Palliation of Dysphagia of Esophageal Cancer by Endoscopic Lumen Restoration Techniques

H. Worth Boyce, Jr, MD, FACP, MACG

Proper management of dysphagia due to esophageal carcinoma should include palliative methods.

**Background:** Care of patients with esophageal cancer has remained rare over the past four decades. The overall five-year survival rate for squamous cell and adenocarcinoma of the esophagus currently is reported as 12% in whites and 8% in blacks. The five-year survival rate for localized disease at initial staging is only 26% for whites and 13% for blacks. With regional involvement, these rates are 11% and 7%, respectively.

**Methods:** The author reviews the literature on optimal endoscopic lumen restoration techniques, including dilation, thermal laser and chemical ablation, photodynamic therapy, and stents. Procedures for pain relief and nutritional support are also presented.

**Results:** Lumen restoration to relieve dysphagia and provide the opportunity for sustaining reasonable ororal nutrition is an essential element in the overall management. Nonsurgical lumen restoration procedures have much to offer for dysphagia palliation and are briefly reviewed in this presentation. The major options include ablation of intraluminal tumor mass by thermal laser, photodynamic laser, chemical ablation, peroral dilation, and placement of esophageal stents. Most patients require more than one palliative method to sustain lumen patency during the course of their disease.

**Conclusions:** Most patients with esophageal cancer will require palliation for the multiple problems that develop during their limited life span. The responsibility of the palliation therapist is to provide the patient with safe and cost-effective treatments that provide the best possible dysphagia relief.

**Introduction**

At the present time, approximately 10% of patients with esophageal cancer survive five years. Thus, approximately 90% are incurable and will need some effort at palliation. Modern radiation and chemotherapy regimens offer some patients a reasonable chance for short-term palliation with tolerable morbidity and essentially no mortality. The morbidity of radiation and chemotherapy can be managed well by alterations of dosage and frequency. In selected patients with distal lesions, surgical therapy may offer good palliation of dysphagia at the price of operative risk and postresection sequelae.

The optimum palliative care for the majority of patients with esophageal cancer should include the safest, most effective, and least expensive therapies that can be performed promptly as the need arises. All too often, quality of life is neither protected nor supported adequately between the stage of recognized incurability and death. All-out 11th-hour, relatively heroic efforts should not occur or, at most, should be the exception. Proven palliative measures are safer, less expensive, and more cost effective when applied at the first indication of need. This is especially true for those techniques designed to relieve the dysphagia of malignant esophageal obstruction.

Physicians who assume responsibility for medical care of patients with esophageal cancer must accept the fact that, except in highly selected patients, the overall five-year "cure" rates for these neoplasms have not changed significantly during the past 40 years, despite the excellent progress made in supportive care, surgical technique, radiation, and chemotherapy. The reason for the persistently poor results is that esophageal cancer is rarely diagnosed early enough to permit surgery, radiation, or chemotherapy to be curative.

General supportive care, relief of pain, restoration of adequate nutritional status, and treatment of specific sequelae of the carcinoma are all essential to proper therapy. No single method is adequate for palliating esophageal carcinoma, especially dysphagia.

Dysphagia literally means difficulty with eating, but the term is used clinically to indicate difficulty in passage of solid and liquid boluses through the esophagus to the stomach. The presence of dysphagia as a presenting symptom of esophageal cancer usually is indicative of incurability. The average patient has had significant, easily recognizable dysphagia for at least three to six months before seeking medical care. Obstructive dysphagia correlates with more than 50% occlusion of the esophageal lumen and usually indicates extensive intramural spread of the cancer. Most patients also have 5 cm or more of longitudinal intramural esophageal involvement at diagnosis. Dialorrhea or excessive saliva production is regularly associated with esophageal obstruction. The rapid accumulation and regurgitation of this "foamy mucus" is a common complaint that contributes to daytime misery with frequent spitting, as well as insomnia and the increased risk of aspiration pneumonia. The presence of chest pain at initial presentation is also a poor prognostic sign.

