

Are we missing PTSD in our patients with cancer?

Part I

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ABSTRACT

Posttraumatic Stress Disorder (PTSD) can be defined by the inability to recover from a traumatic event. A common misconception is that PTSD can only develop in circumstances of war or acute physical trauma. However, the diagnostic criteria of PTSD were adjusted in the Diagnostic Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) to include the diagnosis and treatment of a life-threatening illness, such as cancer, as a traumatic stressor that can result in PTSD. The word ‘cancer’ is so strongly linked to fear, stigma, and mortality, that some patients are fearful to even say ‘the C word’. Therefore, it is not surprising that patients may experience a diagnosis of cancer as sudden, catastrophic, and/or life-threatening. Cancer-related PTSD (CR-PTSD) can negatively affect a patient’s psychosocial and physical well-being during treatment and into survivorship. Unfortunately, CR-PTSD often goes undiagnosed and, consequentially, untreated. This article provides a general overview of PTSD with cancer as the traumatic event in order to define CR-PTSD, and reviews the growing pool of literature on this topic, including prevalence, risk factors, characterization, and treatment of CR-PTSD. The purpose of this article is to spread awareness of this relatively newly defined and commonly missed disorder among patients with cancer to clinicians and patients alike.

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Cancer is many people’s worst fear, often linked with stigma, suffering and mortality. A cancer diagnosis may be perceived as life threatening, compounded by the physical burden and uncertainty inherent in many cancer treatments. The word ‘cancer’ is typically associated with chemotherapy, hair loss, nausea, and other physical symptoms and abnormalities, but cancer can also often have a significant emotional impact on the patient and their family. Approximately 40% of patients with cancer experience significant emotional and social distress during treatment (Pranjic, Bajraktarevic & Ramic, 2016), with approximately one-third of patients developing distress that requires specialized intervention (Grassi, Spiegel & Riba, 2017).

Unfortunately, many patients are not referred or do not accept referral to psycho-oncology services to be assessed and treated, as high levels of sadness and anxiety are often perceived as ‘normal’ reactions to cancer diagnosis and treatment; thus mood, anxiety and other psychological disorders are commonly mistaken for unexpected ‘manageable’ sadness and preoccupation with the disease (Grassi, Spiegel & Riba, 2017). Patients are often told by well-meaning loved ones that they should “think positively” and “fight the cancer” and, in turn, may feel that by expressing fear or sadness they are being ‘weak’. Furthermore, some patients fear that negative emotions may adversely impact their immune system when, in fact, feeling sad or fearful during adaptation or anticipatory grief is common. Whilst processing these emotions is difficult, they are transitory and lead to a stronger emotional position. Suppressing these emotions may increase the risk of depression, reduce authentic communication and lead to sleep difficulties. The question of how mood and anxiety disorders adversely impact outcome is controversial; the greatest evidence for

the likely mechanism is reduced treatment compliance and less adherence to a healthy lifestyle.

Existing literature supports the notion that many patients with cancer are interested in receiving psychosocial support for the emotional and social distress they experience during diagnosis, treatment and survivorship, and highlights the positive impact of receiving specialized psychosocial oncology care. A recent study found that 13% of patients with cancer undergoing radiotherapy expressed a desire for psychological support (Riedl, Gastl, Gamper, Arnold, Dejaco, Schoellmann & Rumpold, 2018). Multiple studies reveal that psychological intervention can increase quality of life for patients with cancer (Li, Li, Shi, Wang, Zhang, Shao & Wang, 2017). In contrast, patients with untreated distress have poorer cancer outcomes and are less compliant with treatment and surveillance regimens (Chen, Hsu, Felix, Garst, & Yoshizaki, 2017; Parikh, De Ieso, Garvey, Thachil, Ramamoorthi, Penniment & Jayaraj, 2015). One other less well recognized or investigated, yet often devastating psychological disorder affecting a significant portion of patients with cancer, is cancer-related post-traumatic stress disorder (PTSD).

WHAT IS PTSD?

PTSD results from the failure to recover from a traumatic event. The disorder is characterized by a sense of living in fear of re-experiencing the trauma, and is often accompanied by intrusive thoughts, nightmares or flashbacks of the traumatic event. During involuntary sensory flashbacks and nightmares, patients experience memories, sensations, and emotions from the traumatic event as if it were happening again in present time (American Psychiatric Association, 2000; American Psychiatric Association, 2013). Re-experiencing the trauma may include physiological

responses and sensations associated with the trauma, such as heart palpitations, shortness of breath, pain in a mastectomy scar or chemotherapy-related nausea (American Psychiatric Association, 2000; American Psychiatric Association, 2013).

