Treating Post-Prostatectomy Erectile Dysfunction
With Phosphodiesterase-5 Inhibitors

SUBJECT BIBLIOGRAPHY


This study was conducted to determine if the long-term administration of the phosphodiesterase type 5 (PDE 5) inhibitor, DA-8159, to diabetic rats can ameliorate the development of erectile dysfunction (ED) and endothelial dysfunction. After inducing diabetes with streptozotocin, DA-8159 was orally administered at a dose of 3 mg/kg or 10 mg/kg for 8 weeks. To examine the effect on erectile response, electrostimulation of the cavernous nerve with the parameters of 3 V, 5 ms, 5 Hz or 10 Hz, was performed to measure the intracavernous pressure (ICP) and mean arterial pressure (MAP). Thoracic aorta relaxation in vitro was evaluated by adding acetylcholine (Ach) cumulatively to the bathing medium. In addition, the plasma endothelin-1 (ET-1) levels were measured in order to investigate the effect of DA-8159 on endothelial dysfunction. The area under the curve (AUC) from the ICP/MAP ratio in the 10 Hz stimulation showed a significantly increased AUC after the 10 mg/kg treatment compared with the diabetic group (8891 +/- 619 vs. 6316 +/- 1016, respectively, p < 0.05). At the 5 Hz frequency, DA-8159 10 mg/kg also induced a significant increase in the AUC compared with the diabetic control. The maximum ICP/MAP ratio (%) of the 10 mg/kg treatment group was significantly higher in both the 10 Hz and 5 Hz frequency groups (p < 0.05). A treatment of 3 mg/kg tended to increase the AUC and peak ICP/MAP but was not statistically significant. The Ach EC50 value of the diabetic group was significantly higher than in the normal control (120.50 +/- 22.90 nm vs. 86.80 +/- 9.30 nm, respectively), and 10 mg/kg treatment group showed a significantly lower EC(50) value (88.38 +/- 19.7 nm). The ET-1 level was lower in groups treated with DA-8159, 3 mg/kg and 10 mg/kg treatment induced a statistical difference compared with the diabetic control (1.15 +/- 0.34 fmol/mL vs. 2.51 +/- 0.55 fmol/mL, respectively, p < 0.05). These results demonstrate that chronic administration of DA-8159 could attenuate the development of the ED in diabetes and its effect is associated with an improvement in the endothelial function.


Objective: To assess the effectiveness of a progressive local treatment protocol for erectile dysfunction (ED) in patients after undergoing radical retropubic prostatectomy (RRP) for prostate cancer. Patients and Methods The study included 85 patients (mean age 59.5 years, range 50-77) with ED after RRP. Treatment was offered in four progressive phases, with patients passing to the next phase only if they failed the previous one: in phase I patients used a vacuum erection device; in phase II, sildenafil; in phase III, intracorporal injection;
and in phase IV, intracorporal injection plus the vacuum erection device. The patients were followed for 1 year. Results Of the 85 patients, 78 (92%) responded to the vacuum erection device (with an erection sufficient for vaginal penetration), but only 11 (14%) agreed to continue with it at home. Of the remaining 74 patients, 69 with no contraindications were given sildenafil and 14 (20%) had a positive response. Sixty patients were then treated with intracorporal injection and 51 (85%) had a positive response; four of the nine failures in phase III responded to intracorporal injection plus vacuum therapy. Five patients failed all four protocols. After 1 year of follow-up, 76 of the 80 patients were successfully continuing treatment at home; seven (9%) used the vacuum erection device, 11 (14%) sildenafil, 54 (71%) intracorporal injection and four (5%) intracorporal injection plus the vacuum erection device. Conclusion Overall, this progressive treatment method gave a positive response in 80 of the 85 patients (94%). After 1 year of follow-up, 76 of the 80 patients (95%) continued to respond well. Of all the methods used, intracorporal injection was the most effective for ED after RRP.


PURPOSE: The exact process and time required for rehabilitation of erectile function after nerve sparing prostatectomy remain unclear to date. Different theories of the pathophysiology of postoperative erectile dysfunction are currently being discussed. In a prospective study we performed recordings of nocturnal penile tumescence and rigidity during the acute phase after nerve sparing radical prostatectomy, ie in the first night after removal of the catheter, to assess the organic penile integrity. MATERIALS AND METHODS: In 27 patients with local prostate carcinoma who had been sexually active before the intervention, we performed unilateral or bilateral nerve sparing radical prostatectomy. Preoperative sexual function of all patients was evaluated by the International Index of Erectile Function-5 questionnaire. On the day of catheter removal (postoperative day 7 to 14) an NPTR recording was performed on the following night with an erectometer (RigiScan). RESULTS: All patients had a preoperative IIEF score greater than 18. After removal of the catheter 25 of 27 patients (93%) showed 1 to 5 nocturnal rigidity increases by greater than 70% for at least 10 minutes. In a control group of 4 patients who underwent radical prostatectomy without nerve sparing, no nocturnal erections were recorded. CONCLUSIONS: NPTR recording during the acute phase after nerve sparing radical prostatectomy showed residual erectile function as early as the first night after catheter removal. These results are significant for selecting adequate pharmacological treatment for optimal therapy and rehabilitation of satisfactory erections and sexual function. In cases of early nocturnal tumescence, application of a PDE5 inhibitor can support successive organ rehabilitation. However, if tumescence does not occur, penile injection therapy is recommended.

OBJECTIVES: Sildenafil is a widely-prescribed effective on-demand treatment of erectile dysfunction (ED). Chronic treatment with sildenafil could help patients with ED. METHODS: The effects of an 8-week long treatment with sildenafil (60 mg/kg/d sc) in male Sprague Dawley rats were evaluated on electrically-elicited erectile responses in vivo before and after an acute injection of sildenafil (0.3mg/kg iv). In addition, endothelium-dependent and -independent relaxations of strips of corpus cavernosum in vitro were examined. All experiments were performed 36 hours after the last injection of sildenafil. RESULTS: Endothelium-dependent relaxations of cavernosal strips to acetylcholine were enhanced after chronic treatment with sildenafil while relaxations to A23187 or sodium nitroprusside were unchanged. Frequency-dependent erectile responses elicited by cavernous nerve stimulation were significantly improved. Moreover, the erectile responses to acute sildenafil were greater in chronically-treated rats with sildenafil. CONCLUSIONS: This is the first report providing experimental support for chronic dosing with sildenafil which could be of use for patients that are poor responders to on-demand treatment. Chronic sildenafil may regulate the transduction pathway leading to the activation of eNOS but has no effect on NO bioavailability or on the cGMP pathway, thereby eliminating a possible concern for tachyphylaxis.


OBJECTIVES: Although the discovery of phosphodiesterases (PDEs) was made soon after the identification of cyclic adenosine monophosphate nearly half a century ago, their true importance in medicine has taken many decades to be realised. The recognition of the important role PDE enzymes play and the impact of altering intracellular cyclic nucleotide levels became significant for most urologists and clinicians in the early 1990s with the discovery of sildenafil, a PDE5 inhibitor (PDE5-I). Once approved around the world, on-demand use of PDE5-I became the gold standard. Recently, the potential beneficial effects of PDE5-I on the pulmonary, vascular, and other systems has led to examination of alternative dosing regimens. In this review, we have synthesised the available published peer-reviewed literature to provide a critical contemporary view of evolving indications for PDE5-I and how alternative dosing regimens may impact on sexual and other functions. METHODS: MEDLINE search of all peer-reviewed English literature for the period 1990-2007. RESULTS: The plethora of articles detailing potential uses of PDE5-I in multiple fields of medicine was uncovered. Use of alternative dosing regimens shows great promise across a number of clinical indications, including post-radical retropubic prostatectomy, pulmonary hypertension, endothelial dysfunction, and salvage of on-demand PDE5-I nonresponders. CONCLUSIONS: Use of PDE5-I on a daily basis may evolve into a major form of drug administration both for men with erectile dysfunction and for those with a myriad of other conditions shown to benefit from...
this approach.


