Anticipatory Grief and Its Associated Factors in Lung Cancer Patients

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ABSTRACT

Objective: The aim of this study was to evaluate the prevalence of anticipatory grief (AG) and investigate the relationship between AG, anxiety, depression, adult separation anxiety, and attachment styles in a sample of lung cancer patients. Understanding these interactions may lead to improved psychological support for terminal cancer patients.

Methods: 65 participants completed a sociodemographic data form, and their cancer diagnosis characteristics were evaluated. Patients were assessed using the Prolonged Grief Disorder Scale-Patient Form (PG-12-P), the Hospital Anxiety and Depression Scale (HADS), the Relationship Scales Questionnaire (RSQ), and the Adult Separation Anxiety Questionnaire (ASA). Participants with probable AG according to the PG-12-P were included in a clinical interview.

Results: 16 participants (24.6%) were diagnosed with probable AG. Correlation analyses revealed a positive relationship between probable AG and age, HADS scores, and ASA scores. Logistic regression analysis indicated significant relationships between probable AG, age, and HADS scores. The relationship between probable AG and ASA scores lost its significance in the logistic regression analysis.

Conclusion: The findings suggest a significant relationship between AG and age, as well as AG and depression and anxiety scores. This research contributes to the understanding of AG, which is still being conceptualized, and highlights the potential link between AG and adult separation anxiety, suggesting the need for further research with larger sample sizes.

Keywords: Adult separation anxiety, anticipatory grief, attachment styles, depression, lung cancer, pre-loss grief

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INTRODUCTION

Grief is defined as "psychological, social, and somatic responses to the perception of loss."[1] While grief reaction is a physiological response to loss, if unresolved, it can lead to adjustment problems and functional impairments.[2] If the grieving process extends beyond one year after the loss, and the grief symptoms disrupt the individual's life, a diagnosis of prolonged grief disorder (PGD) can be made according to the Diagnostic and Statistical Manual of mental disorders, 5th Edition, Text Revision

(American Psychiatric Association (2022) Diagnostic and Statistical Manual of mental disorders, 5th Edition, text revision).

Grief is not limited to the death of a loved one; it could also be experienced as a result of losing any kind of object, relationship, or one's own health and functionality.[2] In individuals facing life-threatening illnesses and their caregivers, grief symptoms expected after a loss can manifest before the actual loss occurs, a phenomenon referred to as anticipatory grief (AG)[2] Numerous studies have examined AG in conditions involving chronic, fatal, and functional loss, such as dementia, Parkinson's disease, and oncological diseases, in both patients and caregivers.[3] Anticipatory grief is a clinical phenomenon encompassing a longing for the health and functionality lost, along with grief symptoms like role confusion, difficulty in ongoing engagement, a sense of losing a part of oneself, painful thoughts, bitterness, intense feelings of sorrow, and contemplation of life's meaninglessness.[4]

Lung cancer is one of the leading causes of death worldwide.[5] While some patients diagnosed with lung cancer may have low expectations for treatment and life expectancy, most patients in the terminal stage require palliative care.[6] Psychiatric disorders, particularly depression, are observed at higher rates in cancer patients, especially those in the terminal stage, compared to the general population.[6] This increased prevalence may be related to the significant loss of health, employment, and overall functionality experienced by many cancer patients, as well as a longing for their pre-illness lives.[6] It is thought that terminal-stage cancer patients may be undergoing a mourning process. The severity of AG symptoms in these patients is believed to be influenced by their awareness of losing health, the progression of the disease, and the knowledge of impending death.[7]

AG and depression are closely related emotional experiences that often co-occur in patients facing terminal illnesses.[8] Anticipatory grief, characterized by grief reactions occurring before an imminent loss, shares many symptoms with depression, such as sadness, loss of interest, sleep disturbances, and appetite changes.[9] However, AG also involves a preoccupation with the impending loss and a profound sense of longing for the pre-illness life. Studies indicate that the prolonged stress and emotional burden associated with AG can exacerbate depressive symptoms, leading to a more severe and persistent depressive state. Differentiating between AG and depression is crucial, as each requires distinct therapeutic approaches.[10] Addressing both conditions concurrently can significantly improve the psychological well-being of patients, providing comprehensive support tailored to their complex emotional needs.