Trauma-related memories differ from memories of non-traumatic events, as non-trauma memories are under voluntary control and do not typically occur as a whole body experience with sensory re-experiencing. Patients with PTSD frequently avoid trauma-related cues or triggers to prevent the aversive re-experiencing of the trauma. From a physiological perspective, the brain goes into sympathetic overdrive when reacting to a traumatic event; during and after the trauma, the amygdala is in a state of hyper-arousal and the prefrontal salience network loses its capacity to assess cues for danger and thought control, causing non-dangerous cues to be perceived as threatening, especially if associated with the trauma. This constant state of fearful hyper-arousal frequently results in insomnia, irritability, increased tension and startling, and sometimes aggressive or reckless behaviours (Ellis and Zaretsky, 2018).

Thus, PTSD can result in patients feeling anxious, fearful, irritable, hyper-vigilant, and also emotionally numb (American Psychiatric Association, 2000; American Psychiatric Association, 2013). Whilst generalized fear is a conditioned response to all trauma associations, emotional numbing is due to dissociation. Emotional numbing and negative thinking, along with high distress when re-experiencing a traumatic event, can all cause isolation and disengagement.

PTSD symptoms are considered pathological when they persist for more than one month post-trauma, with associated distress and functional impairment (relational, social or occupational) (American Psychiatric Association, 2000; American Psychiatric Association, 2013). PTSD is often misdiagnosed as anxiety or depression and when someone has PTSD, they most often develop comorbid mood, anxiety and substance disorders, making it challenging to recognize and treat.

CANCER-RELATED PTSD

Cancer diagnosis and treatment can be highly stressful for both the patient and their loved ones. There is a common misconception that PTSD is only relevant in circumstances of acute, physical trauma, but the diagnostic criteria for PTSD in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) was adjusted to include diagnosis and treatment of a life-threatening illness, such as cancer, as a traumatic stressor that can induce PTSD (American Psychiatric Association, 2000). This change was made after multiple studies reported traumatic stress-like reactions in patients with cancer. The Field Trials for the Fourth Edition of the DSM found that 22% of cancer survivors suffer from some level of lifetime cancer-related PTSD (American Psychiatric Association, 2000). This expansion in diagnostic criteria was followed by new literature exploring the prevalence, predictors, and correlates of cancer-related PTSD (Pranjic, Bajraktarevic, & Ramic, 2016; Abbey, Thompson, Hickish, & Heathcote, 2015; Cordova, Riba, & Spiegel, 2017; Cordova & Andrykowski, 2003; Andrykowski & Kangas, 2010; Gurevich, Devins, & Rodin, 2002; Kangas, Henry, & Bryant, 2002; Caruso, Nanni, Riba, Sabato, & Grassi, 2017; Shand, Cowlishaw, Brooker, Burney & Ricciardelli, 2015). A recent study revealed that PTSD, as diagnosed according to DSM-IV criteria, is more common in cancer survivors than in the general population (Shand et al., 2015).

The diagnostic criteria for PTSD were again adjusted in the newest edition of the DSM (DSM-V). The DSM-V states that, “a life-threatening illness or debilitating medical condition is not necessarily considered a traumatic event. Medical incidents that qualify as traumatic events involve events that are experienced as sudden and catastrophic” (American Psychiatric Association, 2013). This does not mean that patients cannot suffer from cancer-related PTSD; it means that patients must experience a traumatic, catastrophic event during their diagnosis or treatment of cancer to meet DSM criteria for PTSD (American Psychiatric Association, 2013). Another

population that experiences the activation of sub threshold, yet very distressing anxiety, rumination and fear during cancer diagnosis and treatment, are individuals who have complex PTSD from childhood trauma. They may unexpectedly miss appointments, have enormous difficulty making treatment decisions and spend hundreds of hours on the internet, trying to ‘become oncologists’ in their knowledge.

CANCER AS A TRAUMATIC EVENT

Cancer is so powerful and daunting that some individuals are even afraid to say ‘the C word’ (Wess, 2007). Many aspects of cancer diagnosis and treatment can act as traumatic events, leading to cancer-related PTSD, including diagnostic testing, stressful waiting periods, the moment of bad news and burdensome treatments (Cordova et al., 2017). Even patients in remission can have heightened anxiety due to fear of recurrence (Ghazali, Cadwallader, Lowe, Humphris, Ozakinci, & Rogers, 2013). Ghazali et al. (2013) found that fear in cancer survivors can be triggered by follow-up scans and oncology visits, physical symptoms (i.e., pain), or death of a public figure due to cancer (Ghazali et al., 2013).

CASE STUDY

A breast cancer patient is triggered whenever she sees pink ribbons; they remind her of her diagnosis. She avoids going to shops.

