

PSYCHOLOGICAL/PSYCHIATRIC TRAUMA IN PATIENTS WITH PENILE CANCER AND PARTIAL OR TOTAL PENECTOMY

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Abstract - Penile cancer, which is a considerable challenge for countries in the developing world, is a mutilated affection for the patient, considering both the local modifications that are determined by it, as well as from the treatment point of view. In this way, for the more advanced disease phase, aggressive therapy with partial or total penectomy is still the conventional and necessary treatment. There are very few studies about the extent and nature of the psychological effects of penile cancer. Thus, considering that psychological/psychiatric dysfunctions in patients with penectomy are likely to be common and taking into account the current contradictions that exist regarding this area of research, we decided to evaluate the impact of penile cancer and/or partial or total penectomy on levels of anxiety and depression, as studied through some specific scales such as the Hamilton Rating Scale for Depression (HAM-D) and the Hamilton Anxiety Rating Scale (HAM-A). We found increased anxiety and depression, especially in the case of the group with total penectomy, but also in the biopsy group, which comprised patients that had lesions in the terminal stage, such as an inextirpable tumor. The most reduced levels of depression and anxiety were observed in the postectomy group. Our findings presented here and further knowledge about the psychological, social and sexual aspects of these specific patients will help health professionals and organizations to identify treatment options and/or make recommendations for rehabilitation and support services. Additionally, there is a continuous need to identify and assess proper scales to measure the psychological/psychiatric trauma in this group of patients, as well as focusing on the identification of the exact patients that require professional psychological intervention.

Key words: HAM-A, HAM-D, penectomy, penile cancer, postectomy

INTRODUCTION

Penile cancer, which is a considerable challenge for countries in the developing world (Misra et al., 2004), is a mutilated affection for the patient, considering both the local modifications that are determined by it, as well as from the treatment point of view. In this way, for more advanced disease phase, aggressive therapy with partial or total penectomy is still the conventional and necessary treatment (Maddineni et al., 2009).

The extent of surgery is dictated by disease stage. The more advanced disease requires invasive intervention to maximize chances of survival. Unfortunately, as mentioned, for the majority of men, surgery results in either partial or total penectomy (Stancik and Höltl, 2003).

Penectomy can have a devastating effect on a man's self-image (Romero et al., 2005). While penile cancer surgery is, technically speaking, uncomplicated, with a relatively short hospitalization and

physical recovery periods (Siow and Cheng, 2005), the extent and nature of the psychological effects of penile cancer has been very little investigated (Bullen et al., 2009).

This potential psychological/psychiatric vulnerability of certain patients with penile cancer needs to be further considered and studied. Moreover, the very few studies that have referred to this complicated subject offer controversial results. While it has been suggested that the treatment of penile cancer results in negative effects on well-being in up to 40% and psychiatric symptoms in approximately 50% of patients (Maddineni et al., 2009), there are also reports stating that no significant levels of life-quality alteration were found when using the Hospital Anxiety and Depression Scale (HAD) in patients with penile carcinoma (D'Ancona et al., 1997). Additionally, some studies showed only increased anxiety and no significant modifications in the depression levels when compared to benign controls (Ficarra et al., 2000). On the contrary, other voices affirm that in penile cancer, depression may exist in up to 50% of patients (Maddineni et al., 2009).

It is clear that well-documented data regarding anxiety and depression in patients who have undergone penectomy are lacking in the present literature. Thus, considering that psychological/psychiatric dysfunctions in patients with penectomy are likely to be common and also the current contradictions that exist regarding this area of research, we decided to evaluate the impact of penile cancer and/or partial or total penectomy on levels of anxiety and depression, as studied through specific scales such as the Hamilton Rating Scale for Depression (HAM-D) and the Hamilton Anxiety Rating Scale (HAM-A).

METHODS

The patients in the present study (n=13) represented all those who attended our clinic during 2012 (30.01.2012 - 03.12.2012) and were diagnosed or treated for penile cancer. The average age was 62.9 ± 2.9 years, with 69.23 % of them from urban areas.

Partial penectomy was performed as proposed by Spaulding and Grabstald (1979), with a 2 cm margin of tumor-free tissue (Sinescu and Gluck, 2008). Four patients had Stage T1, three had T2, one had Stage T3 and two T4.

