T3 Cancer of the Stomach

## 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 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

## 5 Locally-advanced Cancers

Over time, cancers can grow into the muscular wall

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

## 6 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

## 7 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

## 8 N Stage

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

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

## 9 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

## 10 PET scan

Similar to CT scan

Tracer shows ‘hot spots’

* Cancer
* Inflammation or infection
* Normal organs (heart, kidneys)

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

## 11 Endoscopic Ultrasound

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

Endoscopic ultrasound is most helpful in early stage cancers.

## 12 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.

## 13 Laparoscopy

* General anesthetic
* Several 1/4” incisions
* Telescope examines the abdomen
* Biopsies can be performed.

## 14 Treatment Plan

Superficial (T1a): Endoscopic Therapy  
  
Localized (T1b/T2): Surgery  
  
Locally-advanced (T3M0): Chemo 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
* Locally-advanced cancers are T3 and M0 and are usually treated with chemotherapy prior to surgery
* Metastatic cancers are M1 and are treated primary by chemotherapy.

## 15 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)

## 16 “Sandwich” Chemotherapy Drugs

**FLOT**

* 5-FU
* Leucovorion
* Oxaliplatin
* Taxotere

**FOLFOX**

* 5-FU
* Leucovorin
* Oxaliplatin

## 17 FLOT Treatment Plan

* FLOT Chemo every 2 weeks x 4 (=8 weeks total)
* Surgery (4-6 weeks later)
* FLOT Chemo every 2 weeks x 4 (=8 weeks total)

## 18 Immunotherapy

Immunotherapy is a form of cancer treatment that stimulates your immune system to fight cancer.

Some cancer cells will turn off immune cells using a protein called PD-L1. Immunotherapy can counteract this “off signal” and gives immune cells a “turn on signal” so that they fight cancer.

Darvalumab is an immunotherapy drug that fights cancers by counteracting PD-L1

## 19 Matterhorn Trial

The Matterhorn clinical trial compared two types of treatment:

FLOT x 4 doses -> Surgery -> FLOT x 4 doses

FLOT + Durvalumab -> Surgery -> FLOT + Durvalumab -> Durvalumab

Better survival with addition of durvalumab

## 20

**FLOT**

* FLOT Chemo every 2 weeks x 4 (=8 weeks total)
* Surgery (4-6 weeks later)
* FLOT Chemo every 2 weeks x 4 (=8 weeks total)

**FLOT + Durvalumab**

* FLOT Chemo every 2 weeks x 4 (=8 weeks total)
  + Durvalumab 2 doses
* Surgery (4-6 weeks later)
* FLOT Chemo every 2 weeks x 4 (=8 weeks total)
  + Durvalumab 2 doses Durvalumab 10 doses every month

## 21 Tumor Biomarkers - Additional Pathology Tests

Show whether other drugs may be helpful:

* HER-2 Herceptin can be helpful
* PD-L1 Immunotherapy can be helpful
* MMR Immunotherapy can be very helpful

Biomarkers reported in a separate pathology report

Your medical oncologist will review these with you

## 22 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

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

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

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

## 24 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

## 25 Central Venous Port

* Implantable device makes chemo easier
* May shower in 24 hrs
* No special care at home
* OK 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.

## 26 Central Venous Port

* Implanted under skin
* Neck incision (1/4”)
* Incision below the collarbone
* Sutures dissolve
* “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

## 27 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.

## 28 Restaging

CT or PET scan performed after preoperative therapy

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

## 29 Primary Care Practitioner (PCP)

Critical to coordinate care between specialists.

We will update your PCP after each visit

PCP Referral Line (844) 235-6998

## 30 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

## 31 Exercise

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

## 32 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 www.freedomfromsmoking.org
  + Smoking Cessation Counseling (Metro Charlotte)

## 33 Protein Needs

## 34 Jejunostomy Tube

## 35 Jejunostomy Typical Regimen

* Jejunostomy tube feeds for 16 hours (6pm-10am)
  + Men: 75mL/hour x 16 hours = 5 cartons
  + Women: 60mL/hour x 16 hours = 4 cartons
* Water 240ml (8oz) via syringe 4x/day

Hospital nurses will teach use of the feeding tube

## 36 Jejunostomy Feeds with Diabetes

Jejunostomy feedings elevate blood sugars

* Insulin may be required along with feeds

Typical Pattern for tube feeds

* Feeds run via pump from 6pm to 10am
* Insulin at 6pm (70/30 insulin)
* Insulin at Midnight (70/30 insulin)
* No insulin if tube feedings are not run

## 37 Jejunostomy Video

## 38 Stomach Cancer Surgery Goals

Staging refers to the tests to determine

* Remove the tumor
* Remove lymph nodes (depends upon tumor type)
* Preserve stomach function
* Reconstruct GI tract

**Treatment options depend upon the cancer stage**

## 39 Distal Cancers

Distal cancers are those in the lower part of the stomach

Distal cancers are those in the lower part of the stomach

## 40 Partial Gastrectomy

* Removes the tumor
* Lymph nodes not removed
* Best suited for:
  + Small adenocarcinoma
  + GI Stromal Tumors

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

## 41 Partial Gastrectomy

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

## 42 Distal Gastrectomy

* Removes bottom half of the stomach
* Does lower lymph nodes

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

## 43 Distal Gastrectomy

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

## 44 Body Cancers

Some cancers are found in the body of the stomach

Body is the mid-portion of the stomach

## 45 Subtotal Gastrectomy

* Removes bottom 2/3 of stomach
* Removes lymph nodes
* Reconstruction with small intestine

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

## 46 Subtotal Gastrectomy

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

## 47 Proximal Tumors

* Located near the top of the stomach
* Challenging area for surgery

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

## 48 Total Gastrectomy

* Removes all of the stomach
* Reconstruction with small intestine
* Needed for those with CDH1 mutations

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

## 49 Total Gastrectomy

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

## 50 Esophagogastrectomy

* Removes top part of stomach
* Remove bottom half of esophagus
* Surgery in both abdomen and chest

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

## 51 Esophagogastrectomy

* Removes top part of stomach
* Remove bottom half of esophagus
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## 52 Esophagogastrectomy

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## 53 Dual Tract Gastrectomy

Alternative surgical approach for small tumors near the top of the stomach

* Preserves the bottom of the stomach as a reservoir

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

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## 57 Risks of Surgery

* Leak where bowel is joined together (anastomosis)
* Bleeding requiring reoperation
* Delayed stomach function
* Infection in the abdomen