Long-Term Functional Outcomes in Males Suffering a Genital Burn

N Abel, Z Klaassen, R Chamberlain

Citation


Abstract

Objectives: Male patients suffering a genital burn are an understudied patient population who may experience long-term sexual and urinary dysfunction.

Methods: A retrospective analysis of 111 genital burn male patients (18-80 years of age) treated between 1995 and 2009 was conducted.

Results: Sixteen of the 111 (14%) male patients completed the survey. Eight of 14 patients (57.1%) had a visible scar on the genitalia and 2 patients (12.5%) were currently urinary catheter dependent. Ten patients (71%) were sexually active; however three patients (30%) were unable to sustain an erection adequate for penetration. Thirty-eight percent of patients felt frustrated about sexual performance, 57.1% of patients felt anxious about sexual encounters and 46.1% of patients felt like they had lost something when questioned about sexual performance.

Conclusion: Males who have experienced a genital burn often suffer long term urinary and/or sexual dysfunction, while also harboring feelings of frustration and anxiety associated with sexual performances.

INTRODUCTION

Trauma secondary to a burn injury is a common cause of disfigurement which may ultimately affect a person’s appearance, self-esteem, and relationships, as well as their social, psychological, recreational and sexual health1. In addition, the quality of life among burn survivors may be further influenced by physical factors such as pain2, functional impairment3, and psychological factors, including body image dissatisfaction4. Fortunately, genital burn injuries are rare and are typically a part of a larger total body surface area (TBSA) burn given the anatomical protection of the vulva, penis and scrotum by the thighs and abdomen5.

The prevalence of erectile dysfunction in the general population ranges from 2-9% in men younger than 40 years of age, and from 10-71% in men older than 70 years of age6, while the prevalence of urinary incontinence is between 3 and 11% among elderly men7. Male patients suffering genital trauma, particularly genital burns, are an understudied subset of patients who may suffer from long-term sexual and urinary dysfunction of which the prevalence is unknown. This study sought to assess the extent of long-term urinary and sexual function among male genital burn patients.

MATERIAL AND METHODS

Male patients between the ages of 18 and 80 who suffered a genital burn and were treated at the Saint Barnabas Medical Center Level 1 Burn Center between January 1, 1995 through December 31, 2009 were retrospectively identified following Institutional Review Board approval. This cohort of patients was contacted via a telephone survey to inquire about the patients’ current urinary and sexual function. Questions pertaining to the psychosexual aspects of the patient’s life were adapted from a validated Sexual Quality of Life Questionnaire8. Patients were contacted three times by telephone and subsequently non-responders were mailed a survey.

The parameters analyzed from the original genital burn hospitalization included: mean age at burn, mean TBSA burn, mean TBSA burn specific to the genitalia, degree of genital burn, burn etiology, urinary catheter use, mean hospital length of stay (LOS) and mean burn intensive care unit LOS. Statistical analysis for donor and recipient data were performed using the Fisher’s exact test for nonparametric data and the two-tailed Student t test for parametric data. Statistical significance was accepted at p < 0.05.
RESULTS

Patient Demographics and Clinical Outcomes (Table 1) – One hundred and eleven patients were retrospectively identified through the Burn Center database as suffering a genital burn [ICD-9 code 942.25 (second degree genital burn) and 942.35 (third degree genital burn)] and surviving hospitalization. Of these 111 patients, 16 patients (14.4%) completed the survey (survey responders) and 95 patients (85.6%) could not be contacted for survey completion (survey non-responders). Patient demographics and clinical outcome variables were uniform between the two groups except for Burn ICU LOS (survey responders: 17.0 ± 30.6 days, survey non-responders: 6.9 ± 15.0 days, p < 0.04). The overall mean patient age was 34.0 ± 16.5 years and mean TBSA was 16.8 ± 19.5%. The most common cause of burn injury was scalding (N=65, 58.6%). Overall hospital LOS was 20.0 ± 22.8 days, with a mean length of stay of 8.4 ±17.2 days in the Burn ICU. Mean follow-up was 7.6 ± 4.2 years for survey responders and 9.3 ± 4.1 years for survey non-responders (p < 0.13).