Previous research showed that several psychological variables affect bereavement outcomes.[5] The attachment styles, resulting from childhood relational experiences with significant people, consist of cognitive representations and behavioral responses most frequently used by people in relationships.[2] Separation anxiety is characterized by an exaggerated fear of separation from close attachment figures.[8] The relationship between AG, adult separation anxiety, and attachment styles exhibits a complex interaction, particularly in individuals dealing with terminal illnesses.[11] Anticipatory grief is characterized by mourning responses preceding an impending loss, wherein individuals" attachment styles and separation anxiety may play significant roles. Research indicates that individuals with insecure attachment styles may experience more intense AG and separation anxiety, especially in situations of loss and separation.[12] In a recent meta-analysis incorporating 30 studies, a small to moderate relationship

between PGD (prolonged grief disorder) and insecure attachment was identified in cross-sectional studies. However, in longitudinal studies, advanced statistical analyses revealed no significant differences.[13] In a recent study examining AG and attachment styles in caregivers of patients, significant relationships were reported between the severity of AG and scores of insecure attachment, with differences in sub-scales.[12] However, as of now, there has been no study in the literature that investigates the relationship between AG and attachment styles in patients. Adult separation anxiety is defined by the fear of separation from loved ones accompanied by intense emotional distress, which becomes more pronounced during the AG process.[14] The number of studies examining the relationship between adult separation anxiety and grief is also quite limited. In the few studies conducted with caregivers, a positive association between separation anxiety and AG has been emphasized.[11] These studies have focused on AG in caregivers. In the literature, there is no study that investigates the separation anxiety experienced by patients along with their AG. Therefore, examining the interaction of AG, separation anxiety, and attachment styles in individuals with terminal illnesses is of great importance for the development of psychological support strategies.

Aims: (1) To examine the prevalence and severity of AG and to investigate demographic and clinical factors associated with AG symptoms, (2) To assess the correlation between AG symptoms and symptoms of anxiety and depression, and (3) to analyze the influence of adult separation anxiety and attachment styles on AG symptoms among patients diagnosed with lung cancer.

MATERIAL AND METHODS

Participants and Procedure
We collected data using a convenience sampling method with a cross-sectional design. The study included patients diagnosed with lung cancer, aged 18 or older, and currently undergoing outpatient follow-up and treatment. Participants underwent a psychiatric interview conducted by a qualified psychiatrist. Following the collection of sociodemographic and clinical variables, participants were requested to complete self-report scales. A total of 65 individuals who fully completed the scales were included in the study. Informed consent was obtained from the participants.

The study protocol received approval from the Local Ethics Committee of Keçiören Training and Research Hospital (Approval no: 2471, Date: February 22, 2022).

Measures
Demographic and clinical information includes age, sex, education level, marital and economic status, mental and physical illness, religious belief, smoking habits, time elapsed since diagnosis, and the stage of cancer.

Prolonged Grief Disorder Scale-Patient Form (PG-12-P)
The scale, adapted for cancer patients, is the patient form of the Prolonged Grief Disorder criteria proposed by Prigerson and colleagues[15] and revised based on their suggested diagnostic criteria (PG-12-Patient Form).[7] This scale is used to assess the emotional experiences and grief responses of cancer patients regarding the losses caused by the disease. The UYB-H consists of 12 items scored on a Likert-type scale (1-4 for items 1-4, where 1 = never, 5 = several times a day; 1 for items 5-12, where 1 = never, 5 = very much). An increase in the total score from the scale indicates an increase

in grief symptoms. A diagnosis of AG requires the following: (1) A score of 4 or 5 on either item 1 or 2, indicating that separation distress is present at least daily; (2) A score of 4 or 5 on at least 5 of items 3-11, indicating that cognitive, emotional, and behavioral symptoms are present daily, quite often, or overwhelmingly so. The last item is dichotomous. Respondents must answer "yes" to meet the impairment criterion. The Cronbach's alpha internal consistency coefficient for the entire scale is 0.86. A Turkish validity and reliability study for the scale was conducted by Gökler Danisman et al.[16]

The Hospital Anxiety and Depression Scale (HADS)
Hospital anxiety and depression scale, which is a four-point Likert type consisting of 14 questions, was developed by Zigmond and Snaith to measure the severity of depression and anxiety in the hospital population.[17] Seven out of the 14 questions measure the severity of anxiety, while the remaining 7 measure the severity of depression. Although the HADS was initially implemented to assess symptoms in outpatients with a medical condition (e.g., cancer), it is also widely used in non-clinical samples.[18] Studies carried out over the years have shown that the HADS is a very well-known and simple instrument.[18] There was a Turkish validity and reliability study conducted by Aydemir et al.[19]