Dysphagia in patients with residual esophageal cancer after therapy by either esophagectomy and/or radiation and chemotherapy will be the primary focus of this presentation. Neglected or delayed palliative care for patients with esophageal cancer and dysphagia needs emphasis and wider publicity. Lumen restoration techniques performed with the aid of endoscopy are reviewed in this article. The nonsurgical treatment methods discussed are applicable to those who have had prior attempts at curative and palliative therapy, as well as to those rare patients who elect to have no formal initial therapy for the obstructing lesion.

**Esophageal Dilation**

In many cases, patients present with obviously incurable and obstructing lesions but are not referred for early dilation either before chemotherapy and radiation therapy are begun or after those treatments have failed to provide dysphagia relief. This hesitation causes the patient needless suffering for many weeks. Although the improved lumen patency provided by timely dilation is limited, even temporary relief with improved swallowing is beneficial.
The first order of therapeutic business should be to care for the patient’s nutrition, pain, and psychological needs. Also, the stenotic esophageal lumen needs to be restored to a diameter sufficient to allow ingestion of liquids and some solid food as well to improve clearing the significant volume of saliva produced every day. Peroral dilation should begin as soon as possible in patients with dysphagia. When proper instruments and techniques are used, risk in dilating a malignant stricture either before, during or after radiation therapy is minimal.1-3

Within three to six weeks after palliative chemoradiation therapy, the optimum lumen restoring response can be expected. If lumen patency is improved and adequate, both by complete history and barium swallow, including a pill bolus challenge, the patient simply should be followed with periodic, thorough historical and physical evaluations to evaluate nutritional status and to detect recurrent lumen occlusion. Dysphagia may be due to recurrent tumor, radiation-induced stricture, or both. In any of these instances, additional dysphagia palliation should be promptly recommended.

The normal esophageal lumen measures approximately 25 mm in functional diameter. When the lumen diameter is decreased to 13 mm, everyone has solid food or regular diet dysphagia. When the lumen diameter is less than 18 mm, selective alteration of diet content and consistency is necessary, depending on the characteristics of the stricture. Milder degrees of stricture are easier and safer to dilate than severe strictures. It is illogical to delay therapy until the patient is able to swallow only liquids, even though adequate total caloric intake has been possible by using a full liquid diet plus dietary supplements.

Peroral dilation can restore esophageal lumen patency, albeit temporarily, to a diameter adequate to permit adequate swallowing in over 90% of patients.2 Either flexible, tapered dilators (Savary) passed over a guide wire or rubber dilators (Maloney) are used in progressive sizes under fluoroscopic control. Most malignant strictures can be safely dilated in several sessions to a size 48F to 51F (16 to 17 mm). Lumen diameter must be greater than 39F (13 mm) if solid-food dysphagia is to be at least partially relieved. A maintenance program for frequency of dilation is an individual matter based on each stricture’s response. Although adequate lumen diameter can be restored by dilation, recurrent lumen stenosis occurs within days to a few weeks so any relief obtained usually is of short duration. When a short-term response is observed, the therapist needs to start planning and educating the patient about the next options for more prolonged palliation.

There is no evidence that properly performed esophageal dilation of obstructing carcinoma carries an unacceptable risk. Failure to dilate a malignant esophageal stricture is more to a lack of proper training of the physician or surgeon in dilation therapy than to inherent dangers of the methods. Heit et al reported a 92% success rate for dilation and demonstrated the safety of peroral dilation for obstructing esophageal cancer in their report of 26 consecutive patients in whom 616 dilations were performed under fluoroscopic control before, during, and after radiation therapy with no major complications. Properly performed dilation is safe considering the type of severe strictures and the debilitated patients who require this therapy. In the largest series reported, Cassidy et al noted only three deaths in 154 patients in whom a total of 3,160 dilators were passed before, during, and after radiation therapy. Two perforations (1.3%) with death were due to perforations by the Eder-Puestow wire-guide spring tip (Eder Instrument Co, Chicago, Ill), which is no longer used. Peroral dilation was possible in 98% of their patients.