Unlike single traumatic events that induce PTSD, cancer usually behaves as a chronic and ongoing stressor (Cordova et al., 2017). Continuous monitoring and routine follow-up appointments can trigger cancer survivors by acting as fresh reminders of their cancer (Cordova & Andrykowski, 2003). An imagined threat posed in this circumstance may be in the form of cancer cells within the body as they are internal, unseen and unavoidable (Kangas et al., 2002).

The traumatic experience of cancer might not be initially as clear as that of a life-threatening car accident, but is related in the way it can drastically change one’s life, and how one views

oneself. When diagnosed with a potentially fatal disease, patients with cancer may experience a loss of certainty and change in perspective about their futures (Grassi et al., 2017). For example, patients may feel grief for possible lost future opportunities due to their disease (Wess, 2007). Certain types of cancer may cause disfigurements that can impact self-esteem (Grassi et al., 2017). For instance, a woman who had a double mastectomy might worry that she is no longer attractive to her significant other, or see herself disfigured and unfeminine (Wess, 2007). Additionally, cancer and cancer treatment can cause declines in overall functioning, including poor concentration and memory impairment, which can impact normal daily activities (Caruso et al., 2017). A highly independent individual may have trouble taking on the more dependent role of 'the patient' and experience elevated distress and discomfort by relying on others to take care of them, perceive medical testing and treatment as threatening stimuli, and feel isolated.

These, and other side effects of cancer and cancer treatment, can significantly influence a patient's psychological state, potentially causing a patient to be more susceptible to developing PTSD during a traumatic event in the diagnosis, treatment or survivorship (Caruso et al., 2017).

PREVALENCE

Worldwide, 70% of people will experience a traumatic event, yet the lifetime prevalence of PTSD is only 5% (Atwoli, Stein, Koenen, & McLaughlin, 2015). Multiple studies (see Table 1) have reported varying prevalence rates for PTSD in cancer, depending on the cancer site, method of assessing PTSD (i.e., self-report measures versus structured clinical interviews), and time since diagnosis (Abbey et al., 2015). Studies have reported 4%–55% of participants as having experienced cancer-related PTSD (Pranjic et al., 2016; Shand et al., 2015). A number of the risk factors for developing cancer-related PTSD are listed in Table 2.

A study by Chan et al. (2018) reports the prevalence of PTSD at both six months and four years following cancer

diagnosis (Chan, Ng, Taib, Wee, Krupat, & Meyer, 2018). The authors found that the overall rate of PTSD decreased with time from 21.7% incidence at six months to 6.1% incidence at four years. Of note, more than one-third of those participants who were initially diagnosed with PTSD had persisting or worsening PTSD symptoms four years later (Chan et al., 2018). Interestingly, the same study found that patients with breast cancer were significantly less likely than patients with other forms of cancer to develop PTSD at the six-month mark, but this difference did not continue at the four-year mark (Chan et al., 2018). It was hypothesized that the greater societal understanding and reduced stigma associated with breast cancer may act as an initial protective factor against PTSD, with this effect lessening as the patient has more years in treatment and follow-up (Chan et al., 2018).

IMPACT OF CANCER-RELATED PTSD

PTSD affects all aspects of a patient's life including self-image, relationships with family and friends, spirituality, ability to work, etc. (Gold, Douglas, Thomas, Elliott, Rao, & Miaskowski, 2012). Emotional instability can cause patients to question their spirituality, personal values, and the meaning of their existence, which can strain patient relationships with loved ones (Grassi et al., 2017; Gold et al., 2012). Patients with cancer may feel a decreased sense of belonging and commonality with loved ones and peers (Grassi et al., 2017), and often report feelings of loneliness and abandonment, marginalization, and increased stress returning to work (Caruso et al., 2017).

Multiple studies have reported that psychological distress, including cancer-related PTSD, can negatively impact patients' health, treatment and quality of life. Within cancer, the avoidant behaviours of PTSD may exhibit themselves as missed appointments, failing to complete treatment or withdrawing from friends to avoid speaking about the cancer. Increased psychological distress is further correlated with decreased radiation treatment

compliance and overall survival (Chen et al., 2017; Chan, Wan Azman, Yusof, Ho, & Krupat, 2015).

CASE STUDY

A man who was treated for his cancer at the Odette Cancer Centre refuses to return to the Odette to see his psychiatrist, as it is too painful a reminder of his treatment. He prefers to come to the psychiatry department.

Unfortunately, PTSD does not often disappear once treatment is finished, even if the patient is cancer-free. A recent study by Chan et al. (2018) reported more than one-third of cancer patients diagnosed with PTSD six months after diagnosis developed chronic or full PTSD by the four-year mark. Symptoms of cancer-related PTSD can last years after the cancer- and treatment-related symptoms have subsided.

