Tumors of the stomach and duodenum
INTRODUCTION - STOMACH

Benign

- Polyps
  - Hyperplastic
  - Fundic gland
  - Neoplastic
  - Multiple

- Tumors
  - Leiomyomas
  - Lipomas
  - Heterotopic pancreas

Malignant

- Tumors
  - Carcinoma
  - Lymphoma
  - Sarcoma
  - Carcinoid

Others

- Menetriers Disease
- Bezoar
- Volvulus
GASTRIC POLYPS

- **Hyperplastic polyps**
  - Most common type of polyp (65 – 90%)
  - Inflammatory or regenerative polyps
    - In reaction to chronic inflammation or regenerative hyperplasia
    - Often found in HP infections
  - Sessile and seldom pedunculated
    - Mostly in the antrum
    - Multiple in 50% of cases
    - Varying in size but seldom < 2cm
  - Rate of malignant transformation 1 – 3%
    - Usually larger than 2 cm
GASTRIC POLYPS

- **Fundic Gland**
  - Small elisions in the fundus
    - Hyperplasia of the normal fundic glands
  - Often associated with FAP
    - Therefore important as a marker for disease elsewhere in the GIT tract
GASTRIC POLYPS

- Neoplastic polyps
  - Types
    - Tubular
    - Villous (often larger - > 2cm - and malignant)
  - Macroscopically
    - More often in antrum
    - Pedunculated with malignant potential
    - Solitary, large and ulcerated
  - Treatment
    - Endoscopic removal if no malignancy identified with surveillance
    - Excision with malignant focus or where endoscopic removal failed
GASTRIC POLYPS

- **Multiple gastric polyps**
  - Rare condition
    - Adenomatous and hyperplastic polyps
    - 20% incidence of adenocarcinoma
  - Treatment
    - If confined to corpus and antrum – distal gastrectomy
    - Otherwise total gastrectomy
  - Sometimes associated with Polyposis syndromes
    - FAP
    - Gardner
    - Peutz-Jeghers
    - Cowden
    - Cronkhite Canada
GASTRIC LEIOMYOMA

- Incidence of 16% at autopsy

**Pathology**
- Arise from smooth muscle of the GIT tract
  - Difficult to distinguish from GIST
- 75% benign
  - Differentiation only on mitotic index
  - Large protruding elisions with central ulcer

- Usually presents with bleeding if at all
- Treatment is local excision with 2 – 3cm margin
GASTRIC LIPOMA

- Rare subcutaneous lesions
  - Asymptomatic
  - On routine endoscopy
  - Require no treatment

- Pillow sign
**HETEROTOPIC PANCREAS**

- **Ectopic pancreas**
  - Most common found in stomach
    - Within 6 cm from the pylorus
    - Also in Meckl’s diverticulum
  - Rarely larger than 4 cm
    - Sessile and rubbery
    - Submucosal in location
    - Histological identical to normal pancreas
ADENOCARCINOMA OF THE STOMACH

- Declining incidence in western world
  - HP associated due to chronic atrophic gastritis
  - Also related to
    - Low dietary intake vegetables and fruit
    - High dietary intake of starches
    - More common in males (3:1)

- Histology
  - Invariably adeno-carcinoma
  - Squamous cell carcinoma from oesophagus
    - Involves fundus and cardia
ADENOCARCINOMA OF THE STOMACH

Histological typing

- Ulcerated carcinoma (25%)
  - Deep penetrated ulcer with shallow edges
  - Usually through all layers of the stomach

- Polipoid carcinoma (25%)
  - Intraluminal tumors, large in size
  - Late metastasis

- Superficial spreading carcinomas (15%)
  - Confinement to mucosa and sub-mucosa
  - Metastasis 30% at time of diagnosis
  - Better prognosis stage for stage
ADENOCARCINOMA OF THE STOMACH

- **Histological typing**
  - **Linitis plastica (10%)**
    - Variy of SS but involves all layers of the stomach
    - Early spread with poor prognosis
  - **Advanced carcinoma (35%)**
    - Partly within and outside the stomach
    - Represents advanced stage of most of the fore mentioned carcinomas
ADENOCARCINOMA OF THE STOMACH

- Symptoms and signs
  - Vague discomfort difficult to distinguish from dyspepsia
  - Anorexia
    - Meat aversion
    - Pronounced weight loss
  - At late stage
    - Epigastric mass
    - Haematemesis usually coffee ground seldom severe
  - Metastasis
    - Vircho node in neck
    - Blumer shelf in rectum
ADENOCARCINOMA OF THE STOMACH

- **Surgical resection only cure**
  - Late presentation makes sugary often futile
  - Palliation controversial for
    - Haemorrhage
    - Gastric outlet
  - Simple gastrectomy as effective as abdominal block
    - Splenectomy often added due to direct involvement
    - Only for the very distal partial gastrectomy
    - Rest total gastrectomy

- **Prognosis overall 12% 5 year survival**
  - 90% for stage I disease
GASTRIC LYMPHOMA

- 5% of all primary gastric neoplasm's
- 2 different types of lymphoma
  - Part of systemic lymphoma with gastric involvement (32%)
  - Part of primary involvement of the GIT (MALT Tumors)
    - 10 – 20% of all lymphomas occur in the abdomen
    - 50% of those are gastric in nature
- Risk factors
  - HP due to chronic stimulation of the MALT
  - In early stages of disease Rx of HP leads to regression of the disease
GASTRIC LYMPHOMA
Primary MALT

- Early stages also referred to as pseudo-lymphoma
  - Indolent for long periods
  - Low incidence of
    - Spread to lymph nodes
    - Involvement of bone marrow
  - Therefore much better prognosis