Thermal Laser Ablation

Transendoscopic ablation of obstructing intraluminal cancer by laser thermal coagulation offers another relatively safe but often temporary palliation for dysphagia. The value of this method relative to other palliative treatments has been extensively evaluated.4-10 Laser ablation is most helpful for treating lesions that are polyloid or that occlude by intraluminal growth. Laser therapy carries a higher risk and is less effective for cancer of the proximal esophagus or esophagogastric junction and for long lesions.

Transendoscopic laser ablation of obstructing esophageal cancers was first described in 1982 using high-power neodymium yttrium-aluminum-garnet (Nd:YAG) laser.4 The degree of dysphagia relief is less predictable after laser therapy than after stent placement. Successful ablation usually provides a wider lumen diameter than a stent and allows intake of a more solid consistency diet temporarily. Approximately one third of patients can take a modified regular diet initially, and another 50% are able to take some solids or semi-solids (Table 1).11 The maximum benefit is observed a few days after treatment, but dysphagia gradually recurs and requires repeat therapy sessions, usually every four to six weeks for life.

Table 1. — Change in Morphology of Thermal Laser and Stent Used in Tissue Treatment for Palliation of Malignant Dysphagia

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One helpful application of laser ablation is for pre-stent ablation of a polyloid, eccentric intraluminal mass that typically would either cause acute angulation and partial occlusion or prevent suitable anchoring of a stent (Figs 1A-B). Other special cases in which laser or other thermal ablation may help include hemostasis for necrotic chronic bleeding lesions and for ablation of tumors obstructing a stent by overgrowth at either end or by ingrowth through an uncoated metal expandable stent.
Contraindications for laser therapy include subepithelial metastasis in a diffuse pattern, excessively angulated lesions, and presence of an esophagopulmonary fistula. Also contraindicated are (1) lesions often associated with unsafe aiming conditions such as cancer in the cervical esophagus adjacent to the cricopharyngeus muscle and (2) long or angulated lesions at the esophagogastric junction. Ideally, the laser ablation should begin at the distal margin of a circumferential lesion after the lumen has been adequately dilated to allow safe aiming of the laser beam. The ablation is then continued as the endoscope is slowly retracted. The interval between ablation sessions usually is two to four weeks but can be shortened as indicated. Initial morbidity and mortality are low, but with repeated laser sessions (usually three to five) required in the presence of advancing disease, cachexia, and other organ malfunction, the risks steadily increase (Table 2).2

### Photodynamic Therapy

Photodynamic therapy (PDT) begins with administration of a chemical photosensitizer that accumulates in higher concentrations in neoplastic tissue than in normal tissue.13,16-19 This chemical, porfimer sodium (Photofrin II, Quadra Logic Technologies, Vancouver, British Columbia), is given intravenously in a dose of 2 mg/kg of body weight. After approximately 48 hours, the area of cancer is exposed to a red light with a wavelength of 630 nm provided by a continuous-wave argon-pumped dye laser via a quartz fiber passed through a standard videoendoscope. This light exposure initiates a chemical reaction of the porphyrin compound within the cells that has the potential to destroy the cells. PDT is considered to be technically easier, less operator dependent, and less painful than laser therapy in patients under conscious sedation. The time to palliation failure of one month was comparable for PDT and thermal laser therapy. The cost of PDT is high due to the cost of porfimer sodium (approximately $2,000 per treatment) plus two endoscopies and hospital observation to manage the possible short-term side effects. As with Nd:YAG laser therapy, repeat treatment is required approximately every month, a not-so-satisfactory frequency for an expensive palliative therapy in a patient with advanced carcinoma and short survival. PDT has also been used recently to treat tumor ingrowth in expandable esophageal stents, but this problem can be managed at less cost by thermal coagulation with a multipolar electrocoagulation probe or argon plasma coagulator.20

