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# Isolated Percutaneous Endoscopic Gastrostomy Site Malignancy Due to Nasopharynx Cancer: A Case Report

Nazofarenks Kanserine Bağlı İzole Perkütan Endoskopik Gastrostomi Bölgesi Malignitesi: Olgu Sunumu

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# Isolated Percutaneous Endoscopic Gastrostomy Site Malignancy Due to Nasopharynx Cancer: A Case Report


## ABSTRACT

PEG (Percutaneous Endoscopic Gastrostomy) procedure is a method used in patients with head and neck cancers whose oral intake is impaired. Although very rare, metastasis may occur due to the possible implantation of tumor cells compatible with primary malignancy at the PEG site. In our case report, we aimed to present a patient who was treated for nasopharyngeal cancer and was found to have a lesion compatible with metastasis at the old PEG site 7 years later.

**Keywords:** Metastasis, nasopharyngeal cancer, percutaneous endoscopic gastrostomy.

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## ÖZET

PEG (Perkütan Endoskopik Gastrostomi) işlemi, ağız yoluyla beslenme yeteneği bozulan baş ve boyun kanseri hastalarında kullanılan bir yöntemdir. Çok nadir olmakla birlikte, PEG bölgesindeki primer malign tümörle uyumlu hücrelerin implantasyonu nedeniyle metastaz meydana gelebilir. Vaka sunumumuzda, nazofarenks kanseri tedavisi gören ve eski PEG bölgesinde metastazla uyumlu bir lezyonun 7 yıl sonra görüldüğü bir hastayı sunmayı amaçladık.

**Anahtar Sözcükler:** Metastas, nazofarinks kanseri, perkütan endoskopik gastrostomi.

## Introduction

Percutaneous endoscopic gastrostomy (PEG) is the process of endoscopically placing a feeding tube into the stomach to provide enteral nutrition to the patient in cases of impaired oral intake. The cause of oral intake disorder may be neurological diseases and masses that obstruct or narrow the passage in the nasopharyngeal region (1). It is a good alternative to surgical gastrostomy and long-term nasogastric feeding tube. It is also preferred in suitable cases because it does not generally require hospitalization after the procedure.

Nasopharyngeal cancers; It is an epithelial carcinoma arising from nasopharyngeal mucosal lining. In the nasopharynx, the tumor is often seen in the pharyngeal recess (Rosenmüller's fossa). Nasopharyngeal carcinoma and other epithelial head and neck tumors are distinctly different despite originating from similar cell or tissue lineages (2). In nasopharyngeal cancers, PEG placement is an option as the patient's oral intake may be impaired due to partial or complete obstruction. At the end of the treatment, the PEG is removed when it is no longer needed. Very rarely, in head and neck cancers, malignancy development may be observed due to tumor transplantation from the PEG site after its removal. In our case report, we aim to planned to present a patient diagnosed with nasopharynx cancer who developed malignancy at the PEG site, after its removal.

## Case Report

A 71-year-old male patient was admitted to our hospital with a palpable mass and pain in the old PEG site. The patient was first diagnosed with nasopharyngeal cancer in 2015. The patient's histopathological diagnosis is squamous cell carcinoma. The percutaneous endoscopic gastrostomy (PEG), which was placed on the patient in 2016 due to malnutrition by 'pull' method, was removed in 2017 after remaining in place for 1 year. The primary treatment given to the patient for nasopharyngeal cancer is radiotherapy. No recurrence of the primary nasopharynx tumor was observed during the gastroscopy performed by us. The patient's current complaint has been present for 1 year. Granulation tissue was considered as the preliminary diagnosis in the patient and excision was performed (Figure I). The patient's pathology resulted in lymphoepithelial malignancy. In the pathologist's interpretation, it was stated that this type of malignancy was compatible with squamous cell nasopharynx cancer. Thoracoabdominal CT and PET CT were planned for the patient (Figure II). As a result of the examinations, it was observed that the lesion was compatible with a malignancy that also invaded the stomach (Figure I). No other pathology was detected.

