ESOPHAGEAL CANCER

Esophageal cancer affects 17,000 Americans each year, and high mortality often accompanies its diagnosis, with 15,000 people dying of the disease each year. Esophageal cancer consists of two subtypes: squamous cell carcinoma and adenocarcinoma. Worldwide, squamous cell carcinoma is far more common, particularly in pockets of high incidence in areas such as China and Southern Africa.

In the United States, squamous cell carcinoma has high incidence in African-Americans and adenocarcinoma has high incidence in whites. Both forms of esophageal cancer are more common in men by a factor of four.

The past 30 years has seen a change in the face of esophageal cancer in the United States. The overall incidence has decreased threefold since 1980, with an even sharper decline in the incidence of squamous cell carcinoma. Adenocarcinoma, on the other hand, has increased sixfold since 1980 and is thought to be the fastest-increasing cancer among white men in the United States.

SINCE 1980

- Increase in adenocarcinoma
- Decrease in overall incidence of esophageal cancer
Adenocarcinoma is thought to arise primarily from Barrett’s esophagus, which is a pre-malignant change of the mucosa, or inner lining of the esophagus, in response to chronic inflammation caused by gastro-esophageal reflux. The rise in adenocarcinoma in the United States is paralleled by an increase in the rate of Barrett’s esophagus. Among patients with existing Barrett’s esophagus, adenocarcinoma develops in approximately 0.5 percent per year.

Obesity also appears to play a role in the development of adenocarcinoma of the esophagus, with the incidence of adenocarcinoma being 16-fold greater in those with reflux and obesity, compared to those without risk factors.

Over time, patients with Barrett’s esophagus can develop first low-grade then high-grade dysplasia, which can lead to adenocarcinoma. Fortunately, for patients with high-grade dysplasia, the technology now exists for treatment with radio-frequency ablation of the inner lining of the esophagus, which has been shown to effectively eradicate the Barrett’s changes and dramatically reduce the rate of development of adenocarcinoma.

Data from the Tumor Registry at Carolinas Healthcare System’s Carolinas Medical Center was compared with data from 1,400 other institutions participating in the National Cancer Database, a joint program of the Commission on Cancer and the American Cancer Society. Figure 1 shows the age at presentation of patients with esophageal cancer. This shows a higher incidence among men at a rate approximately four times that of women.

**FIGURE 1: CASE DISTRIBUTION BY AGE AND GENDER**
Figure 2 shows the stage on presentation of esophageal cancers at Carolinas Medical Center. Unfortunately, the majority of cases are diagnosed at an advanced stage, with their nodal metastasis or systemic metastasis.

**FIGURE 2: STAGE AT PRESENTATION**

![Stage at Presentation Bar Graph](image)

The survival of patients with esophageal cancer varies dramatically with the stage, as shown in Figure 3, with early cancers (stage I) having a particularly favorable prognosis. These figures are comparable with survival data from the National Cancer Database. These data suggest that esophageal cancer, when detected early, has a much more favorable prognosis than cancers diagnosed at a later stage.

**FIGURE 3: SURVIVAL**

![Survival Graph](image)
For patients with early stage disease, the majority are treated by surgery alone, as shown in Figure 4. For patients with intermediate-stage disease, the majority are treated with a combination of chemotherapy, radiation therapy and surgery. Patients with advanced disease are primarily treated with chemotherapy. These figures are comparable to nationwide practices.

**FIGURE 4: TREATMENT**
In summary, esophageal cancer remains a major threat to the health of Americans, with 15,000 deaths expected this year. The increasing incidence of adenocarcinoma parallels the increases in the rates of obesity, which does not appear to have peaked.

While it appears that progress is being made in early detection through cancer screenings, a great deal of work remains to be done. Carolinas HealthCare System remains committed to lessening the impact of this disease on our community, from interventions to reduce obesity to developing minimally-invasive surgical techniques and improved regimens for chemotherapy for its treatment.