AIMS AND OBJECTIVES: This study sought to explore men's experiences after radical prostatectomy and whether they perceived their preoperative teaching adequately prepared them for postoperative recovery. Tape-recorded telephone and face-to-face interviews were conducted at days 2, 7 and 21, and 3 and 12 months postdischarge. BACKGROUND: Although verbal and written instruction about postoperative expectations and care are provided routinely before radical prostatectomy, patients express concern about a lack of preparation in managing urinary incontinence and erectile dysfunction. DESIGN: This qualitative descriptive study explored in-depth men's experiences during the year following their surgery. METHODS: Multiple, tape-recorded, semistructured telephone interviews were conducted with 17 participants and a single, in-depth, face-to-face interview was conducted 12 months postoperatively with a subset of five men selected for their reflective and descriptive abilities. RESULTS: Although participants received comprehensive written and verbal information preoperatively, it was not sufficient to foster their management of all postoperative sequelae. Telephone follow-up, used as a data collection strategy, was helpful in fostering adjustment after surgery and relieved anxiety caused by side effects of surgery and unanswered questions. CONCLUSIONS: Pre- and postoperative teaching needs to make allowances for the impact of stress on the recall and processing of information. Written information in itself is not adequate to answer necessary questions and provide reassurance. Follow-up telephone support is recommended as a way of fostering adjustment after surgery.

RELEVANCE TO CLINICAL PRACTICE: This study shows that: (i) Written information in itself is not adequate to answer necessary questions and provide reassurance, (ii) Nurses need to be prepared, both educationally and psychologically, to observe non-verbal cues and to address questions and concerns that are rarely voiced in ways that indicate their significance to the person and (iii) Men may not speak about sexuality issues in ways that accurately reflect the extent of their worry and/or distress about erectile dysfunction.


Prostate cancer is the leading malignancy in men in the United States and causes more than 60,000 deaths annually. Treatment of prostate cancer, whether it be with surgery, radiation therapy, cryotherapy, or medical treatment, is associated with significant life-altering morbidity. Incontinence and erectile dysfunction (ED) too often are sequelae of these treatment alternatives. ED can be a significant complication and can alter the life of the patient with prostate cancer and his partner. Newer modifications of the radical prostatectomy with nerve-sparing techniques are the cornerstone of erection preservation. Time following radical prostatectomy has been shown to increase erectile function.
such that more patients have functional erections at 3 years than 1 year after surgery. With the advent of phosphodiesterase-5 (PDE-5) inhibitors, many men can have improved functional erections and return to active coitus. Prevention of ED also is an important management technique. Evidence is gathering that prophylaxis with regular vasoactive injection or daily PDE-5 agents may be an integral part of preservation of corpus cavernosum smooth muscle function. Combination medical therapy and surgical penile prosthesis implantation also are options for patients who do not respond to oral PDE-5 inhibitors.


Nowadays, taking into account the sexuality is an essential component of the management of prostate cancer patients. This implies the necessity for providing accurate, clear and transparent information about the potential adverse effects on the sexual functioning for each proposed treatment. This information is not only given to the patient, but also to his female partner. The association of extended radical prostatectomy (without preservation of neurovascular bundles) and androgen suppression therapy will be proposed for men with locally advanced prostate cancer at high-risk for recurrence. The impact of such combined management regarding sexual functioning is high in terms of erection and sexual interest. Early pharmacological treatment of erectile dysfunction (within the three months following surgical treatment) with phosphodiesterase 5 inhibitors or intracavernous injections will allow an optimal recovery of a certain quality of erection. Moreover, monotherapy with bicalutamide will be associated with significant advantage in terms of sexual interest. The sexuality after treatment will certainly be different but will be accomplished.


New approaches to the treatment of pulmonary arterial hypertension (PH) have increased symptomatic relief and prolonged survival. PH is a common sequela of the hemoglobinopathies, but the use of standard oral treatment options is limited because of toxicity and poor effectiveness. Sildenafil citrate is a selective and potent inhibitor of cGMP-specific phosphodiesterase-5 (PDE5), which promotes selective smooth muscle relaxation in lung vasculature and has been used successfully in the treatment of PH. Hemoglobinopathic patients suffering from severe PH who were treated with sildenafil citrate (50 mg b.i.d.) for periods ranging from 4 to 48 months showed a significant decrease in pulmonary pressure and improvement in exercise capacity and functional class. No significant adverse events were reported. These data, described in a small group of patients, indicate that sildenafil citrate is effective in the treatment of PH in hemoglobinopathies and is well tolerated long-term at a daily dose of 100 mg.

and erection are cornerstones of rehabilitation strategies, expert says."

Urology Times.


Although erectile dysfunction (ED) in older subjects needs a holistic approach, the pathophysiology consists mainly in chronic ischemia with deterioration of cavernous smooth muscles followed by development of corporeal fibrosis. Therefore, phosphodiesterase type 5 (PDE5) inhibition, enhancing vasodilatation in corpora cavernosa, represents a first-line therapy for ED. PDE5 is in fact the major cGMP hydrolizing enzyme in penile corpus cavernosum. The mechanisms of action, the pharmacokinetics and the contraindications of selective PDE5 inhibitors, are described in details. Furthermore, attention is focused on the interaction of PDE5 inhibitors on hypothalamus-pituitary gonadol (HPG) function. Finally, considering that androgens may influence sexual behavior by modifying the central nervous system neurotransmitter targeted system, the potentiation of PDE5 inhibitors with testosterone supplementation may be considered to improve erectile function and quality of life in older males.


PURPOSE: We compare the quality of life after laparoscopic prostatectomy to that after standard radical prostatectomy. MATERIAL AND METHODS: The quality of life of 52 and 54 patients who underwent laparoscopic and open radical prostatectomy, respectively, was analyzed using the European Organization for the Research and Treatment of Cancer Prostate Cancer quality of life questionnaire for general health related quality of life, International Index of Erectile Function 5 for screening erectile dysfunction and International Continence Society MaleSF questionnaire to evaluate urinary status. These questionnaires were given to patients before and 6 months after surgery. RESULTS: The general health related quality of life survey revealed no significant differences in health before and after laparoscopic and open prostatectomy. However, sexual quality of life was markedly lower after surgery (p <0.01). In addition, the International Index of Erectile Function score was markedly abrogated by surgery (p <0.05) and quality of life due to urinary incontinence was significantly disturbed by surgery (p <0.05). In contrast, quality of life due to voiding dysfunction was impaired before surgery and significantly improved by surgery (p <0.05). Patients were also asked if they would choose the same treatment if suffering from the same disease, with more patients treated laparoscopically choosing the same treatment than those treated with open surgery (p <0.05). CONCLUSIONS: While general health related quality of life was not impaired, sexual quality of life was diminished by surgery. Patients were generally satisfied with postoperative urinary status. Although patients who underwent laparoscopic prostatectomy expressed a more favorable attitude toward surgery, there was no significant difference in quality of life at 6 months after surgery between the 2 groups.

