Diffuse Malignant Pleural Mesothelioma: Part II. Symptom Management

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D iffuse malignant pleural mesothelioma (DMPM) is a rare disease that forms on the lining of the lungs. DMPM usually is associated with asbestos exposure and accounts for approximately 1% of all cancer deaths in the world (Peto, Decarli, LaVecchia, Levi, & Negri, 1999). The diagnosis of DMPM often is delayed because of nonspecific symptoms. Approximately 60%–90% of patients present with symptoms of dyspnea and chest pain (Grondin & Sugarbaker, 1999; Martin-Ucar, Edwards, Grondin, & Sugarbaker). Symptoms of DMPM can be present up to five months before a diagnosis is established (Merritt et al., 2001).

Patients diagnosed with DMPM have multiple disease- and treatment-related symptoms. The majority of patients with DMPM are diagnosed with advanced disease. Currently, no cure for DMPM exists and life expectancy usually is very limited. Aggressive multimodal therapy consisting of surgery, chemotherapy, and radiotherapy is used to treat DMPM. Supportive care is recommended for patients who are debilitated at diagnosis because they would not be able to tolerate aggressive therapy. The severity of symptoms increases as the disease progresses, putting patients at risk for anxiety and depression. Effective symptom management must be initiated early to assist in improving the quality of life for these patients.

Specific research about managing symptoms experienced by patients with DMPM is minimal. However, research findings about symptoms and symptom management in patients with lung cancer and patients with cancer in general are useful in identifying and describing possible interventions for patients with DMPM.

### Key Words: dyspnea, pain, fatigue, depression, anorexia

Dyspnea

Dyspnea, as defined by the American Thoracic Society (ATS) (1999), is “a subjective experience of breathing discomfort consisting of qualitatively distinct sensations that vary in intensity” (p. 322). Physiologic, psychological, cultural, and environmental factors contribute to patients’ experience of dyspnea (ATS, 1999; Gift, 1990; Ripamonti & Bruera, 1997; West & Popkess-Vawter, 1994). Dyspnea was reported to be the number one presenting symptom in 46 of 101 patients with DMPM in a retrospective review (Merritt et al., 2001). In a study by Herndon and colleagues (1998), 70% of patients with DMPM (n = 337) reported that dyspnea was their chief complaint.

The subjective nature and multiple contributing factors make dyspnea a difficult symptom to assess. A variety of assessment tools for evaluation of dyspnea and interventions for relief exists. Available assessment tools include activity scales, such as the Pulmonary Function Status Scale, American Thoracic Standardized Questionnaire, Baseline and Transitional Dyspnea Indexes, and Therapy Impact Questionnaire for Quality of Life. Self-report measures, such as the Medical Research Council Dyspnea Scale, Dyspnea Interview Schedule, Oxygen Cost Diagram, Modified Borg Scale, Cancer Dyspnea Scale, and Visual Analog Scale, also are available (Mancini & Body, 1999; Tanaka, Akechi, Okuyama, Nishiwaki, & Uchitomi, 2002c; Wickham, 2002). The most commonly used tool is the visual analog scale, where patients rate their dyspnea on a horizontal or vertical line from no breathlessness to worst possible breathlessness (Ripamonti & Bruera, 1997).

Ideally, treating the underlying cause of dyspnea would eliminate this symptom; however, this is difficult to do in advanced-stage lung cancers (Gift, 1990). Dyspnea may be an indication of a phase in the illness in which resources should be shifted from acute intervention to palliative and supportive care measures (Ripamonti & Fusco, 2002). Goals of treatment are based on an assessment of subjective complaints and the limitations created for each patient.

The presence of pleural effusions and pleural thickening in DMPM contributes to dyspnea in this patient population. The prognosis

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for the majority of patients diagnosed with DMPM is poor, and multimodal treatment often is needed. A multimodal approach in treating this disease can assist in amelioration of the symptom of dyspnea. Surgical debulking of tumors and drainage of pleural effusions can allow for improved lung expansion and relief of dyspnea (Martin-Ucar et al., 2001; Soysal et al., 1997). Additional approaches to management of DMPM and the level of dyspnea that these patients experience include medical treatment using thoracentesis with pleurodesis, preventive radiotherapy, and chemotherapy (ATS, 2000). Palliative management of dyspnea is appropriate when treatment of the disease is unsuccessful.

