Adenocarcinoma of the Esophagus and GE Junction

## 1 Anatomy

Food moves from the throat

esophagus

stomach

small bowel (jejunum)

We’ll start with reviewing some anatomy about how the body digests food.

Food moves from the throat to the esophagus, and from there to the stomach.

From the stomach, food moved through a valve called the pylorus into the small intestines

## 2 Cancer Staging

Staging refers to the tests to determine

* How large is the tumor?
* Has there been spread to lymph nodes?
* Has it spread to other parts of the body?

**Treatment options depend upon the cancer stage**

## 3 Cancer Staging

* **T** = Tumor - Depth of growth into the wall
* **N** = Nodes - Spread to the lymph nodes
* **M** = Metastasis - Spread to liver, lungs, or bone

## 4 Layers of the Wall

If we look at the walls of digestive tract, we see several layers:

* Mucosa - Inner layer
* Muscle wall (muscularis)
* Lymph nodes located in fat outside the muscle

## 5 Early Stage Cancers

Early-stage cancers are those that are small and have not grown very far into the wall

Cancers start on the very inside layer called the mucosa

## 6 Locally-advanced Cancers

Over time, cancers can grow into the muscular wall

Locally-advanced cancers are those that have grown through the wall

## 7 Lymph Nodes

In some cases, cancer cells can break off from the main tumor and spread to lymph nodes

If the lymph nodes contain enough cancer cells, they can be seen on CT scans or PET scans

## 8 T Stage

Cancers are categorized based upon the thickness of the tumor, known as the T stage

T1 tumors are early stage, and T4 tumors more advanced

## 9 N Stage

Cancers are categorized by whether there is spread to the lymph nodes.

* **N0** cancers have not spread to the lymph nodes
* **N1** cancers have spread to the lymph nodes.

## 10 M Stage

Some cancers spread to other parts of the body

* **M0** cancers have not spread to other parts of the body
* **M1** cancers have spread lungs, liver, or bone

## 11 PET scan

A PET scan is similar to a CT scan, and uses a small amount of tracer to light up areas of cancer.

In some cases, the PET scan is not performed until a CT scans bas been done.

## 12 Endoscopic Ultrasound

* Similar to upper endoscopy (EGD)
* Ultrasound probe in scope
* Evaluates T stage of cancer

Endoscopic ultrasound is most helpful in early stage cancers.

## 13 Laparoscopy

* Some stomach cancers can spread inside the abdomen
* Areas of spread can be very small (grain of rice)
* Laparoscopy can detect spread inside the abdomen

Not all patients with gastric cancer need a laparoscopy.

## 14 Laparoscopy

* General anesthetic
* Several incisions 1/4” long
* A telescope is used to examine the abdomen
* Biopsies can be performed.

## 15 Treatment Plan

- Superficial (T1) Endoscopic Therapy  
  
- Localized (T1b/T2) Surgery  
  
- Locally-advanced (T3/N1) ChemoRadiation Surgery  
  
- Metastatic (M1) Chemotherapy

This table summarizes four different treatment categories:

* Superficial cancers are T1 and can be treated by endoscopic therapy without the need for surgery
* Localized cancers are T1b or T2 and are frequently treated by surgery alone without the need for chemotherapy or radiation
* Locally-advanced cancers are T3 or N1 and are usually treated with some combination of chemotherapy and radiation prior to surgery
* Metastatic cancers are M1 and are treated primary by chemotherapy.

## 16 Locally-advanced cancers

Patients with locally-advanced esophageal cancer often have localized spread of cancer cells in the surrounding area

## 17 Locally-advanced cancers

If locally-advanced cancers are treated with surgery alone…

## 18 Locally-advanced cancers

If locally-advanced cancers are treated with surgery alone…

There is a risk that cancer cells can be left behind

## 19 Preoperative Therapy

It is helpful to start with therapy *before* surgery that will shrink the cancer.

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## 22 Surgery after Preoperative Therapy

When surgery is then performed…

## 23 Preoperative Therapy

When surgery is then performed…

The risk of cancer recurrence is minimized

## 24 Chemotherapy + Radiation CROSS Trial

363 patients with esophageal cancer studied

Patients were treated in two groups:

**Surgery Alone**

vs

**Chemotherapy + Radiation** Surgery

## 25 Chemotherapy + Radiation CROSS Trial

363 patients with esophageal cancer studied

Chemotherapy + radiation given together over 6 weeks

**Surgery Alone**

vs

**Chemotherapy + RadiationSurgery** Longer Survival

The results were quite dramatic: The group that was treated with all three therapies, chemotherapy and radiation and surgery, lived on average twice a long as patients who had surgery alone.

## 26 Chemotherapy + Radiation CROSS Trial

Typical schedule for chemotherapy + radiation:

* Chemotherapy once per week for six weeks
* Radiation five days per week for six weeks (28)
* PET scan (or CT) 4 weeks after the end of radiation
* Surgery 8 weeks after the end of radiation

## 27 Chemotherapy + Radiation - Side Effects

Kills cancer cells in the esophagus and lymph nodes

Can also cause irritation of the lining of the esophagus.