PURPOSE: We prospectively investigated whether postoperative statin use would contribute to earlier recovery of erectile function in men who underwent bilateral nerve sparing radical retropubic prostatectomy for clinically localized prostate cancer. MATERIALS AND METHODS: A total of 50 potent men without hypercholesterolemia undergoing bilateral nerve sparing radical retropubic prostatectomy for clinically localized prostate cancer were prospectively randomized into 2 equal groups. Group 1 patients were instructed to ingest only 50 mg sildenafil per day if needed following hospital discharge after radical retropubic prostatectomy. Group 2 patients were prescribed atorvastatin at a dose of 10 mg daily from postoperative days 1 to 90 and they were also instructed to ingest sildenafil, as in group 1. Patient status regarding potency and adverse events were assessed 6 months after surgery. RESULTS: The 2 groups demonstrated no significant differences regarding various baseline factors, including International Index of Erectile Function-5 scores. Group 2 had a significantly higher postoperative International Index of Erectile Function-5 score than group 1 at 6 months postoperatively (p = 0.003). Meanwhile, as judged by a preset definition, the incidence of potent patients 6 months after prostatectomy was 26.1% in group 1 and 55% in group 2 (p = 0.068). Also, 17.4% and 40% of the men reported achieving intercourse by vaginal penetration without a phosphodiesterase 5 inhibitor in groups 1 and 2, respectively (p = 0.172). No serious adverse events associated with medication were reported. CONCLUSIONS: Postoperative treatment with atorvastatin in men who report normal erectile function preoperatively may contribute to earlier recovery of erectile function after nerve sparing radical retropubic prostatectomy.


OBJECTIVES: To confirm the benefit of using an interposition sural nerve graft at the time of radical retropubic prostatectomy in an extended series of men with at least 1 year of follow-up. We previously reported the return of erectile function after resection of both cavernous nerves. METHODS: Twenty-eight potent men with clinically localized prostate cancer underwent radical retropubic prostatectomy with deliberate wide bilateral neurovascular bundle resection and the placement of bilateral nerve grafts. Erectile dysfunction questionnaires and patient interviews were completed at 6-month intervals. A minimum of 12 months of follow-up (mean 23 +/- 10 months) was obtained for 23 men (mean age 58 +/- 6 years). A control group of 12 men who underwent bilateral nerve resections, but declined nerve graft placement, was also followed up. RESULTS: Of the 23 men, 6 (26%) had spontaneous, medically unassisted erections sufficient for sexual intercourse with vaginal penetration. An additional 6 men (26%) described "40% to 60%" spontaneous erections (fullness, no rigidity, not able to penetrate). Ten men (43%) had intercourse with sildenafil. No demonstrable erections occurred before 5 months postoperatively. The greatest return of function thus far
was observed at 18 months after surgery. CONCLUSIONS: This surgical technique continues to show promise as an advance in prostate cancer surgery. The results of this study demonstrated recovery of erectile function in men who underwent bilateral nerve graft placement during radical retropubic prostatectomy when both cavernous nerves were deliberately resected.


OBJECTIVE: To evaluate the ability to obtain and the quality of orgasm after radical prostatectomy. PATIENTS AND METHODS: The orgasms experienced after undergoing radical prostatectomy were evaluated in 20 men (median age 65 years, range 56-76) using a semi-structured interview and a self-administered questionnaire. In addition, the patients were asked to write a brief statement about their experiences and sensations during orgasm before and after the operation. RESULTS: Eighteen patients returned the questionnaire and 17 completed a statement indicating what their orgasm was like before and after radical prostatectomy. After the operation, no patient was able to maintain a completely rigid erection, but for five patients the erection was sufficient for sexual intercourse. Nine patients used a vacuum device or intracavernosal self-injection. Half the patients reported diminished sexual desire (libido) and arousal after the operation and reported the same to occur in their partners. During their "dry" orgasm post-operatively, none of the patients experienced the exquisite sensation of inevitability, the so-called "point of no return". Seven of the 14 patients experiencing orgasm complained that their orgasmic sensation was weakened. Four patients reported normal pleasure and sensation compared to that experienced pre-operatively. Surprisingly, nine of the 14 patients had involuntary loss of urine at orgasm; for five of them this was sufficient reason to avoid any sexual contact with their partner. CONCLUSION: Radical prostatectomy may have serious consequences on libido and erectile function but sometimes other important factors, such as the absence of prostate and seminal vesicle contractions, the loss of ejaculation and involuntary loss of urine, may also compromise the orgasm.


Current available treatment options for erectile dysfunction (ED) are effective but not without failure and/or side effects. Although the development of phosphodiesterase type 5 (PDE5) inhibitors (i.e. sildenafil, tadalafil and vardenafil) has revolutionized the treatment of ED, these oral medications require on-demand access and are not as effective in treating ED related to diabetic, post-prostatectomy and severe veno-occlusive disease states. Improvement in the treatment of ED is dependent on understanding the regulation of human corporal smooth muscle tone and on the identification of relevant molecular targets. Future ED therapies might consider the application of molecular technologies such as gene therapy. As a potential therapeutic tool, gene therapy might provide an effective and specific means for altering intracavernous
pressure "on demand" without affecting resting penile function. However, the safety of gene therapy remains a major hurdle to overcome before being accepted as a mainstream treatment for ED. Gene therapy aims to cure the underlying conditions in ED, including fibrosis. Furthermore, gene therapy might help prolong the efficacy of the PDE5 inhibitors by improving penile nitric oxide bioactivity. It is feasible to apply gene therapy to the penis because of its location and accessibility, low penile circulatory flow in the flaccid state and the presence of endothelial lined (lacunar) spaces. This review provides a brief insight of the current role of gene therapy in the management of ED.


OBJECTIVES: To evaluate sexuality and erectile function of candidates for radical prostatectomy in order to assess the place of nerve-sparing surgery in the preoperative discussion. MATERIAL AND METHODS: From June 2004 to January 2005, 75 consecutive patients, candidates for radical prostatectomy, were prospectively evaluated. Their erectile function and sexuality were evaluated after announcing the diagnosis. Patients completed the IIEF (International Index of Erectile Function), EQS (Erection Quality Scale) and the sexual satisfaction score (SSS). The mean age of the patients was 65 years and 50% were younger than 65. RESULTS: Erectile dysfunction according to the IIEF-5 scale was observed in 64% of cases (43% of patients younger than 65 and 84% of patients over 65). Erectile dysfunction was considered to be severe in 5% of young patients versus 34% of patients over 65. The majority of patients (69%) had a sexual activity more than twice a month. Only 31% of patients under 65 and 8% of older patients considered their erections to be very satisfactory according to the EQS. Despite this high frequency of erectile dysfunction in men over the age of 65, sexual satisfaction was not influenced by erectile dysfunction. In contrast, patients younger than 65, erectile dysfunction clearly altered the SST sexual satisfaction score. CONCLUSION: Erectile dysfunction was present in a large proportion of candidates for radical prostatectomy. The presence of erectile dysfunction in patients over the age of 65 did not modify their sexual satisfaction score. A detailed clinical interview concerning sexuality should be conducted to select patients likely to benefit from nerve-sparing surgery. Nerve-sparing surgery would be beneficial in young patients in whom sexual satisfaction is dependent on erectile function. In the older men, erectile dysfunction can be present without affecting sexual satisfaction.