### Esophageal Stents

Palliation of dysphagia due to esophageal cancer by placement of peroral stents has been performed for over 100 years but was not safe and effective until the 1970s.21 Stents or prostheses have been made from animal tusks, coiled silver wire, raw gum latex, rubber, polyethylene, polyvinyl chloride, and silicone (Fig 2); more recently, either stainless steel wire and space age alloys or memory metals have been used to construct metal stents that are expandable.22-25 Four metal expandable stents are currently available. Three metal stents are shown in Figs 3A-3C. Suitable coatings have been developed for these three devices. Each manufacturer has several lengths of stents available. The models most often used will have a shaft length of between 7 and 12 cm. Although "piggy-backing" of shorter stents is possible, this practice will double the already considerable cost.25 Improvements in stent materials, design, and construction plus gradually improving physician education and training have initiated a trend toward earlier and more appropriate therapeutic application of these devices.27,28
There is a developing consensus that esophageal obstruction due to either fibrosis from radiation or residual recurrent neoplasm is best managed by dilation followed by peroral stent placement.\textsuperscript{2,3,29} Thermal ablation by Nd:YAG laser, multipolar electrocoagulation probe or heater probe, chemical ablation by injection of absolute alcohol or chemotherapeutic agents, and photochemical ablation by photodynamic laser therapy are effective transiently for lumen restoration; however, they are best used for pre-stent lumen preparation where there is a need to reduce the bulk of masses that protrude into the lumen. The use of the argon plasma coagulator for debulking intraluminal carcinoma is being evaluated, but information to date is insufficient to establish its efficacy. This technique is effective for ablating small lesions and ingrowth/overgrowth of tumor or granulation tissue associated with stents. These thermal ablative measures offer no real benefit for intramural infiltrating malignancy.

If dilation therapy has failed, a peroral stent may be inserted through the adequately dilated stricture using only mild sedative analgesic medication and an anesthetic gargle. When malignant strictures have been neglected and severe lumen stenosis has developed, it is necessary to plan adequate dilation over several sessions before stent placement. The literature has clearly demonstrated that those who dilate severe strictures and place stents in a single session have unacceptably high perforation rates.\textsuperscript{30} The technique for proper placement of any type of esophageal stent must include adequate pre-stent dilation.\textsuperscript{3,29} The larger the diameter of dilation, the easier and safer stent placement will be. This assumes, of course, that correct dilation procedure is used.

The diameter of stent-related lumen restoration varies between 9 and 18 mm. Plastic and silicone stents have lumen sizes of 9 to 12 mm. Metal expandable stents are advertised to have potential lumen diameters up to 25 mm; however, the maximum advertised diameter is not predictably achieved because stricture resistance often exceeds stent radial force.\textsuperscript{31} Metal stents with high radial expansile force can achieve larger diameters but at a higher risk of perforation and greater difficulty with rapid extraction when emergent removal is indicated.

The concept for proper stent location requires that the stent extend at least 2.5 cm above and below the obstructing lesion. For metal stents that are uncoated at each end, the 2.5-cm overlap measurement should be calculated to allow 2.5 cm of coated stent above and below the lesion if possible. Positioning the stent in this fashion helps to compensate for the possibility of the carcinoma to overgrow either end or to grow through the uncoated wire mesh on either end and obstruct the lumen (Figs 4A-B). This degree of extension beyond the lesion usually is adequate to prevent overgrowth of the cancer.
Placement requires between one and five minutes depending on the type of stent used. In 90% of patients, the stent remains in position for life and usually permits adequate swallowing of liquids and a modified soft diet (Figs 5A-C). This peroral method for stent placement under conscious sedation is recognized as having far less risk than peroral placement under general anesthesia as practiced by some.  