Trained investigators who had not been involved in the surgery of the patients interviewed and examined all subjects for psychiatric assessment, as described below. The Hamilton Rating Scale for Depression (HAM-D) is a multiple item questionnaire used to provide an indication of depression, and is used as a guide to evaluate recovery. A score of 0-7 is considered normal. Scores of 20 or higher indicate moderate, severe or very severe depression (Hamilton, 1960).

The Hamilton Anxiety Rating Scale (HAM-A) is also a psychological questionnaire used to rate the severity of a patient's anxiety. Each question is scored 0-4. A total score of 0-17 is considered mild, 18-25 mild to moderate and 26-30 moderate to severe (Hamilton, 1959).

None of the patients suffered from any severe, chronic illness that could have otherwise interfered with their quality of life.

RESULTS

The histopathological types of the patients considered in the present work are presented in Table 1.

Considering the mutilating character of this kind of surgery on a patient, we decided to focus on partial or total penectomy. In the postectomy group, the histopathological examination revealed a well-differentiated hyperkeratosis papilloma, which is a benign pathology with favorable prognosis, and only one of them had a well-differentiated small squamocellular carcinoma.

Additionally, the so-called "biopsy group" was formed by patients with lesions in the terminal stage,

Table 1. The histopathological types of patients.

	Squamous cell carcinoma				Urothelial carcinoma with squamous differentiation	Hyperkeratosis papilloma
	Well differentiated	Moderate differentiated	Poorly differentiated	Undifferentiated		
No.	4	2	3	1	1	2
%	23.1	15.4	15.4	7.8	7.8	15.4

Table 2. The histopathology of the patients with partial or total penectomy.

Histopathological type		Penectomy		Postectomy	Biopsy
		Partial	Total		
Squamocellular carcinoma	Well differentiated	2	1	1	0
	Moderate differentiated	2	0	0	0
	Poorly differentiated	1	1	0	1
	Undifferentiated	0	0	0	1
Urothelial carcinoma with squamous differentiation		1	0	0	0
Hyperkeratosis papilloma		0	0	2	0

Table 3. The type of surgery and the results of the psychological/psychiatric evaluation.

	Penectomy								Postectomy			Biopsy	
	Total		Partial										
No.	2		6						3			2	
%	15.4		46.1						23.1			15.4	
HAM-D	34	30	25	32	18	15	25	32	15	13	25	34	32
HAM-A	25	19	8	12	13	19	7	12	9	11	8	24	25

Table 4. The connection between the type of surgery and the specific T clinical stage.

The T clinical stage	Penectomy								Biopsy				
	Partial				Total								
T1	4				0				0				
T2	2				1				0				
T3	0				1				0				
T4	0				0				2				

having poorly differentiated or undifferentiated squamocellular carcinomas.

More importantly, these patients had the following types of surgery: partial or total penectomy, postectomy or simple biopsy in order to confirm is the presence of an inextirpable tumor. These aspects, as well as the results of the psychological/psychiatric evaluation (HAM-D and HAM-A) can be seen in Table 3.

The results of the specific psychological/psychiatric evaluation for depression and anxiety, as separated for total penectomy, partial penectomy, postectomy and biopsy group are presented in Figs. 1 and 2.

We observed significant differences in terms of depression state, as assessed by the HAM-D scale, especially between the total penectomy group and the postectomy group (increase in the total penectomy group, $F(1,3)=9$, $p=0.044$), as well as between

