

## STOMACH-

Stomach is a large , hollow organ that secretes enzymes and acid to help in digestion of food.It is part of the digestive system which helps in breakdown of food , absorption of nutrients and removal of waste from the body

## STOMACH CANCER-

Most of the stomach (gastric) cancers start in the cells that line the inside of the stomach.These are called adenocarcinomas.Almost all stomach cancers are adenocarcinomas.

## RISK FACTORS FOR GASTRIC CANCER-

### MODIFIABLE

Helicobacter pylori

Tobacco smoking

Obesity

High salt diet

Low fruit or vegetable diet

### NONMODIFIABLE

ethnicity (east asian or pacific islander)

male gender

age (>45yrs)

family history

## CLINICAL PRESENTATION-

-Anorexia

-early satiety

- abdominal discomfort
- unintentional weight loss
- nausea and vomiting
- tarry stools

Duration of symptoms is <3 months in almost 40% of patients and >1 yr in 20%.

#### PATTERNS OF SPREAD-

Stomach wall is made up of 5 main layers-mucosa,submucosa,muscle, subserosa and serosa . Cancer starts in the innermost layer and grows outward through the layers of the stomach wall. Early stage gastric cancer has not grown beyond the mucosa. In locoregional or locally advanced stomach cancer , cancer has invaded the submucosa of stomach or beyond . Cancer might be found in nearby regional lymph nodes . Cancer that has spread to distant parts of the body through blood or lymphatic system is called metastatic stomach cancer. A distant metastasis could be in the liver , abdominal lining or distant lymph nodes .

## DIAGNOSTIC WORK UP-

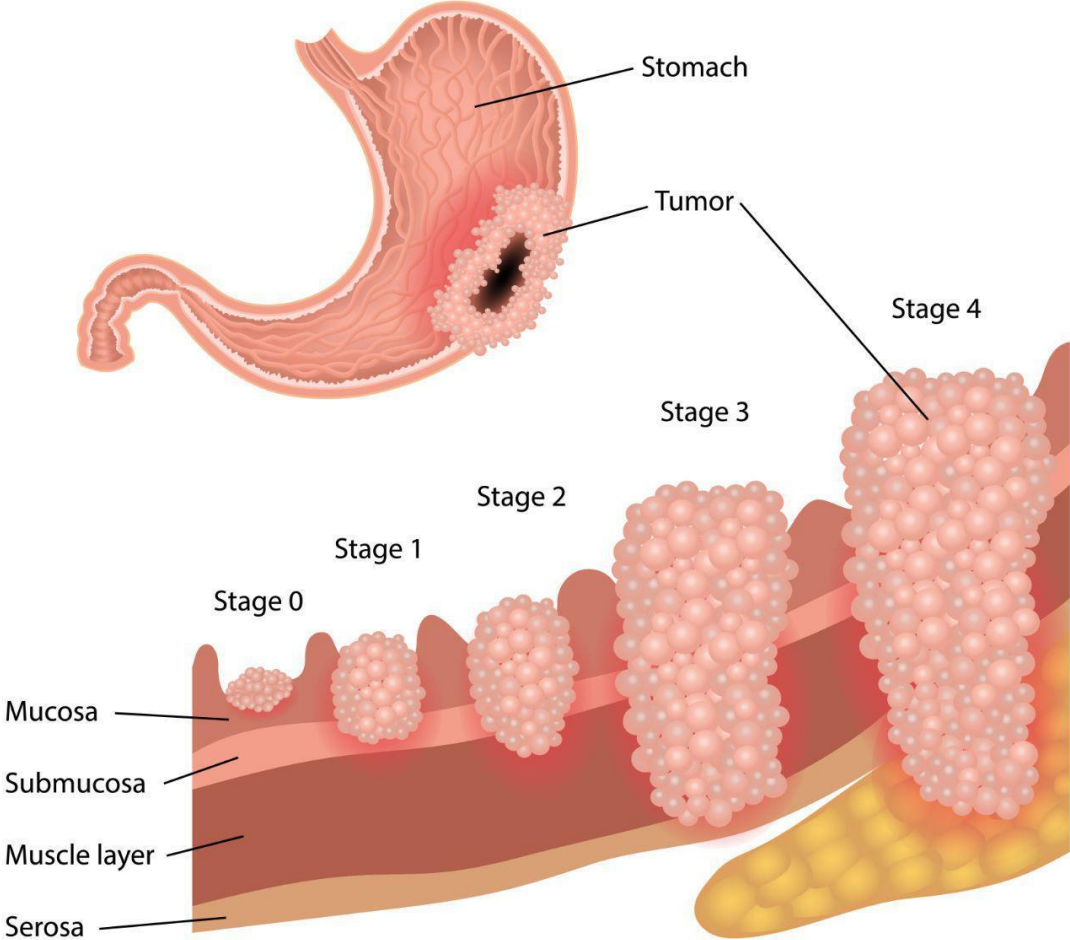
- Upper GI Endoscopy and biopsy
- Chest , abdomen , pelvic CT with oral and intravenous contrast.
- Endoscopic ultrasound
- biopsy confirmation of suspected metastatic gastric cancer
- Biomarker testing-A sample from the biopsy may be tested to look for specific DNA mutations.This information is used to choose the best treatment. The biomarkers tested are- MSI , PD-L1 , HER 2 , NTRK gene fusion
- Genetic testing- for hereditary syndromes – eg:Lynch syndrome , juvenile polyposis coli , peutz jeghers syndrome , familial adenomatosis polyposis.