When proper technique is used, the perforation risk for peroral esophageal stents will be less than 5% and the mortality near zero. In our recent series of 212 plastic...
stents, the perforation rate was 2.8% and stent-related mortality was 1.8%. In 23 consecutive patients having metal expandable stents, there were no perforations but one death (4.7%) related to tracheal occlusion by a Wallstent (Microvasive, Boston Scientific, Boston, Mass) in a patient without bronchoscopic evidence of tracheal involvement. A recent literature review compared the risks of various types of stents (Table 3). The high mortality and perforation rates for plastic stents is believed to be due to the lack of programmed pre-stent dilation and to the type of stent and introduction apparatus used. Raji et al recently reported that chemotherapy does not increase the risk of complications with metal stents. Usually, only one or two days of hospital observation is necessary unless the patient is suffering from other problems associated with advanced disease. Some indicate stent placement can be done on an outpatient basis; however, at least one overnight period of observation is prudent, considering the physical status of these patients.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Cerebral Mass (n = 40)</th>
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<th>Plastic (n = 40)</th>
</tr>
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<tbody>
<tr>
<td>Radiography</td>
<td>1%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>10%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Thoracoangiography</td>
<td>2%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Thoracic surgery</td>
<td>10%</td>
<td>17%</td>
<td>5%</td>
</tr>
<tr>
<td>Ultrasound dilation</td>
<td>2%</td>
<td>3%</td>
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</tr>
<tr>
<td>Ventral (n = 30)</td>
<td>6%</td>
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Rarely, stent placement can precipitate airway obstruction. This will more likely occur if airway compromise by tumor involvement already exists. Because of this unlikely but real possibility, all patients having a stent placed for an esophageal cancer cephalad to the level of the left main bronchus should have pre-stent bronchoscopy to exclude existing airway compromise by the carcinoma.

As with other palliative therapies, increased risk and technical difficulty are concerns for lesions in the cervical esophagus and at the gastroesophageal junction. Cancer in the cervical esophagus also presents problems for stents and other therapies, but stents are safe and effective at this location in approximately two thirds of patients. Lesions of the lower esophageal and gastric cardia can be effectively stented but do present potential technical problems.

Another caveat is worthy of emphasis to all physicians who plan to offer dysphagia therapy by various endoscopic procedures: Never initiate therapy for dysphagia by any method in a patient with esophageal cancer without a current barium esophagram. Late-stage esophageal cancer has a tendency to necrose and produce intramural or extramural cavitation. If the unsuspecting therapist disregards this possibility and proceeds to perform invasive procedures without up-to-date radiography, a post-procedure barium esophagram may reveal extraluminal barium. In such an instance, no one knows whether the leak is due solely to tumor necrosis or is the result of the esophageal manipulation -- so who gets credit for this "complication"?

Major considerations in the United States are the cost of medical care and the efficacy and safety of the procedure. The cost of a metal stent is five to 10 times greater than a plastic stent. If the patient is properly prepared before stent placement and good technique is used, the cost of hospitalization for different stents should be similar.

Once some metal stents are placed, they cannot be easily repositioned and are either very difficult or impossible to remove. In some cases, malposition can be compensated for by placing a second stent overlapping (piggybacking) the first. Piggybacking metal stents can cost up to $3,000 for stents alone. Plastic and metal stents become dislocated in 5% to 10% of cases but usually can be properly repositioned.

Food impaction is not a complication of a plastic or fully deployed metallic stent per se. It is usually due to a lack of patient education or noncompliance with instructions for proper food selection, chewing, and swallowing. Stent diet instructions, verbal and written, should be given to patients and family members or caregivers prior to patients’ discharge from the hospital.

Current models of stents are safe. The major risks result from an untrained operator, the pre-stent dilation, the placement apparatus and technique used, the premedication or general anesthesia, and the post-placement dietary management. One danger of making devices easy to use is that those who are ill-prepared to use them will assume that simplicity of placement equates with safety. Anyone who assumes responsibility for application of a technique, regardless of its publicized simplicity and efficacy, is responsible for having a thorough understanding of the disorder being treated, its indications, its contraindications and the principles of long-term management before attempting use of the method.

The timing for placement of either plastic or metal expandable stents is important for procedure safety, quality of life, and duration of survival. This short survival is in some measure due to the habit of late referral. Unfortunately, physicians in past years have neglected to refer patients for stents until very late in their illness. Nearly all series report the average survival after stent placement to range between three and five months.