Adult Separation Anxiety Questionnaire (ASA)
The scale was developed by Manicavasagar et al to determine the symptoms of separation anxiety.[20] The Turkish adaptation study of the scale was carried out by Dirioz on an adult sample of psychiatric patients aged 18-65 and a healthy control group.[21] It is composed of 27 items and provides a four-point Likert-type assessment. In the validity and reliability studies of the ASA Turkish form, the Cronbach alpha coefficient was found to be 0.93, and the item-total correlation coefficients ranged between 0.29 and 0.76.[21]

Relationship Scales Questionnaire (RSQ)
The Relationship Scales Questionnaire was developed by Prigerson and colleagues.[22] The questionnaire comprises 30 items aimed at measuring four attachment styles (secure, dismissing, fearful, preoccupied). Participants were initially asked to rate the extent to which they identified with each statement on a 7-point scale (1 = does not describe me at all, 7 = completely describes me). Secure and dismissing attachment styles are measured with five items each, while preoccupied and fearful attachment styles are measured with four items each. Items 6, 9, and 28 are reverse-scored. In the validity and reliability studies conducted by Sümer and Güngör on the Turkish sample, it was found that the Relationship Scales Questionnaire consisted of four factors: secure, dismissing, fearful, and preoccupied. Moreover, reliability coefficients for all dimensions were calculated between .54 and .61 using the test–retest method.[23]

Statistic Analysis
All statistical analyses were performed using the Statistical Package for Social Sciences version 20.0 software (IBM Corp.; Armonk, NY, USA). The two-tailed independent variable t-test, Mann–Whitney U-test, and chi-square test were used to test for group differences of descriptive variables in terms of PG-12-P scores according to normality analysis by the Kolmogorov–Smirnov test. Bivariate correlations were computed to examine the relationship between HADS total, HADS anxiety, HADS depression, and ASA scale scores by Pearson correlation test. Logistic regression models were used to identify factors associated with AG measured by PG-12-P. A diagnosis of AG with the help of PG-12-P was defined as the dependent variable; the clinical variables HADS total score, ASA scale score, and age of lung cancer patients were defined as covariates. The level of significance was set at $P < .05$.

RESULTS

The sample included 65 patients (n = 52, 80.0% male) with a mean age of 66.20 ± 8.88 years. There were 9 smokers (13.8%). The distribution of lung cancer stages among the patients was as follows: stage 1 (n = 2, 3.1%), stage 2 (n = 11, 16.9%), stage 3 (n = 9, 13.8%), and stage 4 (n = 43, 66.2%).

When the groups were divided into two according to PG-12-P scores, the mean age was significantly lower in the probably AG patients ($P < .05$). Apart from age, no significant differences were observed between the groups in terms of other sociodemographic and clinical variables. The comparison of sociodemographic and clinical characteristics based on PG-12-P scores is presented in Table 1.

The mean value of the HADS depression score was 9.93 ± 4.86, HADS anxiety was 7.50 ± 5.07 and the HADS total score was 15.43 ± 9.07. The mean value of the ASA scale score was 24.79 ± 15.28. The mean HADS total, depression and anxiety values and the mean ASA

Table 1. Comparison of Sociodemographic and Clinical Characteristics According to PG-12-P

	Probably-AG (n = 16)	Non-AG (n = 49)	Statistics	P
Age (Mean ± SD)	63.34 ± 5.97	67.14 ± 9.51	253[b]	**.034**
Gender, n (%)				
Male	14 (26.9%)	38 (73.1%)	0.746[a]	.492
Female	2 (15.4%)	11 (84.6%)		
Education (years)	7.75 ± 3.85	6.41 ± 3.86	300.5[b]	.135
Smoking				
Yes	1 (11.1%)	8 (88.9%)	1.027[a]	.598
No	7 (26.9%)	19 (73.1%)		
Quitted	8 (26.7)	22 (73.3%)		
Religiosity				
Weak	6 (25.0%)	18 (75.0%)	0.003[a]	.956
Strong	10 (24.4%)	31 (75.6%)		
Stage of Lung Ca, n (%)				
Stage 1	1 (50.0%)	1 (50.0%)	0.807[a]	.848
Stage 2	3 (27.3%)	8 (72.7%)		
Stage 3	2 (22.2%)	7 (77.8%)		
Stage 4	10 (23.3%)	33 (76.7%)		
Time after diagnosis				
<1 year	10 (22.2%)	35 (77.8%)	0.451[a]	.542
>1 year	6 (30%)	14 (70%)		
Relationship style according to RSQ, n (%)				
Secure	4 (14.8%)	23 (85.2%)	3.679[a]	.298
Fearful	5 (35.7%)	9 (64.3%)		
Preoccupied	4 (40.0%)	6 (60.0%)		
Dismissing	3 (21.4%)	11 (78.6%)		

AG, Anticipatory Grief; PG-12-P: Prolonged Grief Disorder Scale-Patient Form, RSQ: Relationship Scales Questionnaire.
[a] Chi-square test. [b] Mann–Whitney U-test.