Therapeutic thoracentesis is performed to remove fluid from the pleural space and allows greater expansion of the lungs. The rapid reaccumulation of fluid often requires repeat thoracentesis for symptom relief. Pleurodesis may be considered for management of symptomatic, recurrent pleural effusions. Also, patients may develop empyema secondary to repeat thoracentesis (Soysal et al., 1997). Placement of a large-bore chest tube, instillation of talc or other chemicals as sclerosing agents for pleurodesis, and an average four- to six-day hospitalization are considerations with this treatment that have financial and emotional costs to patients during end-of-life care (LeGrand, 2002).

Use of a small-bore catheter placed under fluoroscopy for drainage of pleural effusions and assessment of loculations has been evaluated as a less invasive technique. Small-bore catheters have been as effective as large thoracostomy tubes for drainage and pleurodesis, with no increase in complications such as infection (Marom et al., 1999; Parulekar, Di Primio, Matzinger, Dennie, & Bociek, 2001). Small-bore catheters can be placed without the use of general anesthesia and improve patients’ dyspnea. However, thoracentesis with large- or small-bore catheters is not effective for long-term control of pleural effusions.

Repeat catheterization because of frequent reaccumulation of fluids has led to the development of a flexible, indwelling, pleural catheter (Pleurx®, Denver Biomedical, Golden, CO). This catheter is used to relieve dyspnea and allows patients to avoid frequent hospitalizations for drainage of pleural fluids. Patient selection is important. Patients who have experienced relief from drainage of pleural fluid and are able or have the support to manage the catheter are good candidates for this intervention (Brubacher & Gobel, 2003; Taubert, 2001). The catheter is inserted in a hospital or an outpatient setting. Patients and caregivers are instructional to drain the fluid for symptom relief, and they can drain up to 1,000 ml at a time several times per week, if necessary. Drainage of pleural effusions in this manner provides timely symptom relief for dyspnea and cough. This intervention may increase exercise tolerance, as well (Pien, Gant, Washam, & Sterman, 2001). Mechanical pleurodesis may occur with frequent drainage and the introduction of the catheter, which serves as an irritant (Taubert). Patients who have dyspnea related to chronic pleural thickening are not improved by catheter placement (Putnam et al., 2000). As DMPM progresses, increasing lung encasement and invasion of mediastinal structures diminish symptomatic benefit of drainage by the pleural catheter (Pien et al.).

Supplemental oxygen can be used to enhance activity tolerance (ATS, 1999). Oxygen may create a placebo effect in some patients, and its use is controversial (Ripamonti, 1999). Airflow administered over the face and nasal mucosa may elicit the same subjective response of relief. For example, fans have been used to provide airflow over the face to decrease dyspnea (ATS, 1999).

Pharmacologic therapy in the treatment of dyspnea includes the use of opioids to alter patients’ perception. Opioids systemically have the potential to relieve dyspnea by blunting perceptual responses (ATS, 1999). Dyspnea is worse in patients who require opioid medications to treat pain, and systemic opioid use by these patients may not decrease dyspnea (Smith et al., 2001). Side effects of systemic opioids include respiratory depression, altered mental status, constipation, nausea, vomiting, and drowsiness (Quelch, Faulkner, & Yun, 1997). Monitoring and managing these side effects will improve patients’ tolerance of the treatment.

 Nebulized morphine and fentanyl have been studied as a treatment for dyspnea in patients with cancer. Opioids delivered by this route have low systemic absorption with diminished side effects (Coyne, Viswanathan, & Smith, 2002; Quelch et al., 1997). When selecting patients who are appropriate for nebulized opioids, the following criteria are used: severe dyspnea, end-stage disease with no curative treatment options, no history of asthma, and ability to tolerate nebulized respiratory treatments (Chandler, 1999). A test dose must be administered in a closely monitored setting. Medication is administered via nebulizer, or a mask with mist, every four hours for 7–10 minutes. The dose varies significantly from patient to patient. Patients with a history of asthma are excluded from this treatment because of reports of fatal cardiac arrests secondary to bronchospasm when using nebulized opioids (Chandler; Quelch et al.). Nebulized furosemide also has been studied in clinical trials as a treatment for dyspnea in patients with cancer at the end stage of disease. Furosemide acts on the irritants and stretch receptors in the lungs to decrease dyspnea (Shimoyama & Shimoyama, 2002).