Overall survival has not improved by metal stents compared to plastic stents. Palliation of dysphagia is similar in both groups, and the quality of life after uncomplicated stent placement is similar as well. However, if metal stents were regularly able to expand to a lumen diameter of 18 mm or larger, which they are not, they would provide better dysphagia relief. Any potential reduction in morbidity and mortality related to metal stents may be offset by technical and judgment errors caused by any method in a patient with esophageal cancer without a current barium esophagram. Late-stage esophageal cancer has a tendency to necrose and produce intramural or extramural cavitation. If the unsuspecting therapist disregards this possibility and proceeds to perform invasive procedures without up-to-date radiography, a post-procedure barium esophagram may reveal extraluminal barium. In such an instance, no one knows whether the leak is due solely to tumor necrosis or is the result of the esophageal manipulation -- so who gets credit for this "complication"?

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Overall survival has not improved by metal stents compared to plastic stents. Palliation of dysphagia is similar in both groups, and the quality of life after uncomplicated stent placement is similar as well. However, if metal stents were regularly able to expand to a lumen diameter of 18 mm or larger, which they are not, they would provide better dysphagia relief. Any potential reduction in morbidity and mortality related to metal stents may be offset by technical and judgment errors made by the many physicians with no prior stent experience who will be inserting them because placement is technically easier.

Esophageal stents provide palliation and survival time similar to laser and other techniques designed to reduce dysphagia. In a prospective, nonrandomized, multicenter trial, Loizzo et al reported that long-term improvement (until death) in swallowing was noted in only 50% of 34 adenocarcinomas treated by laser but occurred in 92% of 20 patients treated with a stent. Those who treat malignant esophageal obstruction are well aware that improvement of dysphagia does not equate with relief of anorexia, nutritional restoration, or prolonged survival. However, stents do allow the patient to enjoy the pleasures of oral alimentation and less time in the physician’s office or hospital during the relatively short interval before death. At present, too few patients are informed of a peroral esophageal stent or given the option to have one placed early enough to provide optimum benefit.

The increase in enthusiasm for esophageal stents is impressive and long overdue. Needless to say, the development of metal expandable stents and insertion devices of small diameter have much to do with this trend. The unacceptable complication and mortality rates associated with plastic and silicone esophageal stents occurred after development of commercial insertion devices that were larger and more rigid than necessary. The other major negative factor in plastic stent safety was the practice by some of rapid dilation of a malignant stricture at the same sitting the stent was placed. An apparatus that was too large and rigid, combined with overly vigorous dilation of malignant strictures, proved to be a dynamic duo with unfair mechanical advantage over a very diseased and weakened esophagus and patient.
The wider use of metal stents for palliation of malignant esophageal obstruction by operators with little or no stent placement training carries with it an expanding role of responsibility that applies to physician and manufacturer alike. Since these devices will be used by many physicians who are not adequately trained in the techniques of esophageal stenting, manufacturers must perfect their stent products by thorough testing in large numbers of patients before marketing. On the other hand, these devices should be used only by physicians with a solid background of training in esophageal dilation and supervised training with some type of esophageal stent placement. The potential benefits of the ideal esophageal stent will be easy, rapid, and safe placement, restoration of a predictable and adequate lumen size, optimal palliation of dysphagia and sialorrhea, and provision of the best possible quality of life for the known small quantity of life remaining for the patient with esophageal cancer.

Esophagopulmonary Fistulas

A major complication of esophageal carcinoma is the development of an esophagopulmonary fistula that, if untreated, typically leads to pulmonary infection and earlier death (Fig 6A). A fistula develops in approximately 15% of cases and usually should be attributed to the natural history of this disease. Fistulas are the consequence of tissue destruction by carcinoma invading normal tissue (Fig 6B). They may first become manifest before any therapy or after irradiation or chemotherapy has produced the desired destruction of the invading cancer. The fistula, however, should not be considered a complication of irradiation, dilation, or other therapy for this malignancy; it is simply a natural event to be expected when necrotic, neoplastic tissue necroses or is removed or displaced. When the necrotic tissue between esophagus and major airway is displaced, an esophageal-pulmonary fistula then becomes clinically obvious.