BACKGROUND: High-altitude pulmonary edema (HAPE) is caused by exaggerated hypoxic pulmonary vasoconstriction associated with decreased bioavailability of nitric oxide in the lungs and by impaired reabsorption of alveolar fluid. OBJECTIVE: To investigate whether dexamethasone or tadalafil reduces the incidence of HAPE and acute mountain sickness (AMS) in adults with a
history of HAPE. DESIGN: Randomized, double-blind, placebo-controlled study performed in summer 2003. SETTING: Ascent from 490 m within 24 hours and stay for 2 nights at 4559 m. PATIENTS: 29 adults with previous HAPE. INTERVENTION: Prophylactic tadalafil (10 mg), dexamethasone (8 mg), or placebo twice daily during ascent and stay at 4559 m. MEASUREMENTS: Chest radiography was used to diagnose HAPE. A Lake Louise score greater than 4 defined AMS. Systolic pulmonary artery pressure was measured by using Doppler echocardiography, and nasal potentials were measured as a surrogate marker of alveolar sodium transport. RESULTS: Two participants who received tadalafil developed severe AMS on arrival at 4559 m and withdrew from the study; they did not have HAPE at that time. High-altitude pulmonary edema developed in 7 of 9 participants receiving placebo and 1 of the remaining 8 participants receiving tadalafil but in none of the 10 participants receiving dexamethasone (P = 0.007 for tadalafil vs. placebo; P < 0.001 for dexamethasone vs. placebo). Eight of 9 participants receiving placebo, 7 of 10 receiving tadalafil, and 3 of 10 receiving dexamethasone had AMS (P = 1.0 for tadalafil vs. placebo; P = 0.020 for dexamethasone vs. placebo). At high altitude, systolic pulmonary artery pressure increased less in participants receiving dexamethasone (16 mm Hg [95% CI, 9 to 23 mm Hg]) and tadalafil (13 mm Hg [CI, 6 to 20 mm Hg]) than in those receiving placebo (28 mm Hg [CI, 20 to 36 mm Hg]) (P = 0.005 for tadalafil vs. placebo; P = 0.012 for dexamethasone vs. placebo). No statistically significant difference between groups was found in change in nasal potentials and expression of leukocyte sodium transport protein messenger RNA. LIMITATIONS: The study involved a small sample of adults with a history of HAPE. CONCLUSIONS: Both dexamethasone and tadalafil decrease systolic pulmonary artery pressure and may reduce the incidence of HAPE in adults with a history of HAPE. Dexamethasone prophylaxis may also reduce the incidence of AMS in these adults. ClinicalTrials.gov identifier: NCT00274430.


OBJECTIVE: To assess the efficacy and safety of daily tadalafil, a potent selective phosphodiesterase 5 inhibitor, for the treatment of erectile dysfunction (ED) in men previously unresponsive to on-demand tadalafil. MATERIALS AND METHODS: A total of 112 men with a mean age of 63 (range 21?79) and moderate to severe ED of various aetiologies were treated with tadalafil, taken on a daily basis at flexible daily doses of 10 and 20 mg for 12 weeks. The three primary outcomes were changes from the pretreatment and on-demand tadalafil baseline in the erectile function domain of the International Index of Erectile Function and the proportion of yes responses to questions 2 and 3 of the Sexual Encounter Profile. Additional efficacy instruments included a Global Assessment Question administered at completion of the study. RESULTS: Compared with pretreatment and on-demand tadalafil baseline, daily dosed tadalafil significantly enhanced all efficacy outcome variables. Patients receiving daily tadalafil (10 mg)
experienced a significant mean improvement of 12.8 and 8.2 in the International Index of Erectile Function erectile function domain score from baseline (P < 0.001) and from on-demand tadalafil, respectively (P < 0.001). Fifty-eight percent of intercourse attempts (Sexual Encounter Profile question 3) were successfully completed (P < 0.001 vs. pretreatment baseline, P < 0.001 vs. on-demand tadalafil). Improved erections at end point were reported by 69% of men compared with 42% of men with on-demand tadalafil. Daily tadalafil was well tolerated with headache, dyspepsia, and facial flushing as the most frequent adverse events. CONCLUSION: Daily tadalafil (10/20 mg) was effective and well tolerated in this study population and is an effective salvage for previous on-demand tadalafil nonresponders.


The objectives of this study were to evaluate the efficacy and tolerability of high dose sildenafil as a salvage therapy for patients refractory to the maximum recommended dose of sildenafil. Fifty four fully evaluated patients with chronic erectile failure (ED) who had previously failed to respond to a home trial of sildenafil (100 mg) with erections suitable for sexual intercourse were studied. Each man was treated at home with sildenafil at escalating doses of up to 200 mg until either maximal response or intolerable adverse effects occurred. Erectile function was quantified using the erectile function domain of the International Index of Erectile Function (IIEF) before treatment, with sildenafil 100 mg and with maximal dose of sildenafil and a global efficacy question after 4 weeks of treatment. The mean age of the study group was 59.6


OBJECTIVES: To evaluate the potential association between sexual motivation and patterns of erectile dysfunction (ED) therapy among a large cohort of localized prostate cancer treatment survivors. METHODS: The use of medications and devices to improve erections and sexual health-related quality of life (HRQOL) were evaluated using a mailed Expanded Prostate Cancer Index Composite survey administered to 896 men 4 to 8 years after brachytherapy, three-dimensional conformal external beam radiotherapy (3D-CRT), or radical prostatectomy and 112 control men. The responding participants (73% of those surveyed) were classified by prostate cancer treatment, sexual motivation, and ED therapy use. Bivariate and multivariate analyses were used to identify the factors associated with ED therapy use and sexual HRQOL outcome. RESULTS: The quality of erections unassisted by medications or devices was not different among the treatment groups. Prostate cancer survivors used medications or devices for ED more commonly than did the control men (30% versus 13%; P
One half of the prostate cancer survivors with ED reported indifference regarding their ED (small to no sexual bother despite absent or poor unassisted erections). Conversely, among men who were bothered by poor erections, 48% of the brachytherapy, 61% of the 3D-CRT, and 23% of radical prostatectomy subjects had never tried commonly available medications or devices to improve their erections (P < 0.01). The current use of at least one erection aid was an independent determinant of more favorable sexual HRQOL (P < 0.01).

CONCLUSIONS: Many men who are bothered by posttreatment ED reported never having tried medications or devices to improve their erections. The lack of ED therapy was more prevalent among patients with erectile concerns after brachytherapy or 3D-CRT than after radical prostatectomy, suggesting possible opportunities for improving sexual HRQOL among long-term survivors.


OBJECTIVE: To examine the preference for 2 dosing regimens (on demand or 3 times/week) for tadalafil, a phosphodiesterase 5 inhibitor with a duration of effectiveness up to 36 hours in men with erectile dysfunction (ED). DESIGN AND METHODS: SURE is a 14 European country, multicenter, crossover, and open-label study. Men with ED (N=4262) were randomized to tadalafil 20mg treatment on demand (maximum one dose per day and before sexual activity) or 3 times/week for 5-6 weeks. After a 1-week washout period, patients were crossed over to the alternate regimen for 5-6 weeks. The patient's response to a treatment preference question (TPQ) was used to determine the preferred treatment regimen. RESULTS: The mean age of the randomized patients was 55 years and 85.2% reported a history of ED for one year or greater. Overall, the responses of 3861 men to the TPQ assessment showed that 57.8% preferred the on-demand regimen and 42.2% preferred the 3 times/week dosing. Both regimens were efficacious and well tolerated. CONCLUSIONS: In this study, while 57.8% of men preferred the on-demand regimen of tadalafil 20mg, a substantial number (42.2%) preferred the 3 times/week treatment. The two regimens provide additional treatment options by giving men with erectile dysfunction unique flexibility in dosing with tadalafil.