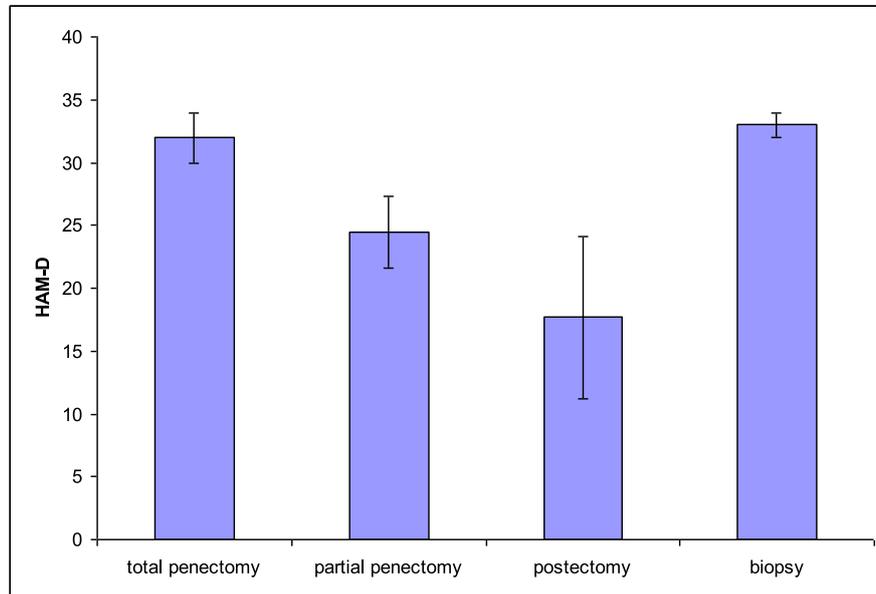


Fig. 1. The results of HAM-D scale for total penectomy, partial penectomy, postectomy and biopsy groups.

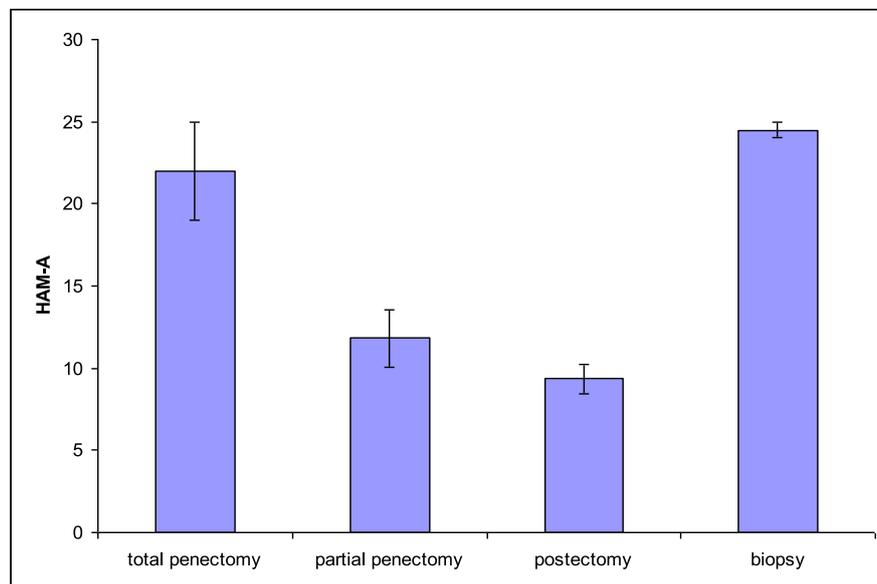


Fig. 2. The results of HAM-A scale for total penectomy, partial penectomy, postectomy and biopsy groups.

the postectomy group and the biopsy group (increase in the biopsy group, $F(1,3)=10$, $p=0.038$), as can be seen in Fig. 1. However, no significant differences were found between the total and partial penectomy groups ($F(1,6)=2$, $p=0.2$), total penectomy vs. biopsy ($F(1,2)=0.2$, $p=0.7$), partial penectomy vs. postectomy groups ($F(1,7)=2$, $p=0.2$) and

partial penectomy vs. biopsy group ($F(1,6)=3$, $p=0.15$) (Fig. 1).

As regards the anxiety state expressed by the specific HAM-A scale, we observed an additional significant increase in the total penectomy group, as compared to the partial penectomy group ($F(1,6)=9$,

$p= 0.02$), as well as significant differences between the total penectomy group and the group with postectomy ($F(1,3)=36$, $p= 0.01$) (Fig. 2). Additionally, a significant decrease was noticed for the patients in the partial penectomy vs. biopsy groups ($F(1,6)=16$, $p= 0.007$) and for postectomy vs. biopsy groups ($F(1,3)=161$, $p= 0.001$). However, no significant differences were observed between the total penectomy vs. biopsy ($F(1,2)=0.67$, $p= 0.49$) or between partial penectomy vs. postectomy groups ($F(1,7)=1$, $p= 0.37$) (Fig. 2).