Table 2. Comparison of HADS and ASA Scale Scores According to PG-12-P

	Probably-AG (n = 16)	Non-AG (n = 49)	Statistics	P
HADS				
Total	22.43 ± 10.45	13.15 ± 7.67	179.5	**.001**
Depression	11.00 ± 5.83	6.93 ± 4.09	228.5	**.012**
Anxiety	11.43 ± 5.32	6.21 ± 4.30	174	**.001**
ASA	32.37 ± 15.90	22.32 ± 14.38	246.5	**.027**

AG, Anticipatory grief; ASA, Adult Separation Anxiety Questionnaire; HADS, Hospital Anxiety and Depression Scale; PG-12-P, Prolonged Grief Disorder Scale-Patient Form.* Mann–Whitney U-test used.

scale values of probably AG were found to be significantly higher than those found to be non-AG (Table 2). Multiple comparisons of HADS and ASA scale scores according to attachment styles of participants were not significant. Correlation analysis revealed that ASA scale scores were moderately correlated with the HADS total score ($r = 0.531$, $P = .001$), HADS depression score ($r = 0.402$, $P = .001$), and HADS anxiety score ($r = 0.585$, $P = .001$).

The odds ratios (ORs) of the significant covariates and their corresponding 95% confidence intervals are presented in Table 3. In the final model, HADS score was positively and age was negatively associated with PG-12-P, while ASA score was found to be not associated in the final model.

DISCUSSION

Upon reviewing the literature, it is observed that studies on AG predominantly focus on terminal-stage patients' caregivers, with limited research conducted directly on the patients themselves. Furthermore, studies on AG and depression or anxiety symptoms in patients exhibit varied patterns. However, it is evident that there is a lack of research assessing the relationship between AG, attachment styles, and adult separation anxiety. This study is significant as it is the first to investigate the relationships between AG, depression and anxiety scores, levels of separation anxiety, and attachment styles in patients diagnosed with lung cancer, one of the leading causes of mortality worldwide. The present findings reveal a significant positive correlation between AG and separation anxiety. Moreover, participants experiencing anticipatory grief exhibited higher levels of anxiety and depression. Younger patients reported higher levels of AG, with a noticeable trend of increasing anticipatory grief as age decreased among patients with terminal cancer. These results underscore the substantial emotional burden faced by lung cancer patients, particularly younger individuals, highlighting the necessity for targeted psychological interventions to address AG and its associated emotional challenges.

Table 3. Binary Logistic Regression; Association with Prolonged Grief (PG-12-P)

Predictor Variables	β	SE	P Value	aOR	95% CI
Age	−0.113	0.043	.009*	0.89	0.82-0.97
HADS total	0.145	0.051	.005*	1.15	1.04-1.28
ASA	0.024	0.026	.363	1.02	0.97-1.08

ASA, Adult Separation Anxiety Questionnaire; HADS, Hospital Anxiety, and Depression Scale; PG-12-P, Prolonged Grief Disorder Scale-Patient Form. * P < .01.

In our study, the participants exhibited high rates of AG symptoms. Approximately 24.6% (n = 16) of the participants met the criteria for probable AG. We refered to it as probable AG since it is still in the conceptualization process and lacks established diagnostic criteria. The researchers emphasize that the possibility of grief symptoms emerging in cancer patients should not be disregarded.[24] It has been noted that the AG symptoms experienced by cancer patients may arise due to the loss of their health or the anticipation of losing their lives in the progressing course of the disease.[10] The grief symptoms observed in individuals with life-threatening illnesses may impair their functionality, and the psychological burden caused by these symptoms, alongside the physiological burden of the disease, could make the final stages of their lives even more challenging.[25]

Age seems to play a role as a contributing factor in AG in the study. Younger patients tended to report higher levels of AG, and there was a noticeable trend of increasing AG with decreasing age among patients with terminal cancer. Similarly, in a recent study with breast cancer patients, it was argued that health loss could negatively impact individuals more profoundly at a younger age.[26] This could be interpreted to mean that relatively younger patients, with higher levels of awareness and more plans for the future, may experience increased rates of AG when facing the loss of their health and functionality. However, our small sample size does not allow for a comprehensive explanation of this situation.

