

Psychological Aspects of Anorexia in Cancer Patients¹

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Summary

Transient anorexia occurs in cancer patients secondary to psychological distress. Discomfort, pain, and lack of a sense of well-being contribute to a general dysphoric affective state, although the clinical signs of significant depression consonant with anorexia on the basis of depression are rarely seen in cancer and were not found in a controlled study. The anorexia-cachexia syndrome of advanced cancer derives from causes other than psychological, compounded at times by the side effects of surgery, chemotherapy, and radiation therapy.

Management of nutrition in cancer can be improved by judicious use of psychopharmacological drugs to diminish the nausea, vomiting, and anorexia of radiation or chemotherapy. Some drugs appear to have a specific appetite-stimulating effect and should be further investigated (cyproheptadine and Δ^9 -tetrahydrocannabinol). Behavioral techniques used in cases of anorexia nervosa seem to have little relevance in adults with cancer, although self-hypnosis appears useful in children. Creation of as pleasant an ambience as possible around meals, with encouragement to eat, concern for the patient's food preferences, and attention to the most pleasant social setting for the serving of meals is desirable. The value of eating with a family member, friend, or fellow patient and, if desired, of serving wine, which may stimulate both appetite and social interaction, should not be overlooked.

Anorexia is one of the most common symptoms of cancer. It also represents one of the most difficult symptoms to treat. The anorexia and accompanying weight loss may occur at any stage of illness with variable severity, and it may be related to several causal factors. The anorexia associated with cancer can be divided into 3 general areas (Table 1): (a) transient anorexia; (b) anorexia related to treatment; and (c) anorexia related to disease. Two major questions must be asked in relation to each of these areas. (a) Is there a psychological component in the cause of anorexia in any of the areas? (b) What psychosocial techniques can be utilized in the nutritional management of anorexia at any stage of disease?

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Transient Anorexia

Anorexia at the Time of Initial Diagnosis. There are certain periods during the clinical course of cancer in which the patient is particularly vulnerable to symptoms of emotional distress. Anorexia, insomnia, and disruption of normal ability to function are apt to occur. During the diagnostic workup, when the presence or absence of cancer hangs in the balance, the emotional stress is particularly apparent. The patient may exhibit anxiety, mood swings, difficulty in concentrating, anorexia, and insomnia. This acute emotional distress is an expected response to a situation in which anticipation of a threat to life is present. Anorexia is often prominent in the symptom complex. The actual pronouncement by the physician that a serious, life-threatening illness, cancer, has been found results in further psychic insult with increased concern for life and body integrity. A loss of pattern in the activities of daily living may occur until the physician outlines a treatment plan. The plan of action usually leads to renewed optimism and hope and helps combat the anxiety. The history of a 5- to 10-pound weight loss around this time may be related to psychological factors rather than early cancer, as is often assumed.

Anorexia at the Time of Diagnosis of Recurrent Disease. Fears of recurrence are usually contained in the person who has had cancer but they are never far below the surface. Appearance of a new symptom which the physician confirms as a recurrence of disease results in an emotional upheaval that may be more disruptive than that at the time of initial diagnosis. Fears for life are greater and concern for family and future is intensified. Anorexia as an emotional response may reasonably be expected to occur in the context of general anxiety and depressed mood. As a new treatment plan is developed to meet the altered clinical state, the acute emotional disturbance abates.

Anorexia Related to Periods of Pain and Discouragement. Intervals occur in the clinical course of cancer when pain is a predominant symptom. Depressed mood with anorexia and insomnia often accompanies uncontrolled pain. When a treatment fails and the future appears bleak, anorexia may transiently appear along with discouragement. An altered treatment plan will result in temporary optimism and diminished distress.

Presence of pain, lack of a sense of well-being, anxiety for the future, and hospitalization itself diminish the possibility for "enjoying a good meal," preferably with those whose presence matters most to one. A full assessment of the importance of these psychological parameters is difficult in the context of clinical cancer, yet it is important not to

Table 1
Anorexia in cancer

1. Transient anorexia caused by emotional distress
A. During diagnostic workup for cancer, at time of diagnosis, and prior to formulation of a treatment plan
B. At time of diagnosis of recurrent or metastatic disease
C. During times of pain or discouragement
2. Anorexia related to treatment
A. Surgical procedures
B. Chemotherapeutic side effects
C. Radiation sickness
3. Anorexia related to disease
A. Anorexia occurring early in course of gastrointestinal tract cancer
B. Anorexia-cachexia syndrome of advanced cancer

underestimate their possible role in the appearance of anorexia at certain times during illness.