Another important aspect is the fact that the type of surgery was not connected with the aggressivity of the tumor, but mainly with the stage in which the patients were presented to the specialist (Table 4).

DISCUSSION

Penile cancer is a relatively rare malignancy with an incidence of 1 per 100,000, and it is found mostly in developing countries (Romero et al., 2005). Its treatment can have a negative impact on quality of life, social interactions, self-image and self-esteem (Maddineni et al., 2009). Moreover, as mentioned, knowledge of how these aspects affect the psychological and psychiatric functions of patients is almost inexistent.

Additionally, the very few studies that exist in this area of research show very controversial results. In the Ficarra study (Ficarra et al., 2000), which used 155 patients with urological malignant neoplasms, including 16 men with squamous penile carcinoma, it was reported that anxiety was significantly higher in malignant patients, but depression levels were similar in both groups (Ficarra et al., 2000). Additionally, Romero et al. (2005) showed pathological anxiety in 31% of this kind of patient, by also using the HAD scale (Romero et al., 2005). In addition, there are isolated cases, such as that of Wareing (2002), who described in detail a man with complex problems following penectomy, and identified considerable impact on the patient's body image.

On the other side, in the D'Ancona study, it was demonstrated that the patients who underwent

penectomy were well adapted to their condition and, in general, the quality of their lives was maintained. Moreover, the psychological state and social activity of the patients remained relatively stable, much as they were before the surgery, with General Health Questionnaire and HAD scales showing no anxiety or depression (D'Ancona et al., 1997).

These different results could be explained by variations in the specific methodology used, cultural differences, the level of education of the patients, different medical environments, as well as modified levels of significance and methods of administration and reporting (Romero et al., 2005; Maddineni et al., 2009; D'Ancona et al., 1997).

Regarding our present results, we found increased anxiety and depression, especially in the group with total penectomy, but also in the biopsy group, which comprised patients that had lesions in the terminal stage, such as an inextirpable tumor. The lowest levels of depression and anxiety were observed in the postectomy group.

As is very well known, several distinct phases can be identified in cancer presentation, such as diagnosis, treatment and rehabilitation (Bullen et al., 2009). Depression and even suicidal thoughts are not uncommon in cancer sufferers, and this is an established field of study (Anguiano et al., 2012, Slovacek et al., 2009, Massie et al., 2004). In a recent attempt at a meta-analysis in this complicated area of the possible psychological/psychiatric trauma in patients with penile cancer/penectomy that was undertaken by Maddieni et al. (2009), it was stated that penile cancer sufferers could exhibit significant psychiatric or psychological dysfunctions, although no standardized tools or interventional pathways are yet available.

In addition, post-traumatic stress disorder (PTSD) could have an important relevance in this area of research, as was shown previously (Ficarra et al., 2000), almost 25% of the selected patients showed signs of avoidance behavior, the applied Diagnostic and Statistical Manual of Mental Disorders of Psy-

chiatric illness (DSM III) suggesting that 12 out of 30 patients had signs of PTSD.

Another important factor in the context of the psychological or psychiatric manifestations in patients with penile cancer is that of the treatment itself, considering that it was previously observed that patients presented anxiety and depression due to their pre-treatment physical symptoms (e.g. pain), which disappeared after treatment and somehow improved the general quality of life (D'Ancona et al., 1997). In addition, Gulino et al. (2007) reported that specific scores for feelings of unpleasantness was reduced from 30 pre-operatively to 16 following treatment.

The patients we analyzed represent a convenience group, gathered in a limited period of time, with an important heterogeneity that could affect our final results. Additionally, the lack of a control group could be important. It would have been interesting to investigate the actual sexual satisfaction of the subjects, but this was beyond the scope of this study.

CONCLUSIONS

Our results and further knowledge about the psychological, social and sexual aspects of these specific patients will help health professionals and organizations in identifying treatment options and/or make recommendations for rehabilitation and support services, especially since right now the National Clinical Practice Guidelines for depression does not include any reference to such patients (Maddieni et al., 2009). Additionally, there is a continuous need to identify and assess proper scales to measure the psychological/psychiatric trauma in this group of patients, as well as focusing on the identification of those patients who require professional psychological intervention.

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