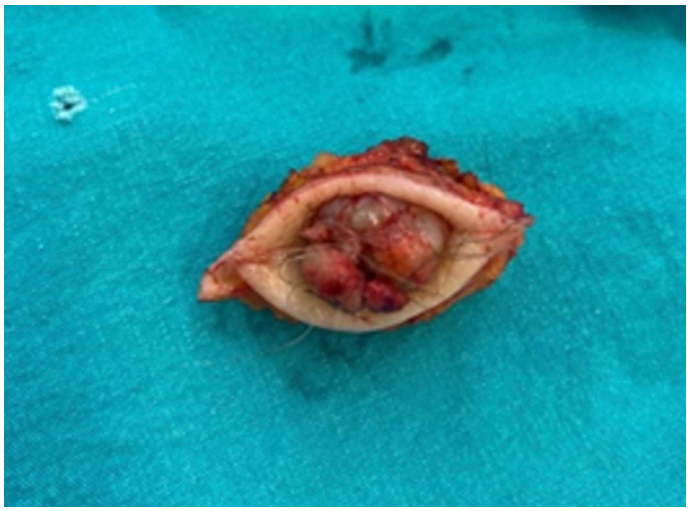

**Figure I:** Excision specimen of granulation tissue

Then, the patient underwent gastroscopy to determine the relationship between the mass with the stomach lumen. A 5 cm diameter mid-vegetative fragile mass lesion was seen in the same location in the distal part of the corpus (Figure III). The biopsy taken also confirmed malignant. The patient was evaluated multidisciplinary. A surgery decision was made.

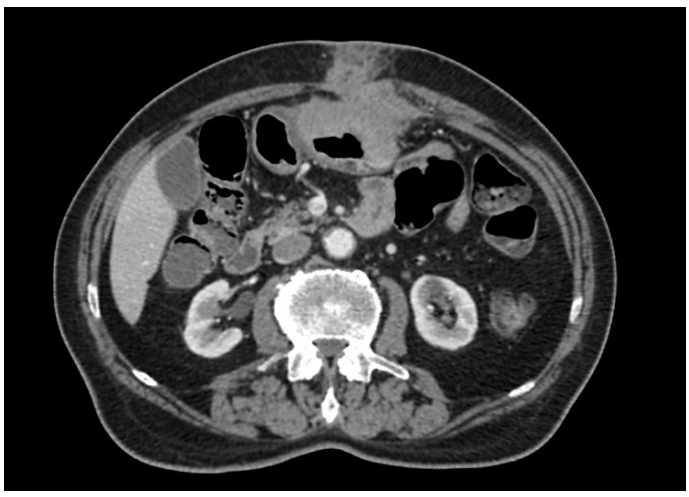

**Figure II:** Computed tomography image of the mass that extends into the corpus of the stomach

The patient underwent en bloc resection under general anesthesia (UGA), including the existing lesion and the relevant parts of the stomach. After the anterior wall of the stomach corpus was resected with a wedge resection, an additional resection was decided because the frozen pathology result showed microscopic continuity of the mass in the area close to the lesser curvature.

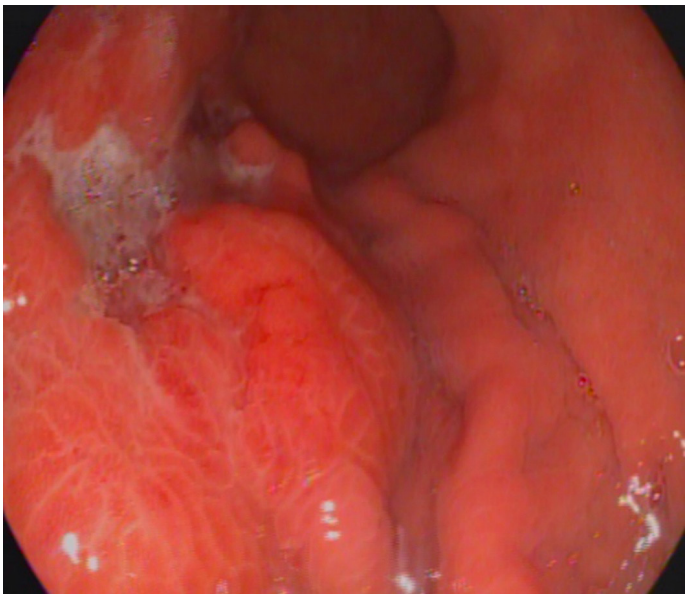

**Figure III:** View of malign lesion in retroflexion with the gastroscope

Considering that additional resection in the lesser curvature region could cause nutritional problems in the stomach, a partial gastrectomy operation was performed to include the stomach corpus. Then, the proximal and distal stomach segments were anastomosed to each other. Additionally, since there was a large fascia defect, the anterior abdominal wall was repaired by placing dual mesh on the fascia. The patient was discharged from hospital on the 6th day after surgery. No complications were observed during follow-up, except for slight fat necrosis in the incision line.