Other medications include bronchodilators and corticosteroids. Inhaled beta-2 adrenergic agonists may be of help, but patients must be monitored closely for adverse effects such as tachycardia, dysrhythmias, and possible increased anxiety (Wickham, 2002). Corticosteroids may decrease inflammation, allowing bronchodilation for dyspnea. Clinical trials have not established standard doses for this therapy (Wickham).

Psychological distress is associated significantly with dyspnea (Tanaka et al., 2002a). Providing psychological and social support is a key intervention. Anxiolytic agents assist in altering emotional responses to dyspnea and should be considered for a trial with patients who have severe dyspnea (ATS, 1999). Nonpharmacologic interventions, such as distraction, relaxation, guided imagery, symptom monitoring, and goal setting, can be beneficial (ATS, 1999). Teaching patients effective ways of coping with breathlessness as a result of progression of cancers of the lung and providing patients with an opportunity to talk about feelings and concerns may improve patients’ quality of life by providing some sense of control (Bredin et al., 1999; Cox, 2002).

Exercise training to improve respiratory muscle strength increases activity tolerance and decreases dyspnea, leading to improved quality of life for patients with advanced lung cancers (Cox, 2002). Moderate levels of exercise could be considered as an intervention to delay or decrease the severity of dyspnea (LeGrand, 2002). A structured pulmonary rehabilitation program, combining education with exercise training and workout sessions, may decrease patients’ perception of dyspnea and improve expectations and performance status (Scherer & Schmieder, 1997).

**Pain**

Pain and dyspnea coexist in patients with DMPM. The correlation between pain and dyspnea is controversial because pain may worsen dyspnea and dyspnea may worsen pain. Both symptoms tend to worsen as the disease progresses (Tanaka et al., 2002b). Pain is most common in patients with DMPM because of the invasion of the chest wall by the tumor. Palliative parietal pleurectomy controlled chest wall pain in 85% of patients when performed in early stages of the
Cough

Donnelly and Walsh (1995) reported that chronic cough affects 37% of people with advanced cancer. Eighty percent of patients with advanced cancer and a chronic cough have lung cancer, and cough is a common symptom in DMPM (Knudson, Block, & Schulman, 1989). Infiltration of tumor into the pleura and hypersecretion of mucus may contribute to chronic cough. Chronic cough increases pain and fatigue, prevents adequate rest, and may cause rib fractures (Ingle, 2001). Coughing spasms can increase pain and trigger nausea and vomiting (Homsi, Walsh, & Nelson, 2001). A dry, irritating cough must be differentiated from a productive cough so that patients can be treated safely (Ingle). Treatment of underlying bacterial pneumonias with antibiotics also should be considered (Homsi et al., 2001). Patients’ smoking history should be obtained, and patients should be counseled to stop smoking and advised on smoking cessation techniques (Ingle).

Empiric treatment with antitussive medications may be provided. Hydrocodone 5 mg every four to six hours is used commonly for chronic cough. Hydrocodone has less constipating and neuropsychologic side effects than codeine preparations (Homsi, Walsh, Nelson, LeGrand, & Davis, 2000). Homatropin is an anticholinergic additive found in some preparations of hydrocodone that may cause undesirable side effects of delirium and hallucinations (Homsi et al., 2001).

Nonopioids used for cough suppressants include drugs that act directly on cough receptors, such as benzonatate 100 mg three times per day. Side effects with this drug are infrequent (Homsi et al., 2001). A nebulized local anesthetic also may be used to decrease cough (Volker & Coward, 2003).

Providing warm, humidified air and instructing patients in deep breathing and coughing techniques are beneficial when secretions are present (Ingle, 2001). Malignant hemoptysis is common, and patients can be monitored conservatively on an outpatient basis. Patients and families may fear massive hemoptysis and need reassurance that this is a rare event (Ripamonti & Fusco, 2002; Volker & Coward, 2003).