## TREATMENT OVERVIEW-

Surgery is the primary treatment for stomach cancer. A GASTRECTOMY removes all or part of the stomach. A resectable tumor can be removed with surgery while an unresectable one needs systemic therapy.Systemic therapy includes chemotherapy , targeted therapy and immunotherapy. Radiation therapy is a form of treatment for local tumor control.

STAGES OF STOMACH CANCER---

### Stages of stomach cancer



## TREATMENT-

### Stage I (Early Gastric Cancer)-

a) Endoscopic Mucosal Resection- Endoscopic mucosal resection (EMR) means **removing abnormal areas in the lining of the stomach**. A long flexible tube (endoscope) with a tiny camera and light on the end is used to look inside your stomach. Then we remove the abnormal area by passing special instruments through the tube.

b) Limited surgical resection (also called a wedge resection) removes the section of the stomach wall that contains the tumour along with a margin of healthy tissue around the tumour. A limited surgical resection is sometimes used to treat small (smaller than 3 cm), early stage stomach cancer.

c) Gastrectomy-For select patients who cannot be treated by the above 2 procedures.

### Stage II and III (Localized disease)

Surgery-Resection of the primary tumor and regional lymph nodes is the cornerstone of treatment for patients with localized gastric cancer.

a) Complete Gastrectomy- Also called total gastrectomy, this procedure completely removes the stomach. The esophagus is then connected directly to your small intestine. The normal digestive functions ensue within no time.

b) Partial gastrectomy - the removal of a part of the stomach either the proximal or distal part depending on the location of the tumor.

- c) Intraperitoneal chemotherapy-Recurrences (cancer coming back after complete response) in the peritoneum is a common pattern of failure in these patients. This procedure is a way to put some of your chemotherapy into your abdomen (also called the peritoneal cavity) rather than into a vein. By putting the chemotherapy into your abdomen during the surgery , the drugs can treat cancer cells directly.
- d) Adjuvant chemotherapy- Fluoropyrimidines , oxaliplatin , paclitaxel
- e) Adjuvant radiation therapy- 50Gray in 25 fractions as out-patient treatment.

#### Stage IV(advanced gastric cancer)

- a) 1<sup>st</sup> line chemotherapy - Oxaliplatin based chemotherapy
- b) HER 2 overexpressing adenocarcinomas- fluoropyrimidine + oxaliplatin + trastuzumab
- c) HER 2 overexpressing adenocarcinomas - fluoropyrimidine + oxaliplatin + trastuzumab + pembrolizumab
- d) HER 2 overexpressing adenocarcinomas -Docetaxel + cisplatin + 5FU
- e) HER 2 overexpression negative- fluoropyrimidine+Oxaliplatin+nivolumab
- f) Ramucirumab + paclitaxel
- g) Entrectinib / larotrectinib
- h) IMMUNOTHERAPY- Pembrolizumab
- i) PARP inhibitor- Olaparib.

## FOLLOW UP CARE-

- a) Medical history and check up every 3-6 months for first 2 years and then twice in the 3<sup>rd</sup> – 5<sup>th</sup> year of follow-up , annually thereafter.
- b) Investigations- CBP , Upper GI Endoscopy , PET-CT .