Anorexia Related to Treatment

Anorexia Related to Surgical Procedures. Operations for cancer, particularly in the gastrointestinal tract, may produce difficulties in taste, swallowing, digestion, or absorption that may contribute indirectly to anorexia. Discomfort following eating may cause the patient consciously to refuse to eat although he may be hungry.

The technique of i.v. hyperalimentation has been used to support patients unable to eat due to chemotherapy, radiotherapy, or extensive gastrointestinal tract disease (4). While on i.v. hyperalimentation, patients may experience hunger and require reassurance at times that their intake is adequate (10). Hyperalimentation has also been used in germ-free environments in Switzerland where Haenel and Nagle (8) observed that many patients developed a psychological dependence upon the prolonged feeding through a subclavian vein catheter. The dependency was sufficient to produce anxiety prior to, at the time of, and even after removal of the tube. This "umbilical cord syndrome," as they have called it, is similar to that of patients who become psychologically dependent upon a respirator or oxygen in excess of physical need. A period of "psychological weaning" may be required to attenuate anxiety in adapting to life without the physiological aid (9). Other patients are impatient to remove the catheter. While most patients tolerate it well, monitoring of psychological response is important.

Anorexia Related to Chemotherapeutic Side Effects. Severe nausea and vomiting are caused by several of the anti-tumor agents: Cytosan, 1-(2-chloroethyl)-3-cyclohexyl-1-nitrosourea (NSC 79037) derivatives, nitrogen mustard, procarbazine, actinomycin D, and platinum compounds. These undesirable side effects of useful agents in the treatment of cancer become, at times, limiting factors in their use. The nausea and vomiting are hypothesized to be produced through activation of the CTZ³ around the 4th ventricle; the antiemetic drugs are presumed to act by preloading or blocking the CTZ, thereby diminishing stimulation of them by the antitumor agents (6). There is an active search for more effective antiemetic agents to control

³ The abbreviations used are: CTZ, chemoreceptor trigger zones; THC, Δ⁹-tetrahydrocannabinol.

these distressing symptoms in patients receiving chemotherapy.

Drugs with antiemetic action are divided into 2 groups, (a) anticholinergic-antihistaminics, and (b) the major tranquilizers (7). In the 1st group, promethazine (Phenergan), trimethobenzamide (Tigan), and diphenhydramine (Benadryl) are moderately successful. The major tranquilizers are generally more effective in control of nausea and vomiting. Prochlorperazine (Compazine) and chlorpromazine (Thorazine) are commonly used. Haloperidol (Haldol) and a newer drug, thiethylperazine (Torecan), are also being tried more extensively. The phenothiazines may function not only to diminish stimulation of the CTZ areas but also, by indirect action, to diminish anticipatory anxiety. Giving the phenothiazine in effective dosage 8 to 24 hr prior to the infusion may add to better control of anxiety and blocking of the CTZ sites.

Recent reports on the use of THC, the active ingredient in marijuana, have shown this drug to be an effective antiemetic in patients receiving chemotherapy for cancer (18). When given in 5-mg capsules 2 hr before drug infusion and twice during the treatment, THC proved to be more effective than placebo in relieving nausea and vomiting. Clinical trials against other active antiemetics are underway.

Even when psychopharmacological agents are used, however, reassurance by the physician and constant support by a nurse who regularly gives the infusions should not be neglected since these are of major import in sustaining the patient through repeated episodes of emesis, nausea, and anorexia secondary to chemotherapy.

Anorexia Related to Radiation Side Effects. Several of the drugs described above have also been used to control the anorexia, nausea, and vomiting associated with radiation sickness. One report has singled out haloperidol (Haldol) as useful during radiotherapy. In a double-blind study using a 1-mg dose administered twice daily, Cole and Duffy (3) found that haloperidol proved effective in controlling emesis and anorexia produced by radiation therapy.

Anorexia Related to Disease

Early in Clinical Course. Weight loss occurs much earlier in the course of certain cancers, such as those of the pancreas, stomach, colon, and rectum. The reason for this is unclear but anorexia and weight loss may frequently be the presenting symptoms in cancer of these sites.