Introduction. Radical prostatectomy is a frequently used treatment option for prostate cancer; however, prostatectomy is often associated with significant morbidity, including erectile dysfunction (ED). Aim. To analyze the efficacy of sildenafil citrate in treating ED after radical prostatectomy. Materials and Methods. MEDLINE and CANCERLIT (1998 to January 2004) were searched for English language articles using the key words prostatectomy, sildenafil, and phosphodiesterase inhibitors. Eleven studies fulfilled the inclusion criteria: primary, discrete data sets of postprostatectomy patients with ED treated with
sildenafil monotherapy. Results. Sample sizes ranged from 13 to 198 (mean age, 61


OBJECTIVE: To critically review the literature on vardenafil in the treatment of erectile dysfunction while integrating the clinical findings with the personal experience of the authors. METHODS: Analysis of published full-length papers that were identified through Medline search from January 2000 through May 2004. Abstracts published in peer-reviewed journals from the same period were also considered. RESULTS: Efficacy, tolerability and safety, as reported in the peer-reviewed literature compares well with the authors' personal experience. Authors' personal observations include discussions on potency, selectivity, selection of initial dose, counselling for patients characteristically considered difficult-to-treat (diabetes, prostatectomy, depression), including the determination of the maximal efficacious dose and the possible role of daily dosing, optimisation of the use of vardenafil according to its pharmacokinetic and pharmacodynamic profiles (onset and reliability), and management of ED patients with or at risk for cardiovascular disease. CONCLUSIONS: Extensive experience with vardenafil as reported in peer reviewed literature confirms the important role of vardenafil in the management of patients with ED. The development of each physician's own experience with vardenafil is key to optimise overall satisfaction of this therapy by the patient and his partner.


Purpose: It has been suggested that postradical prostatectomy (RP) erectile function outcomes are improved by early use of erectogenic medications. This analysis was designed to assess the ability of a post-RP vasoactive drug program to improve long-term spontaneous erectile function. Methods: Men with functional preoperative erections who underwent RP were challenged early postoperatively with oral sildenafil. Nonresponders were switched to intracavernosal injection therapy (ICI). Patients were instructed to inject three times a week. Only patients who presented within 6 months post RP, who completed the International Index of Erectile Function (IIEF) questionnaire on at least three separate occasions after surgery, and who had been followed for at least 18 months were included. Data from men who were committed to rehabilitation were compared with those of men who did not follow the protocol but continued to be followed serially following RP. Results: There were 58 patients in the rehabilitation (R) group and 74 in the nonrehabilitation (NR) group. No differences existed in mean patient age, comorbidity profile, intraoperative nerve sparing status, or postoperative erectile hemodynamics between the two groups. At 18 months post RP, there were statistically significant differences between the two groups in the percentage of patients who were capable of
having medication-unassisted intercourse (R = 52% vs. NR = 19%, P < 0.001);
mean erectile rigidity (R = 53


OBJECTIVE: We performed a 2 year longitudinal survey of health-related quality of life (HRQOL) after radical retropubic prostatectomy (RP) in Japanese men with localized prostate cancer. PATIENTS AND METHODS: We measured 112 patients who underwent RP with SF-36 and University of California, Los Angeles Prostate Cancer Index before and 3, 6, 12, 18 and 24 months after surgery. RESULTS: Patients who underwent RP showed problems in some domains of general HRQOL, but these problems diminished over time. Mental health significantly improved throughout the follow-up period. The urinary function substantially declined at 3 months and continued to recover gradually but never returned to the baseline. Urinary bother at 3 months showed a significant decrease, but at 6 months it returned to baseline. The data of sexual function and bother showed a substantially lower score after RP. Patients lost their sexual desire significantly throughout the post-operative period. After 12 months, the nerve sparing group had significantly better improvement in sexual function than the non-nerve sparing group and this improvement continued up to 2 years after operation. CONCLUSION: Despite reports of problems with sexuality and urinary continence, general HRQOL was mostly unaffected by RP after 6 months. RP had a favorable impact on mental health. Although urinary function did not completely return to the baseline level even at 2 years after RP, recovery from urinary bother was rapid. RP had serious consequences on libido, erectile function and sexual activity. In the second year, the sexual function of those who underwent RP with bilateral nerve sparing procedure continued to improve.


Early pharmacological prophylaxis has been reported to increase the return of spontaneous erections following radical prostatectomy (RP). In this study, we evaluated the role of intracavernosal alprostadil (PGE1) combined with sildenafil in stimulating early recovery of spontaneous erections following RP. In this prospective study, we included 22 patients who underwent bilateral nerve-sparing RP after October 2004. Sildenafil dose of 50 mg/day was started at the time of hospital discharge. Of 22 patients, 18 started on PGE1?4 ?g (1?8) and four started on low-dose Trimix (20 U) 2?3 times/week. These patients are followed up at regular intervals (3, 6, 9 and 12 months) with abridged version of the International Index for Erectile Function-5 questionnaire. Patient compliance, return of sexual activity and return of natural erection, adverse effects and reasons for discontinuation were recorded. Penile doppler studies were performed during followup visits to assess the vascular status. After a mean followup of 6 months (3?8 months), 11/22 (50%) patients had return of
spontaneous partial erections. Of the 18 PGE1 users, six continued 4 µg PGE1, four increased the dose to 8 µg, six decreased the dose to 2 µg and two patients further reduced the dose to 1 µg. Of four low-dose Trimix users, three increased the dose to 30 U and one reduced the dose to 15 U. Of 22 patients, 21 were sexually active: 12/21 (57%) with the injections alone and 9/21 (42.9%) with combination therapy (injections (PGE1) and sildenafil). Penile doppler studies revealed arterial insufficiency in 77% (17/22) patients and venous insufficiency in one patient. Early intracavernosal injections following RP facilitated early sexual intercourse, patient satisfaction and potentially earlier return of natural erections. Early combination therapy with sildenafil allowed a lower dose of intracavernous injections, minimizing the penile discomfort...


Radical prostatectomy has been the time-honoured and standard treatment option for prostate cancer. Erectile dysfunction (ED) is one of the common quality-of-life issues following radical prostatectomy. The recovery of potency following radical prostatectomy varies from 16% to 86%. Although major modifications in surgical technique appear to be promising, the reported ED rates are still high. The time period required for the recovery of erectile function after surgery varies from 6 to 24 months. During this period of neuropraxia lack of natural erections produces cavernosal hypoxia. This cavernosal hypoxia has been implicated as one of the most important factors in the pathophysiology of ED. Cavernosal hypoxia predisposes to cavernosal fibrosis, ultimately producing venous leak and long-term ED. Interruption of this cascade of events has been the major challenge for physicians. Physicians have several options available for the treatment of ED. However, oral treatment options have quickly become established as first-line treatment options. Sildenafil has been most extensively studied in the radical prostatectomy population. In patients who do not respond to oral therapy alone, standard treatment options (intracavernosal injections, vacuum constriction devices and intraurethral alprostadil) are useful. Use of penile prostheses is one of the oldest treatment options available for the treatment of ED but is used only as a last resort. Initial attempts to promote the earlier recovery of erectile function appear to be promising. However, further confirmatory studies are essential. The roles of gene transfer and growth factors are still in experimental stages. In this review we discuss the epidemiology, pathophysiology and treatment options available for ED following radical prostatectomy.


Symptom severity and the impact of lower urinary tract symptoms (LUTS) on quality of life (QOL) are the usual reasons that patients with benign prostatic hyperplasia (BPH) seek medical care. Various questionnaires have been developed to assess symptom severity and to gauge the impact of these...
symptoms on QOL. These instruments have been validated in studies and are used to compare agents used to treat LUTS in patients with BPH. Studies have shown that as the severity of LUTS increases, so does the impact on a patient's QOL. Tools have also been developed to assess sexual function in patients with BPH who frequently manifest erectile dysfunction. Treatment of LUTS in patients with BPH should be evaluated for the effect on symptom severity, QOL, and sexual function.