Swallowing can be difficult the last 2 weeks.

Feeding tube may be needed for hydration/nutrition.

## 28 Locally-advanced Adenocarcinoma

“Sandwich” chemotherapy before + after surgery:

Chemo (8 wks) Surgery Chemo (8 wks)

Two different drug combinations:

* FLOT (more effective)
* FOLFOX (better tolerated)

## 29 “Sandwich” Chemotherapy Drugs

**FLOT**

* 5-FU
* Leucovorion
* Oxaliplatin
* Taxotere

**FOLFOX**

* 5-FU
* Leucovorin
* Oxaliplatin

## 30 Adenocarcinoma Treatment Options

**Chemo + Radiation**

* Chemo + Radiation (6 weeks)
* Surgery

**Chemotherapy**

* Chemotherapy (8 weeks)
* Surgery
* Chemotherapy (8 weeks)

## 31 Adenocarcinoma Treatment Options

**CROSS Chemo + Radiation**

* Longer track record (2010)
* Better tolerated
* Port usually placed
* Eating gets worse better
* May need feeding tube

**FLOT Chemotherapy**

* More effective than CROSS
* More side effects
* Port always required
* Eating gets slowly better
* Less likely to need feeding tube

## 32 Chemotherapy Administration

Most chemotherapy is administered by vein.

Several options exist to administer chemotherapy:

* Intravenous catheter in peripheral veins
* Peripheral Intravenous Central Catheter (PICC)
* Central Venous port

## 33 Intravenous Catheter in Peripheral Vein (“IV”)

* IV catheter placed into a vein in the hand or arm
* Allows administration of chemotherapy and fluids
* Placed for each dose
* Removed that day
* Not suitable for FLOT chemotherapy

A peripheral IV catheter involves placing a small tube into the veins, which is then used to give fluids or chemotherapy

A new catheter is placed for each dose of chemotherapy

FLOT chemotherapy requires a home infusion pump, got which a peripheral IV won’t work

## 34 PICC Lines

* Placed in Radiology
* Stay in place during all of treatment
* Needs to be kept clean and dry
* Suitable for FLOT chemotherapy

A PICC line is placed in Radiology and stays in place during the treatment course Special care is needed at home to keep the catheter and it’s dressing clean and dry

## 35 Central Venous Port

* Implantable device that makes the administration of chemotherapy easier
* May shower in 24 hrs
* No special care at home
* Suitable for FLOT chemo
* Allows for blood draws

A central venous port is an implantable device that makes the administration of chemotherapy easier.

Once it is in place, it requires no special care at home

With a port, you can shower, bathe, and swim without restriction

A central venous port is suitable for FLOT chemotherapy

A port can be used for blood draws for blood tests as well.

## 36 Central Venous Port

* Implanted under the skin
* Neck incision (1/4”)
* Incision below the collarbone
* Sutures dissolve on their own
* “Superglue” on incisions

A port is placed underneath the skin and usually below the right collarbone.

Two incisions are made for placement: a quarter-inch incision over the neck, and a one-inch incision below the collarbone.

Sutures are under the skin and dissolve on their own

Surgical “Super Glue” covers the incisions and flakes off after a week or so

## 37 Central Venous Port

When it is time for chemotherapy, a needle is inserted through the skin into the port

When it comes time for chemotherapy, the nurses can easily access the port with a needle that goes through the skin into the port, rather than placing an intravenous needle in a vein. The drugs can then be administered directly into the bloodstream. If blood needs to be drawn for tests, this can also be done through the port.

## 38 Restaging

CT or PET scan will be performed after preoperative therapy

* Surgery performed after restaging
* Timing depends upon recovery from therapy

## 39 Preparing for Cancer Treatment

* Primary Care Physician
* MyAtrium Portal
* Exercise
* Smoking Cessation

## 40 Primary Care Practitioner (PCP)

A PCP is critical to coordinate care between specialists.

We will update your PCP after each visit

Call our referral line at (844) 235-6998 if you need a PCP

## 41 My Atrium Patient Portal

* Critical to good communication with your care team
* Available for desktop or laptop or phone
* Sign up at my.atriumhealth.org

## 42 Exercise

* Reduces risk of complications from treatment
* Goal is 30min/day of vigorous exercise 6 days/week
  + Working hard enough that you can’t converse
  + Start slowly and build up
  + Every day counts! (Aim for some activity every day)

## 43 Smoking Cessation

* Smoking makes cancer treatment more difficult
  + Increases risk of complications after surgery
* Options for help with smoking cessation:
  + NC Quit Line 1-800-QUIT-NOW (1-800-784-8669)
  + American Lung Assn fredomfromsmoking.org
  + Smoking Cessation Counseling (Metro Charlotte)

## 44 Surgery

[Surgery Slideshow](lci_surgery.htm)