Cancer-related PTSD might also make it more difficult for patients to return to their 'normal' lives. Individuals with PTSD remain internally preoccupied with their fear of the trauma, and can be psychologically triggered from seemingly ordinary events. For example, patients may be triggered by seeing their scars from surgery when getting dressed or by driving by the cancer centre where they were treated. The fear of seemingly everyday objects may stop a patient from returning to work or school. Cancer-related PTSD can further prevent patients from being emotionally available and open to relationships with loved ones, or be fully present in the moment.

BENEFITS OF PSYCHOLOGICAL INTERVENTION

A study by Li et al. (2017) analyzed the effectiveness of psychological intervention among patients with laryngeal cancer. Although not all patients were diagnosed with PTSD, patients experiencing severe emotional distress who underwent psychological treatment experienced improved quality of life post-treatment compared to patients receiving routine care (Li et al., 2017).

Table 1: Prevalence of Cancer-Related PTSD Across Multiple Studies

Investigator	Type of Cancer	Timeline	Method of Assessment	Diagnostic Manual Used	Prevalence Rate			
					Cut-off	Cluster	Current	Lifetime
Andrykowski et al. 2010	Breast	37.3 months post-treatment	PCL-C and SCID	DSM-IV	5	6		
		29.8 months post-treatment	PCL-C		4.4			
		40.9 months post-treatment			6.5			
			PCL-C and SCID				16.2	
Gandubert et al. 2009	Breast	21 months post-treatment	Watson's PTSD Inventory	DSM-IV			4.9	2.8
Posluszny et al. 2011	Gynecological	0 months post-treatment	PCL-C	DSM-IV	23.4			
		1.63 months post-treatment			23.4			
Carpenter et al., 2010	Gynecological	14.3 months	PLC-C	Unspecified			8.8%	
Urbaniec et al., 2011	Gynecological	48 months	IES-R	Unspecified			15.6%	
Gonclaves et al. 2011	Ovarian	1.77 months post-treatment	PDS	DSM-IV	35			
		5.27 months post-treatment			45			
Mehnert et al., 2010	Prostate	32.7 months	PLC-C	DSM-IV			4.3%	
Thomas et al., 2012	Prostate	22.4 months	SCID	DSM-IV			5.3	
Posluszny et al., 2015	Head and Neck	Unspecified	PLC-C	DSM-IV			11.9%	
Kangas et al., 2012	Brain	27.5 months	PCL-S	DSM-IV			21.7%	
Ristvedt et al., 2009	Colorectal	45.2 months	IES-R	DSM-IV			9.6%	
Smith et al., 2011	Hematological	124.8 months	PCL-C	DSM-IV			5.8%	
Varela et al., 2013	Hodgkin's lymphoma	16 years post diagnosis	PDS	DSM-IV			13%	
Mystakidou et al. 2012	Multiple	0 months post-treatment	SCID	DSM-IV-TR			11.4	
Hahn et al., 2015	Multiple	Varied	PCL-C	DSM-IV			7%	
Gold et al., 2012	Multiple	Unspecified	PCL-C	DSM-IV			27%	

Table 2: Risk Factors for PTSD in Cancer

- Diagnosis of advanced disease ^(Abbey et al., 2015)
- Young age ^(Abbey et al., 2015)
- Recently completed treatment ^(Abbey et al., 2015)
- Reduced socioeconomic status ^(Swartzman et al., 2017)
- Reduced education level ^(Swartzman et al., 2017)
- History of trauma prior to cancer diagnosis ^(Cordova et al., 1995)
- History of mental health conditions ^(Cordova et al., 1995)
- Poor social support ^(Wachen et al., 2014)
- Certain types of cancer ^(Butler et al., 1999)

Not only did these patients score significantly lower on standardized anxiety measures after treatment, but they also experienced significant improvements in overall physical health, mental health, social function and self-evaluation (Li et al., 2017). Additionally, these patients experienced decreased hospitalization duration and expenses, and increased

satisfaction and treatment compliance compared to the control group (Li et al., 2017).

In summary, cancer-related PTSD is often missed by a patient's clinical team, and can impact treatment outcomes, recovery, and quality of life post-treatment. The prevalence of PTSD is greater post-cancer compared to the

general population. Cancer patients living with PTSD often live in fear, avoid stressful reminders of their cancer diagnosis and treatment, and can experience a great deal of distress and isolation. It is important for clinicians to consider that their patients may be experiencing PTSD if they are highly anxious and miss appointments or tests in an avoidant manner. As a clinician, it is important to ask if the patient is re-experiencing the trauma ('flashback'), or is experiencing a numbed mood, negative cognitions, avoidant behaviour, hyper arousal, irritability and insomnia. Patients suffering from PTSD should be referred to a specialist with training in prolonged exposure therapy, cognitive processing therapy, eye movement desensitization or reprocessing (EMDR), as well as evidence-based medication management.

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