Post-prostatectomy erectile dysfunction appears to be initiated by neuropraxia and perpetuated by cavernosal smooth muscle apoptosis. Phosphodiesterase-5 (PDE-5) inhibitor therapy is the current cornerstone of erectile dysfunction (ED) therapy in this population. Although no head-to-head trials have been performed with sildenafil, vardenafil, and tadalafil in this population, there are numerous studies in the general ED population. The results of these studies demonstrate that neither of the new PDE-5 inhibitors met statistical noninferiority to sildenafil. Sildenafil has been studied in a novel primary prevention modality using nightly administration after a bilateral nerve-sparing prostatectomy. In this novel approach, it effected a sevenfold improvement in return of spontaneous, normal erectile function 2 months after drug discontinuation. This effect appears to be mediated by properties unique to sildenafil that include improved endothelial function and neuronal regeneration and neuroprotection. In primary prevention, unlike ED therapy, one has only "one shot" by definition. Therefore, it is even more critical to apply evidence-based medicine.


OBJECTIVES: It is well established that prostate cancer patients undergoing radical prostatectomy may experience disruptive side effects, most notably urinary incontinence and erectile dysfunction. The purpose of this study is to compare relevant outcomes between patients awaiting radical prostatectomy for prostate cancer and patients who already underwent the surgery, taking into account type of prostatectomy and use of erectile aids. METHODS: We compared self-reports of global quality of life, sexuality, urinary continence, and physical capabilities in 86 nerve-sparing patients, 89 standard-prostatectomy patients, 74 prostatectomy patients who used erectile aids, and a comparison group of 45 patients awaiting radical prostatectomy. RESULTS: Regardless of type of surgery, use of erectile aid, or preoperative status, most patients reported...
good quality of life. The best outcomes in sexuality were reported by patients who used erectile aids, who appeared similar in sexuality to patients awaiting surgery. When differences were detected, standard prostatectomy patients who did not use erectile aids scored worse in most areas of sexuality than nerve-sparing patients who did not use erectile aids. There were no differences in frequency of urinary leakage among the three surgery subgroups.

CONCLUSIONS: Although most patients reported problems in sexual and urinary function, global quality of life does not appear to be compromised following radical prostatectomy. Findings suggest that postsurgical sexuality differs depending on type of prostatectomy and use of erectile aids, while urinary function is similar across surgery groups. We conclude that erectile aids should be offered routinely to patients who are ineligible for nerve-sparing surgery or experience erectile difficulties following the nerve-sparing procedure.


Erectile dysfunction (ED) management in the following 3-5 years will be dominated by substances targeting the L-arginine-NO-guanylate cyclase-cGMP-PDE-5 pathway, resulting in an intracellular elevation of the cGMP concentrations. Promising alternatives to the PDE-5 inhibitors, such as guanylate cyclase activators and Rho-kinase inhibitors, may also effectively compliment a PDE-5 inhibitor. Intranasal application of the melanocortin agonist PT 141 (Melanotan II) seems to be promising. As scheduled sexual activities are not preferred by the majority of couples, the future of ED-therapy will focus on drugs with a 1-2 day long efficacy window, or a daily bedtime application of low dosage agents which result in nocturnal reoxygenation of the cavernous bodies and in turn in functional improvement. Elevation of the cGMP levels and improvement of endothelial function as a result of this approach also promises benefits in cardiovascular diseases and in LUTS.


BACKGROUND: Erectile dysfunction (ED) is a chronic disease; however, therapy is currently administered as needed with oral phosphodiesterase 5 (PDE5) inhibitors like tadalafl. Because the 17.5-h half-life of tadalafl enables therapeutic plasma levels to be sustained with daily administration, tadalafl is a good candidate for once daily dosing therapy. METHODS: This multicenter, randomized, double-blind, placebo-controlled, parallel-group, 12-week study enrolled 268 men 1:2:2 to placebo, tadalafl 5mg, and tadalafl 10mg taken once daily. Primary efficacy measures included changes in the International Index of Erectile Function Erectile Function domain (IIEF EF), Sexual Encounter Profile diary Questions 2 (SEP2: successful penetration), and 3 (SEP3: successful completion of intercourse), and tolerability. Secondary measures included percentage of patients at endpoint who reported improved erectile function (EF), and percentage who reported ?no ED? (IIEF EF score 26?30). RESULTS: For
patients who took placebo, tadalafil 5mg, and tadalafil 10mg, changes from baseline to endpoint were, respectively, 0.9, 9.7, and 9.4 for IIEF EF; 11.2, 36.5, and 39.4 for SEP2; and 13.2, 45.5, and 50.1 for SEP3. At endpoint, 28.3%, 84.5%, and 84.6% reported improved erections, and 8.3%, 51.5%, and 50.5% reported "no ED," respectively. All comparisons between tadalafil and placebo were significant (p<0.001). Adverse events that occurred in at least 5% of patients were dyspepsia, headache, back pain, upper abdominal pain, and myalgia; nine patients (3.4%) discontinued because of adverse events.

CONCLUSIONS: Once-a-day tadalafil 5mg or 10mg was well tolerated and significantly improved EF in men with ED.


OBJECTIVES: To assess the effectiveness of combining sildenafil citrate with a vacuum constriction device (VCD) in men (after radical prostatectomy) unsatisfied with the results of the VCD alone. METHODS: A total of 31 patients unsatisfied with the early use of VCD alone after radical prostatectomy (mean follow-up of 4.5 months) were instructed to take 100 mg of sildenafil 1 to 2 hours before VCD use for sexual intercourse. Patients used combination therapy for a minimum of five attempts before assessment with the abridged International Index of Erectile Function (IIEF) questionnaire and a visual analogue scale to gauge rigidity. The effect of combination therapy on the total IIEF-5 score and penile rigidity score were assessed. RESULTS: Of the 31 patients, 7 (22%) had no improvement with the addition of sildenafil with VCD and discontinued the drug, and 24 (77%) reported improved penile rigidity and sexual satisfaction. The IIEF-5 score revealed statistically significant improvement in each domain, and patients reported that sildenafil enhanced their erections 100% of the time. The penile rigidity scores on a scale of 0 to 100 with the VCD alone averaged 55% (range 23% to 85%) for the men and 59% (range 26% to 90%) for their partners. With the addition of sildenafil, it increased to 76% for the men and 82% for their partners. Of the 24 men, 7 (30%) reported a return of natural erections at 18 months using combination therapy, with 5 of 7 reporting erections sufficient for vaginal penetration. CONCLUSIONS: In this study, the addition of sildenafil with VCD improved sexual satisfaction and penile rigidity in patients unsatisfied with VCD alone after radical prostaetomy.


Erectile dysfunction (ED) is a common complication after radical prostatectomy and results from trauma sustained by the cavernosal nerves. This is a major concern for patients and often affects treatment decisions. The likely mechanism for post-prostatectomy ED is through corporal veno-occlusive dysfunction. There is an increasing amount of evidence to suggest that phosphodiesterase 5 inhibitors (PDE5 inhibitors), when given on a continuous long-term basis, can help to prevent and reverse ED after surgery. In this review article we will
examine the pathophysiology of post-prostatectomy ED and discuss the experimental and available clinical evidence for administering PDE5 inhibitors after prostatectomy. International Journal of Impotence Research advance online publication, 2 August 2007; doi:10.1038/sj.ijir.3901588.