Anorexia Related to Advanced Disease, Concurrent with Cachexia. The anorexia-cachexia syndrome of advanced cancer poses perplexing questions about etiology. Several metabolic routes have been proposed that might disrupt the feeding-satiety centers of the hypothalamus, producing either decreased hunger or inappropriate satiety (14, 19, 22). The existence of tumor metabolites that derange metabolic processes and lead to insufficient caloric intake has been hypothesized (21). DeWys (5) has suggested that the higher sucrose and lowered bitter (urea) taste thresholds found in patients with a spectrum of cancers may account for taste sensation. Meat aversion as well as patients' frequent rejection of amino acid-elemental diets (2) could derive from the altered threshold levels. The influence of the

neoplastic process, either directly on taste or on the hypothalamus, remains to be clarified.

An assumption is often made that patients with advanced cancer are depressed. One could reasonably question whether clinical depression, with its vegetative symptom of anorexia, could represent a significant psychological etiology of the anorexia-cachexia syndrome. Data have been collected on self-reported depression in patients with cancer as compared to other depressed groups (16). Ninety-seven patients hospitalized with advanced neoplasms at Roswell Park Memorial Institute were assessed by means of a well-known depression scale (Beck Depression Inventory) (Chart 1). Cancer patient responses were compared to those of 66 of their next-of-kin and with 99 patients without significant physical illness who had been hospitalized for a depression resulting in a suicide attempt. Patients with cancer scored in the same low range as their next-of-kin on scale items rating such non-physical symptoms of depression as feelings of worthlessness, loss of self-esteem, pessimism, guilt, and suicidal ideas. All of these items were found to be high in the "psychiatric" depressed population. The depressive symptoms on which the cancer patients scored as high as the suicide attempt patients were the physical symptoms of depression, which are also physical symptoms of advanced cancer, *i.e.*, anorexia, weight loss, insomnia, easy fatigability, and loss of interest in usual activities. We concluded that total scores on depression scales devised for psychiatric populations are meaningless for patients with serious physical illness and that vegetative signs of depression, when present alone, are not an adequate basis for diagnosis of clinical depression (16) (Table 2). When psychological signs of change in self-worth are present, a psychiatric consultation should be called to assess both depression and suicidal risk.

In addition to the analyses above, correlations were calculated between scores on the item that rated presence and severity of anorexia and scores for 2 Beck subscales. One subscale consisted of items reflecting nonphysical (psychological) depressive symptoms only, and 1 consisted of items reflecting physical depressive symptoms only (minus anorexia). Similarly, correlations were calculated between scores on the item rating presence and severity of weight loss and scores on the nonphysical subscale and on the physical subscale (minus weight loss). It can be seen in Table 2 that anorexia and the Beck physical subscale scores were significantly and positively related ($r = 0.520$; $p < .001$), while the relationship between the anorexia scores and the nonphysical (psychological) subscale scores was not statistically significant ($r = 0.178$, not significant). Results were similar for the weight loss item. A significant positive relationship was found between weight loss and other physical symptoms ($r = 0.523$, $p < 0.001$) but not between weight loss and nonphysical symptoms of depression ($r = -0.045$, not significant). These data thus support an etiology other than psychological state of depression for the anorexia of advanced neoplasia. Anorexia and weight loss of cancer patients were not associated with feelings of guilt, worthlessness, or hopelessness but were associated with other physical symptoms such as insomnia and fatigability.

Our strong feeling is that the term "depression" is inap-

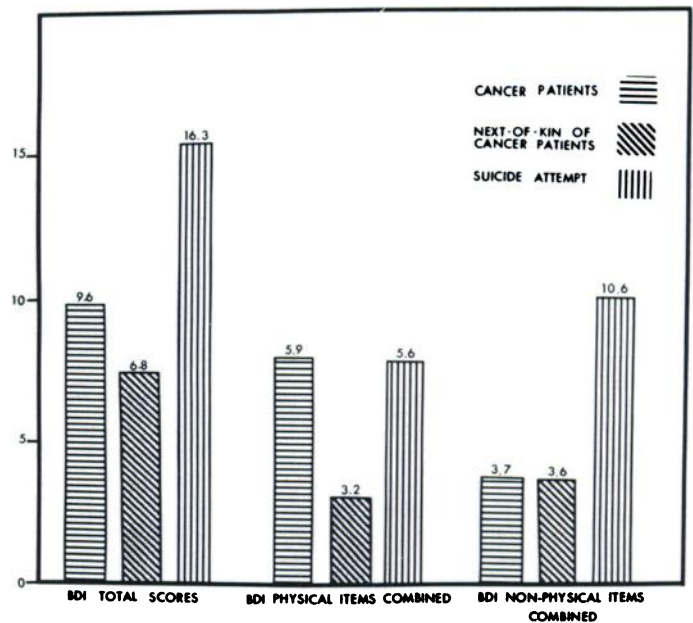


Chart 1. Mean Beck Depression Inventory scores.

