

Genitourinary Oncology

Quality of life and functional outcome of male patients with bladder–prostate rhabdomyosarcoma treated with conservative surgery and brachytherapy during childhood

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ABSTRACT

PURPOSE: The aim of this study was to report the long-term results of a conservative local treatment of male patients with bladder–prostate rhabdomyosarcoma (BPRMS) focusing on their outcome and quality of life (QoL).

METHODS AND MATERIALS: From 1991 to 2007, 27 male patients were treated by a single team, according to the ongoing European protocols. Surgical procedure was partial cystectomy or partial prostatectomy or both, followed by low-dose–rate interstitial brachytherapy. Three patients died of metastases and two were excluded; 22 patients, who were long-term survivors with their bladder, received a QoL questionnaire derived from the International Workshop on BPRMS. Urodynamic studies were performed when patients had abnormal continence.

RESULTS: Median age at surgery was 24 months (14 months–11 years). Median followup after surgery was 10 years (5–21 years); 18 male patients (77%) completed the questionnaire at a median age of 13 years (7–25 years); 13 considered themselves as having a normal QoL, with normal urinary continence (9 of 13) or very rare diurnal dribbling (4 of 13). Four male patients had frequent diurnal dribbling requiring protection for three of them and one was submitted to intermittent catheterism for a postoperative neurogenic bladder. Urodynamic studies were performed in 11 patients with urinary disturbance, often revealing detrusor sphincter dyssynergia. All pubertal patients considered themselves as having normal erections. Three sexually active patients reported having satisfying sex and orgasms. Two patients had normal ejaculations.

CONCLUSIONS: The majority of long-term male survivors (76%) within this cohort considered themselves as having a normal QoL after the combined conservative local treatment of their BPRMS. © 2016 American Brachytherapy Society. Published by Elsevier Inc. All rights reserved.

Keywords:

Bladder–prostate rhabdomyosarcoma; Pediatrics; Outcome assessment; Quality of life

Introduction

Substantial improvement in outcome of children with bladder–prostate rhabdomyosarcoma (BPRMS) was observed in the last few decades (1–3). With >80% of

patients being long-term survivors (4), there is increasing attention to enhanced patient stratification, risk-based therapy, and functional organ preservation (5–7). Bladder preservation does not mean normal bladder function (8). There is a widespread controversy regarding the management of irradiation in children with BPRMS but all aim at minimizing long-term complications and toxicity while improving event-free survival (9, 10). In an effort to limit long-term sequelae because of external radiotherapy (ERT), a local treatment paradigm of conservative surgery combined with brachytherapy (BT) has been in use in

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France over the past several decades (11–13). To our knowledge, there has been no previous study evaluating the quality of life (QoL) in children who underwent a conservative multimodal treatment of BPRMS, nor a validated questionnaire to assess child and adolescent urinary and sexual functions.

The aim of this study was to report the long-term results, focusing on outcome and QoL, of a conservative local treatment for male patients with bladder–prostate RMS treated in childhood.

Methods and materials

Study design

From 1991 to 2007, 27 male patients with BPRMS were referred after CT to our centers for a conservative combined treatment (Bicêtre Hospital for surgery and Gustave Roussy for BT). The oncologic outcome of these patients was previously published in detail (13). Five patients were excluded from this analysis focusing on QoL: 3 patients died of metastatic relapse, one patient referred at relapse to our centers, and one patient who had a total cystectomy for a nonfunctioning bladder. The remaining 22 patients were considered as long-term survivors with their bladder, and their outcome is reported in the present study with a special focus on bladder function and QoL (Fig. 1).

Treatment schedule

All patients (IRS Clinical Group III) received initial CT according to ongoing European protocols. All patients with prostatic/bladder neck tumors and no extension in the bladder above the level of the trigona were candidates for the combined treatment. Surgical procedure consisted of a partial prostatectomy with urethral preservation and/or a partial cystectomy of the bladder neck or half-trigona associated, when necessary, with ureteral reimplantation. Macroscopic residual tumor was accepted at the level of the prostate.

Insertion of the catheters for BT was always performed during the surgical procedure: two loops encompassed the prostate and the bladder neck. ^{192}Ir wires were manually loaded to deliver a total dose of 60 Gy (low-dose rate) according to the Paris system rules. In patients with nodal metastases in the pelvic and/or aorto-iliac lymph node chain at computed tomodensitometry or magnetic resonance imaging, BT dose was limited to 20 Gy and an additional ERT at 45 Gy was delivered to the lymph node chains and tumor bed.

Outcome and QoL

Followup was performed with clinical examination and usual work-up. If abnormal urinary symptoms were detected, children underwent urodynamic studies and were usually treated by bladder education and/or medical drugs.

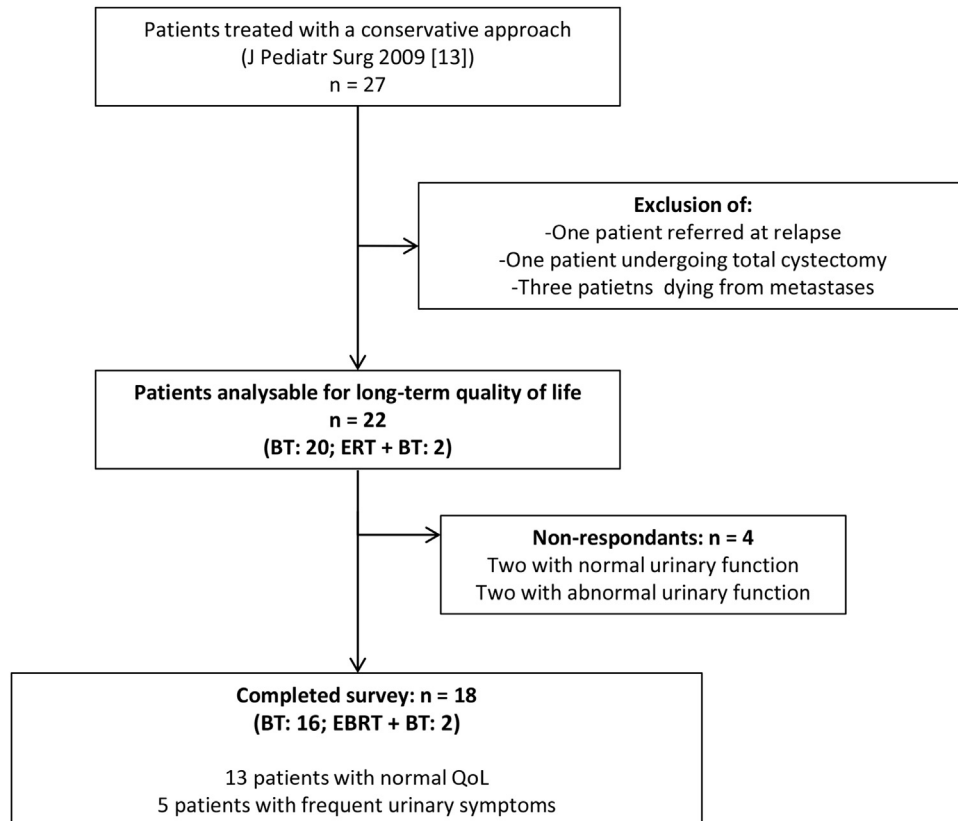


Fig. 1. Study flowchart. BT = brachytherapy; ERT = external beam radiotherapy, QoL = quality of life.

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