Figure 1
Table 1: Demographic and outcomes among genital burn patients.

| Patients, N/\(\%\) | Survey Responders | Survey Non-Responders | Overall p-value <
|---------------------|--------------------|-----------------------|------------------
| Age, years (mean ± SD) | 41.0 ± 20.8 | 12.8 ± 15.8 | 34.0 ± 16.5 | 0.07
| TBSA, % (mean ± SD) | 16.7 ± 19.0 | 16.8 ± 19.6 | 16.8 ± 19.5 | 0.98
| Genital Burn Degree | 0.83 ± 0.27 | 0.81 ± 0.26 | 0.81 ± 0.26 | 0.78
| 2nd Degree, N/\(\%\) | 14 (87.5) | 72 (72.5) | 86 (77.5) | 0.52
| 3rd Degree, N/\(\%\) | 2 (12.5) | 23 (25.0) | 25 (22.5) |

Abbreviations: TBSA, total body surface area; SD, standard deviation; LOS, length of stay; ICU, intensive care unit; *p < 0.05

Urinary and Sexual Function Outcomes for Survey Responders (Table 2) – The 16 patients who completed the urinary and sexual function survey comprised the study cohort. Two patients (12.5%) were currently urinary catheter dependent, resulting in a self-reported overall continence rate of 87.5% (N=14). Twenty percent (N=3/15) of patients reported having a urinary tract infection post-burn and one patient (6.3%) reported the use of urinary flow medications since hospital discharge (tamsulosin). Seventy-one percent (N=10) of patients were sexually active; however 3 (30%) patients were not able to sustain an erection adequate for penetration and reported use of sildenafil (mean age – 53 ± 23 years). Eight of 14 patients (57.1%) had a visible scar on the genitalia as a result of their burn injury; however none of the respondents reported having any urological or plastic surgery procedures completed post-burn.

Thirty-eight percent (N=5/13) of patients reported feeling frustrated about their sexual life and 57.1% (N=8/13) of patients felt anxious about future sexual encounters. Forty-six percent (N=6/13) of patients felt they had lost something when questioned about their sexual life and 30.8% (N=4) reported they worried their sexual partner feels hurt or rejected. Three patients (23.1%) reported loss of confidence in themselves as a sexual partner. Most patients did not feel guilty (92.3%, N=12), angry (84.6%, N=11), embarrassed (77.0%, N=10) or depressed (77.0%, N=10) about their sexual life; however, 30.8% (N=4) did worry about the future of their sexual life (mean age – 45 ± 10 years of age), including two of the three patients taking sildenafil for erectile dysfunction.

Figure 2
Table 2: Urinary and Sexual Function Outcomes for Survey Respondents.

<table>
<thead>
<tr>
<th>Urinary Function Questions</th>
<th>N=</th>
<th>Yes, N/(%)</th>
<th>No, N/(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you currently catheter-dependent?</td>
<td>16</td>
<td>2 (12.5)</td>
<td>14 (87.5)</td>
</tr>
<tr>
<td>Are you continent?</td>
<td>16</td>
<td>14 (87.5)</td>
<td>2 (12.5)</td>
</tr>
<tr>
<td>Did you have a urinary tract infection since discharge?</td>
<td>15</td>
<td>12 (80.0)</td>
<td>3 (20.0)</td>
</tr>
<tr>
<td>Have you taken any urinary flow medications since discharge?</td>
<td>14</td>
<td>13 (92.9)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Did you experience any side effects from the medications?</td>
<td>13</td>
<td>11 (84.6)</td>
<td>2 (15.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual Function Questions</th>
<th>N=</th>
<th>Yes, N/(%)</th>
<th>No, N/(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you able to achieve an erection?</td>
<td>14</td>
<td>12 (85.7)</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Are you sexually active?</td>
<td>14</td>
<td>13 (92.9)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Do you think the sexual act was satisfactory for you?</td>
<td>13</td>
<td>12 (92.3)</td>
<td>1 (7.7)</td>
</tr>
<tr>
<td>Are you satisfied with your current sexual relationship?</td>
<td>13</td>
<td>11 (84.6)</td>
<td>2 (15.4)</td>
</tr>
<tr>
<td>Are you satisfied with your current sexual partner?</td>
<td>13</td>
<td>12 (92.3)</td>
<td>1 (7.7)</td>
</tr>
<tr>
<td>Are you satisfied with your current sexual life?</td>
<td>13</td>
<td>11 (84.6)</td>
<td>2 (15.4)</td>
</tr>
<tr>
<td>Would you like to have more sexual activity?</td>
<td>13</td>
<td>12 (92.3)</td>
<td>1 (7.7)</td>
</tr>
</tbody>
</table>

Abbreviations: SBMC, Saint Barnabas Medical Center

COMMENT

Male patients suffering genital burn injuries represent a unique group of patients at risk for long-term urinary and/or sexual dysfunction. These patients usually suffer injuries at a young age which may result in long-term sequelae including...
Conclusions

In conclusion, it is important for clinicians, in particular burn surgeons, plastic surgeons and urologists, to recognize the physical and psychological consequences of male patients suffering from genital burn injuries. All physicians who see a genital burn patient in the immediate follow-up period, regardless of specialization, should inquire about urinary and sexual function (both physical and psychological aspects). Such vigilance may enable expedited treatment of physical, psychosocial and sexual sequelae for these patients.

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References

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