PURPOSE: The present study examined erectile functioning, frequency of sexual contact, psychological functioning, partner/marital satisfaction and overall quality of life (QOL) after immediate sexual rehabilitation for prostate cancer via simultaneous placement of a penile prosthesis at radical retropubic prostatectomy (RP). MATERIALS AND METHODS: Questionnaire packets were sent to and received from 51 men who had undergone simultaneous implantation of a penile prosthesis at the time of RP (PP+) and from a comparison group of 47 men who underwent RP alone (PP-) matched by age and year of surgery. Questionnaires included the Erectile Dysfunction Inventory of Treatment Satisfaction, the Depression Anxiety Stress Scales, the Dyadic Adjustment Scale and a prostate specific European Organization for the Research and Treatment of Cancer (EORTC) QOL questionnaire. Further comparisons were performed for a PP- subgroup consisting of 15 patients who had undergone nerve sparing RP. RESULTS: Higher Erectile Dysfunction Inventory of Treatment Satisfaction, EORTC Sexual Functioning, EORTC Total scores and more frequent sexual contact were reported by the PP+ group compared with the PP- group. The PP+ group also had better outcomes that approached but did not reach statistical significance compared with the nerve sparing subgroup with regard to Depression Anxiety Stress Scales and EORTC Emotional Functioning scores. CONCLUSIONS: Men who chose simultaneous placement of a penile prosthesis with RP reported greater overall QOL, erectile function and more frequent sexual contact than a comparison group of men who underwent RP alone. Placement of penile prosthesis at the time of RP may be a desirable option for men with prostate cancer in whom a nerve sparing procedure may not be ideal. These results underscore the importance of sexual function for men undergoing prostate cancer treatment.


Between 20% and 25% of the patients seeing a doctor have sexual problems. These have various causes: somatopsychological, psychosomatic, social-somatic and psychological factors can play an important role. For an effective therapy, a biopsychosocial understanding of the development of these diseases is necessary. Tumor-patients belong to a special group who frequently develop sexual problems. There are many patients with prostate cancer who, after a radical prostatectomy, suffer from erectile dysfunction. As sexuality always has a social dimension, there is no sexual dysfunction which can be seen as separate from partnership and social environment. Hence the couple is the patient, not the
malfunctioning penis. Sexual rehabilitation's main aim is therefore not the repair the malfunctioning organ but rather the improvement of the quality of the sexual relationship beyond penetration.


With the advent of effective treatment for urologic cancer, the preservation of sexual function and fertility has become an important goal. Some cancer treatments damage the physiological systems involved in reproduction. All have a psychological impact on sexuality. For men with prostate cancer, current issues in sexual rehabilitation include the debate on nerve-sparing radical prostatectomy, the role of vascular damage in causing erectile dysfunction after radiotherapy, and the need for a better understanding of hormonal effects on central and peripheral mechanisms of sexual function. In the treatment of men and women with bladder cancer, the sexual function morbidity of radical cystectomy is described in data from prospective interview studies. Sexual desire and orgasm remain normal after surgery despite disruption of the genital vasocongestion accompanying sexual arousal. Long-term follow-up studies of testicular cancer patients suggest that some increase in sexual dysfunction does occur. Infertility remains a concern for a subgroup of younger, childless men. Attempts to modify or eliminate retroperitoneal lymphadenectomy are discussed, as is recovery of spermatogenesis after chemotherapy and radiotherapy. Sexual function in patients with penile, urethral, or renal cell carcinoma is briefly reviewed.


Although there is little evidence that sexual behavior causes prostate cancer, men with prostate cancer often have sexual dysfunction before the cancer diagnosis is made. Each treatment for prostate cancer increases the prevalence of sexual problems. After nerve-sparing radical prostatectomy, the chance of recovering erections is better for men who are younger and in whom both neurovascular bundles can be spared. Definitions of "potency" after nerve-sparing surgery have not specified the rigidity of the erections achieved. Thus, some men classified as "potent" may wish additional sexual rehabilitation. The chance that definitive radiation therapy will cause erectile dysfunction probably has been overestimated. The prevalence rate may be closer to 25% of men with new problems compared with the 50% often cited in the literature. Men are more at risk to have erection problems after radiation therapy if the quality of erections before treatment was borderline. Hormonal therapy has an impact on the central mechanisms mediating sexual desire and arousability. Therefore, with most treatment methods, only approximately 20% of men remain sexually functional. Newer antiandrogenic drugs interfere less with sexual function, but their long-term ability to control prostate cancer is still under investigation. Sexual rehabilitation should be addressed by the primary care team. Sexual partners should be included in brief sexual counseling, even when a mechanical treatment
for erectile dysfunction is prescribed.


BACKGROUND: The objective of this survey was to identify factors associated with good sexual outcomes in a large group of survivors of localized prostate carcinoma. METHODS: A postal survey was sent to 2636 men in the Cleveland Clinic Foundation's Prostate Cancer Registry who either were treated with definitive radiotherapy or underwent prostatectomy for localized prostate carcinoma. The survey asked about demographic items, past and current sexual functioning, partner's sexual function and health, and a number of factors hypothesized to affect sexual satisfaction. Standardized questionnaires included the Sexual Self-Schema Scale-Male Version, the International Index of Erectile Function (IIEF), urinary and bowel symptom scales from the Los Angeles Prostate Cancer Index, and the Short Form Health Survey (SF-36). RESULTS: The return rate was 49%, yielding a sample of 1236 men at an average of 4.3 years post-treatment. Comparing responders with nonresponders suggested that the sample may have been somewhat biased toward men who were more interested in maintaining sexual function. At the time they were diagnosed with prostate carcinoma, 36% of men had erectile dysfunction (ED). Within the past 6 months, however, 85% of men reported having ED. Only 13% of men were having reliable, firm erections spontaneously, and another 8% of men were having erections with the aid of a medical treatment. Men were as distressed about loss of desire and trouble having satisfying orgasms as they were about ED. Of the 84% of men who reported having a current sexual partner, 66% indicated that she had a sexual problem. Younger age was associated strongly with better sexual outcome (global IIEF score). With demographic factors taken into account, better sexual outcome was related significantly to medical factors, including not having neoadjuvant or current antiandrogen therapy, undergoing bilateral nerve-sparing prostatectomy or brachytherapy, and having better mental and physical health composite scores on the SF-36. Sexual factors that were associated with a better outcome included having normal erections before treatment for prostate carcinoma, choosing a treatment based on the hope that it would preserve sexual function, having more sexual partners in the past year, and having a sexually functional partner. CONCLUSIONS: The great majority of men who survive prostate carcinoma do not achieve a return to functional sexual activity in the years after treatment. The priorities a man places on sexuality and on having a sexually functional partner are important factors in sexual satisfaction at follow-up, over and above the influence of age and medical factors.


Prostate cancer survivors appear to have higher rates of seeking medical help for erectile dysfunction (ED) than other cohorts of sexually dysfunctional men; however, factors associated with help-seeking for ED after prostate cancer have

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not been investigated. A group of 1,188 men with ED after prostate cancer responded to a postal survey about their sexuality, including a new questionnaire developed to measure traditional masculine attitudes about sex that could inhibit help-seeking. Respondents had a mean age of 68 years and were an average of 4.3 years postdiagnosis of cancer. At the time of the survey, 46% had sought medical help for ED since their cancer treatment and 44% intended to seek help in the next year. A hierarchical backward selection logistic regression analysis was performed to determine factors correlated with seeking help for ED after prostate cancer. Blocks of factors were entered in to the analysis in order. Factors significant within each step were retained when calculating a final model. Out of 37 factors entered into the model, three retained significance: Men who sought help for ED were more likely to have had a prostate cancer treatment designed to spare sexual function and reported higher distress about postcancer ED. Even with all other factors taken into account, men who had more positive attitudes on the Help-Seeking Questionnaire were significantly more likely to have sought help for ED. A second logistic regression analysis examined correlates of intent to seek help for ED within the next year. Out of 38 factors entered into the analysis, six retained significance in the final model: Men intending to seek help had been treated more recently for their prostate cancer, were more dissatisfied with their sexual function, had higher levels of distress about postcancer ED and loss of sexual desire, and were more likely to have sought help for ED even before their prostate cancer was diagnosed. Even with these factors taken into account, positive attitudes on the Help-Seeking Questionnaire were significantly associated with help-seeking intentions. These results suggest that cognitive-behavioral interventions designed to challenge men’s negative beliefs about seeking help for ED could potentially increase help-seeking behavior.