Table 2
Correlation coefficients for advanced cancer patients on Beck Depression Inventory items

Item score	r	p
Anorexia		
Physical items ^a	0.520	<0.001
Nonphysical items	0.178	NS ^b
Wt loss		
Physical items ^c	0.523	<0.001
Nonphysical items	0.045	NS

^a Minus anorexia item.

^b NS, not significant.

^c Minus weight loss item.

propriately and too broadly applied in cancer patients. Symptoms suggestive of depression are often largely somatic and may reflect the patient's physical illness. Patients typically display few of the psychological characteristics by which clinical depression is likely to be diagnosed in psychiatric patients. Furthermore, cancer patients usually do not respond to tricyclic antidepressants with anywhere near the 30% frequency seen in patients with psychotic depression. A suggested term for the affective state of the patient with advanced malignant disease is the "emotional dysphoria of life-threatening illness" (16).

While the anorexia syndrome is presumed to be largely metabolic in origin, psychological techniques may nonetheless be useful in its treatment. Two promising areas of intervention are the use of psychopharmacological agents and psychosocial modification.

Appetite-stimulating Drugs. Cyproheptadine (Periactin), an antihistamine, was reported to be useful in promoting weight gain in geriatric patients (13). More recently, a double-blind study using 4-mg doses of the drug 3 times a day in adults with essential anorexia showed cyproheptadine to be more effective than placebo in improving appetite and effecting significant weight gain (15). Clinical trials in can-

cer patients would seem desirable.

THC produced appetite stimulation and weight gain with mild mood elevation in 34 advanced cancer patients using a median dosage of 15 mg/day over a period of 10 days (17). However, 25% of the patients in this study experienced dizziness, somnolence, and mental dissociation sufficient to restrict use of the drug. Studies of a dose range that would produce the appetite stimulation as well as possible antiemetic and analgesic effects, without untoward side effects, would be helpful.

The effects of insulin and steroids are well known to stimulate appetite and weight gain, but these drugs should seldom be used for appetite stimulation alone due to other significant effects that they have upon the cancer patient.

Behavioral Techniques to Stimulate Eating. Basic to encouraging eating is consideration of the patient's food preferences and the presentation and serving of food in the most palatable form. A dietician should consult with both family and patient. A helpful guide called "Nutrition" has been prepared for cancer patients by the American Cancer Society. While it was designed specifically for patients receiving chemotherapy and radiation treatment, it contains a number of appetizing recipes for light snacks, drinks, and desserts that are easy to prepare as well as nutritionally high in protein and calories.

Along with taste, smell, and appearance, special attention to the ambiance associated with eating in the hospital and at home is needed. Busy hospitals often have little time for more than the perfunctory placing of a tray in front of the patient who is expected to eat the food alone and without leaving his tiresome bed, although most healthy individuals find it difficult and lonely to eat alone. When it is possible, planning for the patient to share dinners with family members and perhaps for the serving of favorite wines adds some of the social aspects that many well individuals associate with a pleasant meal. Some of the success of St. Christopher's Hospice in London appears to be due to the encouragement of maximal social interaction with family members, especially around meals. Gathering 3 or 4 patients who can eat communally creates an atmosphere more conducive to enjoying eating.

Operant conditioning, in which rewards such as exercise, visits, and passes are made contingent upon weight gain, has been successfully used in patients with anorexia nervosa (1, 12, 20). It is, nevertheless, difficult to see how these techniques could be suitably used for the physically ill.

LaBaw et al. (11) at the Children's Hospital in Denver recently reported on the use of self-hypnosis in managing 27 children with cancer. Group trance sessions were used to teach children to induce trances in themselves both within the group and on their own. While outcome varied

from poor to excellent, in general the results indicated that most children experienced more rest, less anxiety, better food and fluid intake, and less anticipatory anxiety and vomiting prior to treatment. Further exploration of these techniques, particularly the utilization of group participation, may prove useful in children and possibly in adults.

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