## Discussion

Percutaneous endoscopic gastrostomy (PEG) is a procedure used when enteral nutrition cannot be provided by oral intake. PEG is indicated in patients who need long-term nutritional support, especially for more than 2 months, in obstructive neoplasms of the larynx, pharynx, or esophagus, in swallowing difficulties due to neurological disease or radiation therapy, and in facial trauma (3). Nasopharyngeal cancer is also a rare subtype among rare head and neck cancers. The female/male frequency is between 1/2 and 1/3. EBV can often play a role in the etiology (4). The patient we presented was a 70-year-old male patient. The patient's age at diagnosis and treatment of nasopharyngeal cancer was 62 years old. Nasopharyngeal cancer patients are often present in the hospital with symptoms such as lymph nodes in the neck, blood in saliva, bloody nasal discharge, and runny nose. After diagnosis, treatment methods include radiotherapy, chemotherapy, and surgery (5). During treatment, the patient may develop oral intake disorders. Even if there is no complete obstruction, tolerance to only liquid foods will cause the patient to develop malnutrition over time. For this reason, PEG insertion is a practice that can be used in head and neck cancers to prevent enteral nutrition from being interrupted during treatment. The endoscopy probe used in the endoscopic gastrostomy procedure is passed through the nasopharynx region where the neoplastic lesion is present and comes into contact with the malignant neoplastic area during its manipulation. During PEG insertion, the accessories of the set will also come into contact with the malignant area. This condition can cause metastases through direct implantation of neoplastic cells (6). With this theory of tumor transplantation in head and neck cancers, malignancy may develop at the old PEG site. It was observed that malignancy developed at the old PEG site in the patient presented in the article, who had a history of nasopharynx cancer.

The possibility of direct tumor implantation in patients to distant organs of the body is one of the controversial issues. There are examples in the literature of head and neck carcinoma metastasizing to the PEG region. However, the exact mechanism of this type of tumor spread remains unclear (7). Three possible mechanisms for metastasis at the PEG site are mentioned: 1) tumor cells are disrupted when the PEG tube is inserted from the upper digestive tract into a stoma in the abdominal wall and implant directly into the PEG site or into the esophagus 2) hematogenous dissemination of ruptured tumor cells and implant at the PEG site; 3) PEG site metastases may be random events

resulting from the hematogenous distribution of tumor cells (8,9).

The technique of inserting the gastrostomy tube may also play a role in implantation rate. Basically, a tube can be placed in the stomach using two types of methods under the guidance of endoscopy. These are the pull technique, in which the tube is inserted orally with the help of a guide wire, and the push technique, in which the tube is inserted percutaneously into the stomach directly. In the pull technique, the stomach is entered twice with an endoscope. In the push technique, it is sufficient to view the stomach with the endoscope once. Studies have shown that the implantation rate in the push technique is predictably lower (10). Since the PEG procedure report could not be obtained in the presented patient, it is not clear by which method it was inserted, but we believe that the pull technique was used, since there was a tumor implantation situation, and the pull technique has been used more frequently in recent years. It should also be noted that open surgical gastrostomy without using endoscopy is an alternative method to insert the feeding tube. However, it should not be forgotten that in this method, gastroscopy must be performed before the procedure to exclude a possible pathology in the stomach.

In conclusion; patients with head and neck tumors who have impaired oral intake, PEG insertion is a practice performed in selected patients. During PEG insertion, the endoscope is passed through the area where the tumor is present. This poses an implantation risk. Since it is a rare condition, it is not correct to conclude that open gastrostomy should be performed in all patients, but it should be kept in mind that if patients with a previous history of malignancy in the head and neck region also have a history of PEG, malignancy may develop at the old gastrostomy site.

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