the KD-SR-01 system in the Trendelenburg position. Surgical steps included: neobladder mobilization, distal ureter dissection, neobladder flap creation, ureter-flap anastomosis, and flap tubularization.

Results: Surgery was successful without conversion. The stricture length was 5 cm. The neobladder flap measured 5 × 3 cm (length × width). Operating time was 145 minutes, with 30 mL of blood loss. The nephrostomy tube and double-J stent were removed two months postoperatively. At three-month follow-up, the patient remained asymptomatic with stable serum creatinine. Cine magnetic resonance urography demonstrated normal ureteral peristalsis and ureteral jets. No postoperative complications occurred.

Conclusions: Robotic-assisted Boari-flap after radical cystectomy with orthotopic neobladder is technically feasible. A larger cohort with longer follow-up is necessary to assess its safety and effectiveness.

CONFLICT OF INTEREST

None declared.

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Correspondence address:

Xuesong Li, MD

Department of Urology, Peking University First Hospital;
Institution of Urology, Peking University; National
Urological Cancer Center
Beijing, 100034, China
Telephone: + 86 108 357-5101
E-mail: pineneedle@sina.com

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Guanpeng Han

<https://orcid.org/0000-0003-3994-1425>

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