Fatigue

Patients with cancer, including those with cancers of the lung such as DMPM, identify fatigue as their most frequently experienced symptom (Chang, Hwang, Feuerman, & Kasimis, 2000; Degner & Sloan, 1995; Lohchuk, Kristjanson, Degner, Blood, & Sloan, 1997; Tishelman, Degner, & Mueller, 2000). Subjectively, fatigue is characterized as generalized weakness, exhaustion, and lack of energy (Aists, 1987; Wu & McSweeney, 2001). The etiology of cancer-related fatigue is multifaceted and results from a variety of disease- and treatment-related physical and psychosocial factors (Nail & Winningham, 1995). Disease- and treatment-related factors include anemia, electrolyte imbalance, volume depletion, poor nutritional status, nausea and vomiting, dyspnea, pain, depression and sedation resulting from analgesics, hypoxia, and infection (Nail, 2001; Portenoy & Itri, 1999). Other contributing factors identified by Nail include sleep disturbance, increased requirements for physical activity, emotional stress, increased demands with personal relationships, and a need for increased concentration.

When evaluating patients’ fatigue, subjective and objective data must be obtained. Symptom location, pattern, intensity, onset, and duration, along with any aggravating or alleviating factors, must be assessed. Differentiating between patients’ and family members’ or caregivers’ perceptions of fatigue and the associated distress is important, as these may be very different (Rhodes & Watson, 1987). Healthcare providers also must consider patients’ past and present medical history, review present prescription and nonprescription medications, and assess for the use of caffeine, vitamins, and alcohol to determine whether they may be contributing to sedation and fatigue (Kellum, 1985). Performance status, physical appearance, gait, etc., also should be assessed (Rhoton, 1982).

Several valid and reliable fatigue-measurement tools exist, such as the Piper Fatigue Scale, the Fatigue Symptom Inventory, and the Brief Fatigue Inventory (Hann et al., 1998; Mendoza et al., 1999; Piper et al., 1998). The use of a simple visual analog scale, in which 0 is no fatigue and 10 is the worst fatigue imaginable, is a good tool to use to open dialogue with patients and families regarding fatigue and their perceptions of its impact on quality of life (Rhoton, 1982). Self-report is the most effective fatigue measurement. (See Wu and McSweeney [2001] for a description and review of the major instruments used to measure cancer-related fatigue.)

Interventions begin with educating patients about the complexity of fatigue, its nature, options for therapy, and anticipated outcomes. To adequately care for patients with cancer experiencing fatigue, all symptoms being experienced must be assessed and managed. This includes reviewing current medications and determining whether they may be contributing to the fatigue, identifying and treating any sleep disturbances, reversing anemia or metabolic abnormalities, and managing major depression (Portenoy & Itri, 1999) (see Figure 1). Psychostimulants, such as methylphenidate, may be considered for the treatment of opioid-related somnolence and cognitive impairment in patients with a life expectancy of weeks to months. Improved mood and energy often are evident in 24 hours (Bruera, Brenneis, Paterson, & MacDonald, 1989; Valentine & Meyers, 2001). Referrals for evaluation by physical and occupational therapy are important for providing information related to energy conservation and appropriate exercise. Patients also should be educated on practical tips for promoting sleep.
Patients with cancer-related fatigue

Evaluation of fatigue
Assess characteristics or manifestations
- Severity
- Onset, duration, pattern, and course
- Exacerbating and palliative factors
- Distress and impact
- Manifestations may include
  - Lack of energy
  - Weakness
  - Somnolence
  - Impaired thinking
  - Mood disturbance
Assess related constructs
- Overall quality of life
- Symptom distress
- Goals of care

Evaluation of predisposing factors and etiologies
Physiologic
- Underlying disease
- Treatments
- Intercurrent disease processes (e.g., infection, anemia, electrolyte disturbance or other metabolic disorder, neuromuscular disorder)
- Sleep disorder
- Possible polypharmacy
Psychological
- Mood disorder
- Stress