The most reasonable palliation of the problems of malignant esophagopulmonary fistulas is an esophageal stent -- plastic, silicone, or coated metal expandable. Effective occlusion of a fistula within minutes by proper stent placement is one of the most dramatic and satisfying therapeutic ventures in medicine (Fig 6C). The elimination of cough, the reduction of sialorrhea and tracheobronchial leakage, the restoration of ability to rest and sleep without the constant cough, and the improvement in quality of life and psychological status of the patient and family provide a positive experience for all concerned.
Concomitant Palliation

This review of lumen restoration procedures for malignant esophageal obstruction would be incomplete without emphasizing concomitant measures so essential to care of the "whole patient." Pain relief and nutrition support must be continued throughout the palliative treatment program.

Pain Therapy

Pain due to the primary carcinoma and/or regional metastases is a major problem in these diseases. Pain typically becomes serious enough to require regular drug therapy relatively late in the course but may occur in 10% as the first symptom preceding dysphagia. It is ordinarily a constant, deep, aching, or boring pain noted in the retrosternal area, back, or epigastrium and may be referred to neck, jaws, or shoulders. This pain responds incompletely to medications containing combinations of aspirin or acetaminophen plus codeine analogues. In the later stages, Dilaudid (Knoll Pharmaceuticals, Whippany, NJ), morphine sulfate, methadone, or other potent narcotics usually are required and should be prescribed at a dose and frequency adequate to provide relief. Liquid morphine or other liquid analgesic preparations are most useful in patients with dysphagia. A sedative at bedtime may help by enhancing the analgesic effect of a narcotic drug. These debilitated patients should be encouraged to use analgesics as needed to be kept comfortable, but they should be observed closely for narcotic side effects manifested primarily by pulmonary and gastrointestinal sequelae. The risk of addiction is low and should not influence the need for adequate pain relief. The extreme fatigue suffered by these patients due to pain and insomnia can be relieved only by an effective pain management regimen.

Nutritional Support

The patient’s nutritional status should be assessed periodically. Treatment of the protein and calorie malnutrition so common in these patients should be initiated early. Depending on overall status and prognosis, it may be appropriate to begin this restoration by a percutaneous endoscopic gastrostomy/jejunostomy, by a nasoenteric feeding tube or, rarely, by central venous alimentation. Oral feeding is encouraged as tolerated at the same time, although the tumor-related anorexia and pain often create major obstacles to achieving adequate nutrition. Early deaths may result as much from the consequences of malnutrition and infection, especially pneumonia, as from spread of the carcinoma.

Other important aspects of supportive care include maintenance of good oral hygiene, adequate dentition, and pulmonary toilet. The care, compassion, and ready availability of a knowledgeable physician who can provide psychological support for the patient and concerned family members are important to the quality of the patient’s remaining life.

Conclusions

It is clear from reports over the past two decades that proper management of dysphagia due to incurable esophageal carcinoma should include the option for several palliative methods in case the initial efforts fail. A determination of a single best dysphagia palliation is not possible in the absence of properly conducted prospective therapeutic trials. These trials must include a careful objective assessment of the stage of disease and the patient’s physical status, precise documentation of the consistency of the diet and total caloric intake, the frequency and indications for all invasive procedures, a recording of all procedure-related complications, a standardized quality-of-life assessment and length of survival. At present, there is no proof that any one of the available palliative therapies is superior for dysphagia relief in patients with advanced cancer who have failed the usual surgical, radiation, and chemotherapy regimens. However, the pendulum is rapidly swinging in favor of stents.

In the absence of a clearly superior method, the determinants for palliative efforts will continue to be local expertise and procedural bias. However, it is imperative that the palliation therapist consider the individual patient and the clinical situation. It is especially important to be willing to make a decision that a patient’s status may be too far advanced to justify any invasive procedures. A proper decision not to “invade” is usually more difficult -- but often more compassionate -- than proceeding with palliative attempts when survival prognosis is likely only a few days to several weeks.

A peroral stent to restore and maintain lumen patency usually is well tolerated, can significantly improve quality of life, has a low procedure-related morbidity and mortality, requires a minimal hospital stay, and does not require regular repeat treatment sessions. A stent is the least expensive, fastest, and most desirable method to maintain lumen patency sufficient for adequate caloric intake and the related pleasures of drinking and eating.

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References


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