**PURPOSE:** Early use of vasoactive agents has been shown to rehabilitate erectile function after nerve sparing radical retropubic prostatectomy (RRP). The loss of intracorporeal smooth muscle (SM) and an increase in intracorporeal fibrosis have been demonstrated in vasculogenic impotence and implicated in permanent post-RRP erectile dysfunction. We assessed the effect of sildenafil on SM content after RRP. **MATERIALS AND METHODS:** A total of 40 potent volunteers with prostate cancer underwent RRP and were divided into 2 treatment groups, namely 1?50 mg sildenafil and 2?100 mg sildenafil every other night for 6 months beginning the day of catheter removal. Percutaneous biopsy was performed using general anesthesia prior to incision for RRP. Another biopsy was performed using local anesthesia 6 months later. Volunteers were excluded prior to the second biopsy if they discontinued sildenafil. Biopsies were stained for SM and connective tissue, and analyzed by computer in at least 15 different fields. The paired Student t test was used for statistical analysis. **RESULTS:** A total of 11 patients in group 1 and 10 in group 2 underwent the second biopsy. In group 1 there was no statistically significant change in mean
SM content preoperatively to postoperatively (51.52% and 52.67%, respectively). In group 2 there was a statistically significant increase in mean SM content 6 months after RRP (42.82% vs 56.85%, p <0.05). CONCLUSIONS: Early use of sildenafil after RRP may preserve intracorporeal SM content. At higher doses post-RRP sildenafil may increase SM content. The effect on the return of potency is not known but maintaining the pro-erectile ultrastructure is integral to rehabilitating post-RRP erectile function.


INTRODUCTION: Preservation and restoration of erectile function after radical prostatectomy (RP) for prostate cancer has been extensively studied. However, the influence of RP on the sexual function of female partners is poorly understood. AIM: The purpose of this retrospective study is to assess sexuality in men who have undergone RP for prostate cancer and their female partners. METHODS: Men who underwent RP for localized prostate cancer at our institution from 1996 to 2000 were identified and invited to participate in this study with their female partners. Both partners completed a demographic survey. Men completed the International Index of Erectile Function (IIEF) and female partners completed the Female Sexual Function Index (FSFI) and supplemental questions. MAIN OUTCOME MEASURES: Correlation between IIEF and FSFI domain scores was determined in matched couples using Pearson correlation coefficient. Kappa statistics and Spearman correlation coefficient were calculated for supplemental questions and IIEF domain scores. RESULTS: Of 1,134 men contacted by letter, 90 (8%) couples completed demographic surveys and both the IIEF/FSFI. Pearson correlation coefficients of IIEF and FSFI domain scores in matched couples demonstrated significant correlation (P<0.05) of all IIEF domains with all FSFI domains with the exception of male erectile function and overall sexual function with female sexual desire. There was moderate agreement between partner supplemental questions and IIEF domain scores. CONCLUSIONS: Response rate was very low. FSFI domain scores correlate with IIEF domain scores, indicating an interrelationship between male and female sexual dysfunction in these couples. Evaluation and treatment of sexual dysfunction after RP should involve both partners.


BACKGROUND: Numerous men develop postprostatectomy erectile dysfunction (PPED), due to surgery-related nervous damage. PPED is often refractory to phosphodiesterase type 5 (PDE5) inhibitors therapy. AIM: To verify whether chronic tadalafil (CT) preserves bilateral cavernous neurotomy (BCN)-induced penile damage and hypo-oxygenation. METHODS: In a rat model of BCN we evaluated in vitro and ex vivo effect of CT treatment (2 mg/kg, daily for 3 months). RESULTS: Bilateral cavernous neurotomy induced massive hypoxia
and decreased muscle/fiber ratio, completely restored by CT. Hypersensitivity of hypoxic tissues to the relaxant effect of the endothelin type B receptor (ETB) agonist IRL-1620 was observed, along with ETB mRNA and protein overexpression. CT restored sensitivity to IRL-1620, and normalized ETB expression. Hypoxic penis showed increased sensitivity to the relaxant effect of the nitric oxide donor sodium nitroprusside (SNP), while acute tadalafil (100 nM) did not amplify the SNP effect. Accordingly, PDE5 mRNA and protein were reduced in BCN penile tissues. By restoring PDE5, CT decreased SNP-induced relaxation and rescued sensitivity to acute tadalafil. However, in hypoxic penis, CT normalizes neither acetylcholine hyporesponsiveness nor neuronal nitric oxide synthase-endothelial nitric oxide synthase expression. CONCLUSION: Chronic tadalafil restores some of the investigated BCN-induced alterations, including PDE5 and tadalafil efficacy.


PURPOSE: To determine the etiology of treatment-induced erectile dysfunction among patients who underwent surgery or radiotherapy for prostatic cancer.

METHODS AND MATERIALS: Ninety-eight patients were evaluated for erectile dysfunction after definitive therapy for prostate cancer with Duplex ultrasonography before and after intracorporal prostaglandin injection. Patients were classified as having arteriogenic, cavernosal, mixed (arteriogenic/cavernosal), or neurogenic impotence based upon the results of the Duplex studies. RESULTS: Among patients who underwent radical prostatectomy (RP), 31 (52%) had cavernosal dysfunction, 19 (32%) had arteriogenic dysfunction, 3 (5%) were classified as mixed, and 7 (12%) as neurogenic dysfunction. Among patients treated with radiotherapy (RT), 24 (63%) had arteriogenic dysfunction, 12 (32%) had cavernosal dysfunction, 1 (2.5%) were classified as mixed, and 1 (2.5%) as neurogenic dysfunction. A multivariate analysis identified prior RT as the only predictor of an arteriogenic etiology (p < 0.001) and prior RP as the only predictor of a cavernosal etiology (p < 0.04) for erectile dysfunction among these patients. In the RP and RT groups, the median erectile responses were 70 and 65%, respectively. Arterial peak flows < 25 cc/min predicted for a suboptimal erectile response with intracavernosal prostaglandin injections. Among 47 patients with arterial peak flows < 25 cc/min, 21 (55%) had erectile responses of < 70%, while for 51 patients with arterial peak flows > or = 25 cc/min, 31 (39%) had erectile responses of < 70% (p < 0.039).

CONCLUSIONS: While the etiology of erectile dysfunction after definitive therapy for prostatic cancer is likely a multifactorial phenomenon, these data suggest that the predominant etiology among patients who undergo RT is arteriogenic and among patients who undergo RP is veno-occlusive/cavernosal pathology. This information may have implications for the design of more effective therapies to address erectile dysfunction in this patient population.

Phosphodiesterase type 5 (PDE5) inhibitors effectively enhance the erectile function of the patients with erectile dysfunction (ED). The use of sildenafil citrate is expanding to a broader extent. Pulmonary artery hypertension has become a new indication of sildenafil. Sildenafil could improve the epithelial function in several vascular conditions in clinical trials. This article reviews the recent advances on basic and clinical studies of ED and sildenafil. On animal models, sildenafil could resume the cavernous epithelial function, up-regulate the protein expression of phosphorylated endothelial NO synthase (eNOS), reverse the decreased intracavernosal pressure (ICP) induced by pudendal artery blood flow restriction or hypoxia. In clinical studies, over 50% of ED patients receiving sildenafil got a fully rigid erection (grade 4 erection). And the same percentage of post-nerve-sparing radical prostatectomy patients receiving sildenafil obtained penile rehabilitation and spontaneously resumed erection sufficient for sexual intercourse. Sildenafil treatment has contributed to the normalization of self-esteem, confidence and sexual harmony in men with ED. All this suggests that a whole rehabilitation from erectile to psychosocial function may become a new goal of ED therapy.