In our study, as highlighted in previous research, participants with probable AG had higher anxiety and depression scores ($P = .012$, $P = .001$). Positive findings in studies investigating the relationship between the severity of grief and levels of depression and anxiety are present in the literatüre.[10,27] In a study involving 120 family members, it was found that more than half of the participants were at risk for anxiety disorders and depression.[28] Furthermore, it is known that terminal-stage cancer patients are often followed up with a diagnosis of major depression rather than AG, and this may lead to limitations in treatment approaches.[9,28]

The loss of a loved one or the loss of any kind of object, relationship, or one's own health and functionality can serve as a stress factor leading to the onset of various psychiatric disorders such as depression, anxiety disorders, adjustment disorders, and grief reactions.[29] Particularly, the distinction between depression and grief has been debated over time. Grief is a natural response to loss; however, when symptoms do not diminish over time, are severe, persist for an extended period, and impair functioning, it is considered a pathological condition. Despite specific criticisms, the Kübler-Ross model proposes a series of stages in the grieving process: denial, anger, bargaining, depression, and acceptance.[30] Considering the presence of a depressive stage during this process is crucial when assessing individuals experiencing loss. Factor analyses have suggested treating these 2 conditions as separate diagnoses due to their differing characteristics.[31] Given their similar phenomenology and frequent co-occurrence, differentiating and recognizing grief and depression post-loss can be challenging.[32] In our study, a significant relationship was found between both depression and anxiety scores and grief, consistent with the literature. However, the cross-sectional design of our study complicates further interpretations. Longitudinal studies observing cancer patients over time, accompanied by psychiatric clinical interviews, could provide more insights into this matter.

While there are numerous studies indicating a positive correlation between AG and general anxiety symptoms, research investigating

the relationship between adult separation anxiety and AG symptoms is limited.[33] Findings from a 2020 study on relatives of cancer patients suggest that the AG experience is characterized by traumatic distress due to exposure to life-threatening conditions and separation distress induced by anticipation of loss and current relational losses. This places long-term emotional regulation demands on family caregivers.[34] In this study, a positive correlation between AG and separation anxiety was identified; however, the regression analysis indicated that the relationship between separation anxiety and grief symptoms lost its significance. The limited sample size in our study makes it challenging to draw conclusions, highlighting the need for larger longitudinal studies in this field.

In our study, the relationship between attachment styles and AG was also examined. A study incorporating 32 researches conducted in 2020 suggested that depression, anxiety, attachment styles, and related factors could be risk factors for developing complicated grief.[35] Additionally, a recent meta-analysis found a small to moderate relationship between PGD and insecure attachment in cross-sectional studies, but no significant difference in longitudinal studies after advanced statistical analyses.[13] In our study, no significant relationship was identified between attachment styles and factors associated with AG in cancer patients. This may be attributed to the relatively small sample size, or it could be related to the yet incompletely understood nature of the relationship between grief and attachment styles. It can be suggested that more research is needed to explore the connection between attachment styles and the grief phenomenon in cancer patients.

Limitations

One limitation of this study is that the sample group consists of patients from an oncology unit of a training and research hospital. Although this unit serves patients from many regions, it may not adequately represent a diverse sample. Additionally, the sample size was relatively small, and the majority of participants were male. The overrepresentation of males compared to females in the sample is a point to be considered in interpreting and generalizing the results, which is attributed to the higher incidence of lung cancer in males. In the future, we believe it is important to conduct new studies with broader, longitudinal samples representing different groups and incorporating psychiatric interviews.

CONCLUSION

In conclusion, our study identified a negative relationship between AG and age, as well as a positive relationship between depression and anxiety scores. It is crucial to carefully assess AG symptoms in cancer patients diagnosed at an earlier age and to facilitate their access to mental health support services. In clinical practice, the confusion of AG with depression in cancer patients, insufficient awareness among clinicians, and the lack of adequate responses to the psychological needs of these patients hinder the development of appropriate intervention programs. We believe that closely monitoring cancer patients with anxiety and depressive symptoms for both AG and other psychiatric disorders is crucial point for early diagnosis and intervention. Additionally, we suggest that there might be a significant relationship between AG and adult separation anxiety, which should be investigated in future studies with larger samples. Mental health care holds a very important place in the care of terminal cancer patients. Consequently, it is believed that this study will be functional in bringing the phenomenon of AG, arising from terminal cancer patients, to the forefront of the mental health agenda.

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