- Mostly involves the antrum

- 5 different types according to appearance
  - Infiltrative
  - Nodular
  - Combination
  - Ulcerative
  - Polypoid
GASTRIC LYMPHOMA
Primary MALT

- At time of presentation
  - Larger than 10 cm (50%)
  - More than 1 focus (25%)
  - Ulcerated (30 – 50%)

- Pattern of metastasis similar to gastric carcinoma

- Signs and symptoms
  - Occur late and are vague
  - Relieved by anti-secretory drugs
  - Diagnosis based on histology
GASTRIC LYMPHOMA
Primary MALT

- Treatment controversial
  - Surgical treatment for patients without systemic involvement
    - Mandatory for high grade lesions
    - Possible not needed for low grade lesions
    - Total gastrectomy and en-block for direct involvement
      - Sparing duodenum and oesophagus
  - Palliative resection with intra-abdominal spread
    - Good for bleeding, obstruction and perforations
  - Radiation and chemotherapy combination for most
GASTRIC SARCOMA

- 1 – 3 % of gastric malignancies
- Include a wide variety of tumors
  - Leiomyosarcoma
  - Leiomyoblastoma
  - GIST
MENETRIERS DISEASE

- Giant gastric folds (hypertrophic gastropathy)
- Differentiate from
  - Infiltrating neoplasm (Ca / lymphoma)
  - CMV infection
- Manifestation
  - Hypo-proteinaemia due to loss from ruggae
  - Chronic blood loss
- Treatment
  - Medical (PPI, atropine, H2 blockers)
  - Surgical for refractory cases or where Ca cant be excluded
GASTRIC BEZOAR

- Concretions in the stomach
  - Tricho-bezoar (hair)
    - Young girls who pick and swallow their hair
  - Phyto-bezoar (vegetable fibre)
- Can cause erosions and bleeding
  - Seldom perforate but if mortality 20%
- Post-gastrectomy predisposes
  - Both mechanical and chemical
- Endoscopic breakage
GASTRIC VOLVULUS

● 2 Types
  - Organo-axial
    ● Through the organs longitudinal axis
    ● More common and associated with hiatus hernia
    ● Eventration of the diaphragm
  - Mesenterio-axial
    ● Line through mid lesser to mid greater curvature

● Clinical triade (Brochardt’s)
  - Vomiting followed by retching and inability to vomit
  - Epigastric distension
  - Inability to pass NGT
GASTRIC VOLVULUS

- Treatment
  - Emergency surgery as any volvulus
GASTRIC DIVERTICULAE

- True diverticulae uncommon
  - Involve all layers of the wall
  - Pre-pyloric in location
- **Pulsion with only mucosa and sub-mucosa**
  - Within a few cm of GEJ
- **Asymptomatic found on routine investigations**
  - Confused with peptic ulceration
## Introduction - Duodenum

<table>
<thead>
<tr>
<th>Benign</th>
<th>Malignant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunners gland adenoma</td>
<td>Peri-ampullar adenocarcinoma</td>
</tr>
<tr>
<td>Leiomyoma</td>
<td>- Duodenum</td>
</tr>
<tr>
<td>Carcinoid</td>
<td>- Cholangio</td>
</tr>
<tr>
<td>Heterotopic gastric mucosa</td>
<td>- Pancreatic head</td>
</tr>
<tr>
<td>Villous adenoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leiomyosarcomas</td>
</tr>
<tr>
<td></td>
<td>Lymphomas</td>
</tr>
<tr>
<td></td>
<td>Others</td>
</tr>
<tr>
<td></td>
<td>- Duodenal diverticula</td>
</tr>
</tbody>
</table>
**DUODENUM**

**Benign tumors**

- **Brunners gland adenomas**
  - Small submucosal
    - Sessile and pedunculated variants
  - Posterior wall junction D1 and D2
  - Symptoms due to bleeding or obstruction

- **Leiomyoma**
  - Asymptomatic

- **Carcinoid**
  - Mostly active (gastrin, SS and serotonin)
  - Simple excision
DUODENUM
Benign tumors

- **Heterotopic gastric mucosa**
  - Multiple small mucosal lesions
  - No clinical significance

- **Villous adenoma**
  - Intestinal bleeding
  - Obstruction of ampulla with jaundice
  - Risk of malignancy high (50%)
  - Endoscopic snaring or local excision
DUODENUM
Malignant tumors

- Located in the descending part of the duodenum
- Symptoms
  - Pain, obstruction bleeding and jaundice
  - Earlier than pancreas head
- Treatment
  - Pancreatico-duodenectomy for localized lesions
    - Much better prognosis than pancreas Ca (30% 5-year as opposed to 0%)
  - Palliative bypass procedures if not resectable
  - Radiotherapy for advanced disease?
DUODENAL DIVERTICULAE

- **Incidence**
  - 20% at autopsy
  - 5 – 10% at upper GIT investigations

- **Pulsion diverticulae**
  - 90% on the medial border of the duodenum
  - Solitary and within 2.5 cm of the ampulla
  - Associated gallstones and gallbladder disease

- **Pseudo-diverticulae**
  - First part of the duodenum
  - Scarring of PUD
DUODENAL DIVERTICULA

- **Presentation**
  - Chronic post-prandial pain and dyspepsia

- **With complicated disease**
  - Bleeding and perforation
  - Panceatitis
  - Jaundice

- **Surgery for complicated disease**
  - Dissection, removal and closure (even with perforation)
  - With billiary involvement: cholidocho-duodenostomy