Management of fatigue
- Establish reasonable expectations.
- Plan to assess repeatedly.
- Depression or pain
  - Antidepressants
    - Selective serotonin reuptake inhibitors
    - Secondary amine tricyclics
    - Bupropion
  - Analgesics
- Anemia
  - Exclude common causes of anemia.
  - Iron deficiency
  - Bleeding
  - Hemolysis
  - Nutritional deficiency
  - Severe anemia
  - Transfuse
  - Mild to moderate anemia
    - Consider epoetin alfa 10,000 units subcutaneously three times weekly.
    - Evaluate after four weeks.
    - If increase in hemoglobin is ≥ 1 g/dl, continue therapy.
    - If increase in hemoglobin is < 1 g/dl, increase dosage to 20,000 units three times weekly. If no response, discontinue epoetin alfa.
    - Provide supplemental iron as necessary.
- Sleep disorder
  - Sleep hygiene
  - Careful use of hypnotics
- Other conditions
  - Correct fluids and electrolytes.
  - Replace calcium, thyroid, or corticosteroids.
  - Give oxygen.
  - Treat infection.
  - Reduce or eliminate nonessential medications.
- Pharmacologic treatment
  - Psychostimulants
    - Methylphenidate
    - Pemoline
    - Dextroamphetamine
  - Low-dose corticosteroid
    - Dexamethasone
    - Prednisone
- Nonpharmacologic treatment
  - Patient education
  - Exercise
  - Modify activity and rest patterns (sleep hygiene).
  - Stress management and cognitive therapies
  - Adequate nutrition and hydration
- Symptomatic therapies
- Correction of potential etiologies
- Empiric trial of antidepressant
  - Selective serotonin reuptake inhibitors
  - Secondary amine tricyclics
  - Bupropion
- Empiric trial of amantadine

Fatigue nonresponsive to other interventions

Feeling of sadness and grief are normal reactions to a life-threatening diagnosis such as DMPM. These responses are expected and may occur at the time of diagnosis and at various times throughout the cancer trajectory. Many patients with cancer experience distress. Distress and depression among patients with cancer can negatively affect length of survival, compliance with therapy, self-care ability, perception of pain, and quality of life (McDaniel, Musselman, Porter, Reed, & Nemeroff, 1995).

Patients diagnosed with DMPM experience many potential causes of psychosocial distress. For 60%–80% of patients with DMPM, asbestos exposure has been identified as the primary cause (Moskel, Urschel, Anderson, Antkowiak, & Takita, 1999). Many of these patients were exposed to asbestos prior to the implementation of occupational safety standards. For these patients and families, anger toward employers who did not inform them of the hazards of their environment is common. Distress mounts for patients and families who not only are dealing with a potentially life-threatening illness but also may face lengthy legal battles as they seek financial compensation for developing an occupationally associated illness (Monson, 1997).

Other causes of psychological distress include beginning treatment (surgery, chemotherapy, or radiotherapy), fear that the illness will result in death, extensive or painful medical procedures, loss of energy, and inability to work. Risk for depression may increase as patients become frustrated with their inability to maintain their normal level of functioning. Patients with cancers of the lung have been found to experience more symptom distress than patients with other types of cancer; these symptoms develop not only from the natural progression of the disease but also from treatment-related side effects (Lobchuk & Kristjanson, 1997).

When evaluating patients with cancer for depression, many things must be considered. Healthcare providers must assess whether patients have a history of depression, whether a family history of depression or suicide exists, what the life stressors are for each patient, and what supportive resources are available. The diagnostic criteria for major depression include the presence of depressed mood or loss of pleasure for more than two weeks in addition to at least three or four physical (weight gain or loss, sleep disturbance, loss of energy, psychomotor retardation) or psychological (difficulty concentrating, guilt or low self-esteem, thoughts of suicide or death) manifestations of depression (American Psychological Association, 2000). Many of the symptoms associated with depression are similar to symptoms caused by many types of cancers and their corresponding treatment. In 1977, Plumb and Holland used the Beck Depression Inventory to separately study somatic items compared to psychological items and found that, in patients with cancer, depression is diagnosed best by the severity of dysphoric mood; the degree of guilt, hopelessness, and worthlessness; and the presence of suicidal thoughts. Endicott (1984) suggested that when psychologically symptoms of depression are caused by a medical condition, they are replaced by the following psychological symptoms.

