The nutrition of head and neck cancer patients represents a fundamental aspect of their treatment. Typically, these patients have chronically abused

Percutaneous endoscopic gastrostomy as a multidisciplinary treatment in head and neck cancer

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The objective of this study was to evaluate the results of using the percutaneous endoscopic gastrostomy (PEG) in patients with head and neck cancer. Forty-six patients with head or neck cancer who required a PEG were evaluated over a 3-year period. The main indications were dysphagia and as a palliative treatment. The early perioperative and short and long term complications were assessed as well as the morbidity and mortality rate related to the procedure.

In all cases, the PEG was successfully placed. Perioperative complications were observed in 6 (13%) cases, and the short and long term morbidity were seen in 4 (9%) cases. The side effects were considered as minor in all but 1 case, which required open surgery to remove the gastric tube because its bumper had become fully imbedded in the gastric wall after a 1-year period. No patient died from the procedure.

PEG is an easy, quick and safe technique for the short and long term nutrition in head and neck cancer patients, who need a combined treatment of chemotherapy, surgery and/or radiotherapy and in which complications related to any of these treatments were expected. PEG should be placed routinely if enteral feeding with a gastric tube is expected to be longer than 3 weeks.

Key words: Percutaneous endoscopic gastrostomy (PEG), head and neck cancer, nutrition, complications.
of tobacco and alcohol, and they suffer from dysphagia either secondary to the bulk of the tumor or due to a neurogenic paralysis of the pharyngolaryngeal region. These symptoms are often aggravated during the course of chemo or radiotherapy following surgery. Furthermore, fibrosis, stenosis or anatomic changes resulting from surgery may hamper the swallowing process. All of these factors alter the swallowing mechanism drastically and are responsible for the important weight loss encountered in these debilitated patients.

In order to avoid severe complications from long and aggressive oncologic treatment, it is of the utmost importance to begin a renutrition program as early as possible and to continue it throughout the period of treatment. As these oncologic treatments are partially conducted on an outpatient basis, the advantages of a percutaneous endoscopic gastrostomy (PEG) becomes easily evident for patients and their relatives.

There are several methods of renutrition for head and neck cancer patients. Among these, the nasogastric tube is considered as the traditional and less invasive technique; however, sinusitis, aspiration, patient discomfort, clogging, accidental removal and irritation of the pharynx and larynx have all been reported complications of this method. This procedure is particularly indicated for patients in whom the need for a gastric tube is less than 2 to 3 weeks. The total parenteral nutrition, commonly used in abdominal and thoracic surgery is seldom used in head and neck oncology. Its disadvantages are related to a higher morbidity, more difficult management and higher costs.

Among the surgical treatments, the classical surgical gastrostomy was first reported in 1837 by a Norwegian surgeon, Egeberg, and was later popularized by Sedillot in 1839. This procedure has been modified over the years and is used nowadays as a transient feeding method (Stam or Witzel) or as a permanent feeding supply (Jeneway and Spivack)⁷. In 1980, Gauderer and Ponsky⁸-⁹ introduced the method of PEG and Russel¹⁰, in 1984 modified the technique by performing a single gastroscopy to control the transabdominal puncture and dilatation for the introduction of a Foley catheter. In 1983, another group of radiologists⁷-⁹ described a non-surgical method that could be performed without the need for endoscopy or general anesthesia. This radiological method is based on a Seldinger’s technique under fluoroscopy. Despite its advantages, this blind procedure has not been very popular.

During the last decade, reports on laparoscopic gastrostomies (an intermediate method between the PEG and the classical surgical gastrostomy) have been described in the literature¹⁰-¹¹. The aim of this study was to evaluate the results of using the PEG in head and neck cancer patients seen at the Otolaryngology, Head and Neck Surgery Department of Lausanne, Switzerland.

MATERIAL AND METHODS

From July 1993 to July 1996, 46 PEGs were placed in 46 head and neck cancer patients whose treatment plan included chemotherapy, surgery and radiotherapy. In most cases, the PEG was placed during the pre-operative endoscopic work-up, which included a systematic broncho-esophagoscopy and a direct pharyngolaryngoscopy when necessary.

Technique

Placement of the PEG was performed under general anesthesia, as described by Gauderer and Ponsky⁷. In all patients, we used a kit of Freka-PEG Universal-Gastric Set, Fresenius AG, Bad Homburg. A flexible gastroduodenoscope was introduced into the esophagus and then into the stomach, which was maximally inflated with air. A second surgeon chose the puncture site by trans-illumination of the abdominal wall through the distented gastric pouch. This trans-illumination technique allows both the endoscopist and the surgeon to choose the best anatomical site for the puncture and prevents the interposition of the colon between the gastric and abdominal walls. A 16-gauge angio-catheter was used to puncture the abdominal and gastric walls under endoscopic visualization. Usually, the site of placement of the angio-catheter is situated several centimeters under the left costal margin. A wire loop is introduced through the catheter and grasped with a biopsy forceps passed through the gastroduodenoscope. The wire and the scope are retrieved together through the mouth. The gastroscope is then attached to the pilot thread and the entire set is pulled back into the stomach. The gastroduodenoscope is reinserted to verify the correct position of the bumper of the gastric tube against the wall of the stomach. The gastrostomy tube is pulled out through the abdominal wall and the inner bumper is made snug against the gastric mucosa. A final check with the endoscope placed into the stomach confirms the adequate placement of the inner bumper and rules out any mucosal tear of the esophagus from the passage of the gastrostomy tube. The stomach is then decompressed and the tube is secured with an external bumper.

In order to facilitate the work of the surgeon, a video monitor is routinely used. Both operators can thus visualize the procedure, which allows a better coordination between the endoscopist and the surgeon. Furthermore, the educational value of the procedure is enhanced.