- Fearful or depressed appearance
- Social withdrawal or decreased talkativeness
- Brooding, self-pity, or pessimism
- Nonreactive mood (cannot be cheered up, does not smile or react to good news)

Depression in patients with cancer can be managed successfully using a team approach of individual or group psychotherapy, cognitive or behavioral techniques, and antidepressant medications. Psychotherapy assists patients in identifying past strengths and previous techniques for coping. Cognitive-behavioral techniques assist patients in reframing inaccurate perceptions and assessments that can result in feelings of depression. Pharmacologic therapy has been helpful in reducing stress, increasing quality of life, and, in some cases, increasing survival (Fallowfield, Hall, Maguire, & Baum, 1990; Greer et al., 1992).

The primary treatment for depression in patients with cancer is psychopharmacologic therapy. Several categories of antidepressants are available to choose from: first- and second-generation tricyclic antidepressants, heterocyclics and monoamine oxidase inhibitors, selective serotonin reuptake inhibitors, serotonin and noradrenaline reuptake inhibitors, and dopamine antagonists. When choosing antidepressants, healthcare providers must consider their mechanism of action, potential side effects, existing comorbidities, existing depressive symptoms, and the response of patients if the antidepressants have been used in the past. When dosing antidepressants, prescribers also must take into consideration that patients with cancer experiencing depression often respond to lower doses than healthy individuals; thus, therapeutic dosing should be monitored via plasma levels. (See Lovejoy, Tabor, and Deloney [2000] and Lovejoy, Tabor, Matteis, and Lillis [2000] for an in-depth discussion of depression management.)

Healthcare professionals caring for patients with DMPM must diagnose depressive disorders accurately. Other symptoms experienced by patients with DMPM, such as pain, fatigue, dyspnea, and cough, may amplify their risk for depression. Thus, symptom management throughout the cancer experience is of great importance. Approximately 80% of patients with cancer who are diagnosed with depression can be successfully treated using psychotherapeutic and psychopharmacological interventions (Breitbart, Chochinov, & Passik, 1998).
habits, attitudes about food, cultural factors, ability to obtain and prepare food, and psychological factors such as family support. Patients’ preillness weight and weight at diagnosis should be obtained. When determining body weight, issues such as edema, ascites, dehydration, or tumor load should be considered (Klein et al., 1997). In general, nutritional intervention usually is deemed necessary if patients have a weight loss of 10% or more (Ottery, 1995). Once treatment has started, patients must be evaluated regularly for treatment side effects such as anorexia, nausea and vomiting, early satiety, or diarrhea. Taste changes must be considered as well. The use of medications, prescribed or over-the-counter, must be identified along with potential side effects that may have an impact on gastrointestinal function and result in decreased oral intake. The use of herbal supplements should be determined, as some may cause a decrease in appetite or result in side effects such as anorexia, diarrhea, or nausea and vomiting (Wilkes, 2000).

Hill (1992) recommended some fairly simple tests to assess for a decrease in muscle strength. Grip strength may be tested by asking patients to squeeze their index and middle fingers for ten seconds. Respiratory muscle strength may be tested by asking patients to blow on a strip of paper that is being held four inches (10 cm) away from their lips. Minimal to no movement suggests severe respiratory impairment. A Tendon-Bone Test and Finger-Thumb Test also can be completed to assess muscle wasting and loss of subcutaneous fat. The Tendon-Bone Test is performed by examining and palpating the patient’s face, back, upper arms, and back of hands. Visible tendons and bones suggest a 30% or greater loss of total protein stores. The Finger-Thumb Test, which entails gently pinching the skin of the upper arm, may assess subcutaneous fat. If the triceps or biceps are felt, the test is positive and muscle body fat stores are potentially less than 10% (Hill, 1995; Wilkes, 2003).

Serum albumin is the most common laboratory study performed to assess nutritional status. The serum albumin level reflects the protein stores. The Finger-Thumb Test, which may indicate prolonged, severe protein deficiency and may be associated with cachexia and increased mortality (Dudak, 1997). Other laboratory tests that may be performed include transferrin, cholesterol, urinary urea nitrogen, hematocrit, total lymphocyte count, and absolute neutrophil count (Gill et al.).

A review of the elements of a well-balanced diet should be provided for patients who have good nutritional status. For patients who already are malnourished or at risk, a nutritional plan that includes ways to increase caloric intake and stabilize weight should be developed. Wilkes (2000) recommended that patients with cancer need 25–35 calories per kg per day (13–15 calories per pound) and 1–2 g/kg per day of protein.

Nonpharmacologic interventions include instructing patients to eat calorie- and protein-rich foods. Small, frequent meals usually are better tolerated. Different food textures, tastes, temperatures, seasonings, colors, etc., should be used to provide variety. High-calorie liquid supplements and a daily multivitamin without iron should be recommended (Gill et al., 2001). Evans, Roubenoff, and Schevitz (1998) reported that 15 minutes of gentle aerobic exercise 30 minutes before eating aids in stimulating the appetite and decreasing fatigue. Family and friends can be asked to assist with grocery shopping and food preparation so that patients can conserve energy. Previous dietary restrictions (i.e., diabetic, low cholesterol) should be reviewed. Many patients will be able to disregard previous restrictions and eat any foods that appeal to them.

Pharmacologic interventions for weight loss, anorexia, and cachexia begin with providing effective symptom management with antiemetics, antidiarrheals, and analgesics. Progestational agents such as megestrol acetate have been found to stimulate the appetite, increase oral intake, reduce nausea and vomiting, and promote nonfluid weight gain (Loprinzi, Schaid, Dose, Burnham, & Jensen, 1993; Ottery, 1994; Tchekmedyian et al., 1992). Patients taking megestrol acetate should be instructed to be observant for the signs of deep vein thrombosis because their risk for this increases when on this medication (Loprinzi et al., 1999). Corticosteroids such as dexamethasone can increase the appetite and assist in providing some patients with an improved sense of well-being. Some patients prefer not to take this medication because of the side effects of fluid retention, insomnia, and hyperglycemia (Ottery, 1995). Prokinetic agents such as metoclopramide can be used to decrease early satiety (Gill et al., 2001).

If patients are unable to take foods orally but have a functioning gut, enteral nutrition can be considered and is preferred over parenteral nutrition. Patients’ prognoses must be considered when deciding whether to provide aggressive nutritional support. According to Gill et al. (2001), guidelines for the use of parenteral nutrition include a nonfunctioning gut, inadequate oral intake for more than 10 days, life expectancy of at least 40 days, and possible central line access. In advanced cancer, enteral and parenteral nutrition have not been shown to positively influence survival time (Foltz, 2000; Puccio & Nathanson, 1997).

Hospice

As DMPM progresses, the goal for care becomes supportive and a referral to hospice should be considered. The hospice staff is available to help patients, families, and caregivers address issues with symptom management and other psychological and spiritual issues. Nurses can help patients maintain their autonomy by encouraging them to participate in making end-of-life decisions through advanced care planning. Hospice staff also can assist patients and families in understanding what to expect as the disease progresses and prepare them for the process of dying. The support provided by hospice can aid not only in increasing the quality of patients’ lives but also the quality of their death.

Conclusion

To date, advances in the treatment of DMPM have been limited and no curative treatment exists. The symptoms of dyspnea—cough, pain, fatigue, depression, weight loss, anorexia, and cachexia—if left untreated, can result in poor quality of life for patients with DMPM and their caregivers. Thorough, ongoing assessment is required. Nurses are in an excellent position to collaboratively work with other members of the healthcare team to assist patients with DMPM in attaining the goal of increased quality of life.

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References


Rapid Recap

Diffuse Malignant Pleural Mesothelioma: Part II. Symptom Management

- Diffuse malignant pleural mesothelioma (DMPM) is an aggressive malignancy occurring in the lining of the lungs. Patients with DMPM have a very limited life expectancy.
- Dyspnea is common among patients with DMPM, and its subjective nature and multiple contributing factors make it a difficult symptom to assess. However, patients can use a visual analog scale to rate their dyspnea from 0 (no breathlessness) to 10 (worst possible breathlessness).
- Many patients with DMPM experience pain, which usually is caused by tumor invasion of the chest wall.
- Infiltration of the tumor into the pleura of the lung combined with hypersecretion of mucus contributes to the chronic cough experienced by patients with DMPM.
- As DMPM progresses, the goal of care becomes supportive and hospice care should be considered.


For more information on this topic, visit the following Web sites.

Mesothelioma Web www.mesotheliomaweb.org
The Asbestos Cancer Resource www.mesoinfo.com
Mesothelioma Information Resource Group www.mirg.org

Links can be found using ONS Online at www.ons.org.