Contemporary Management of Gastro-Intestinal Stromal Tumors

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No Disclosures

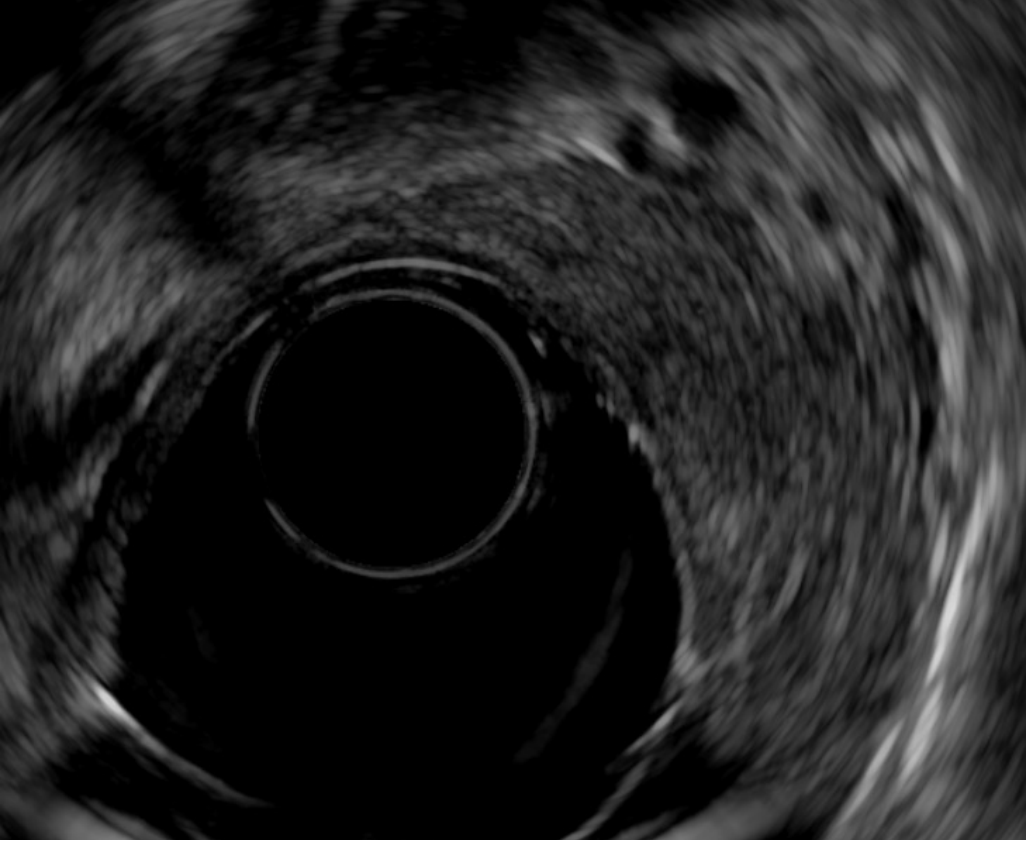
Overview

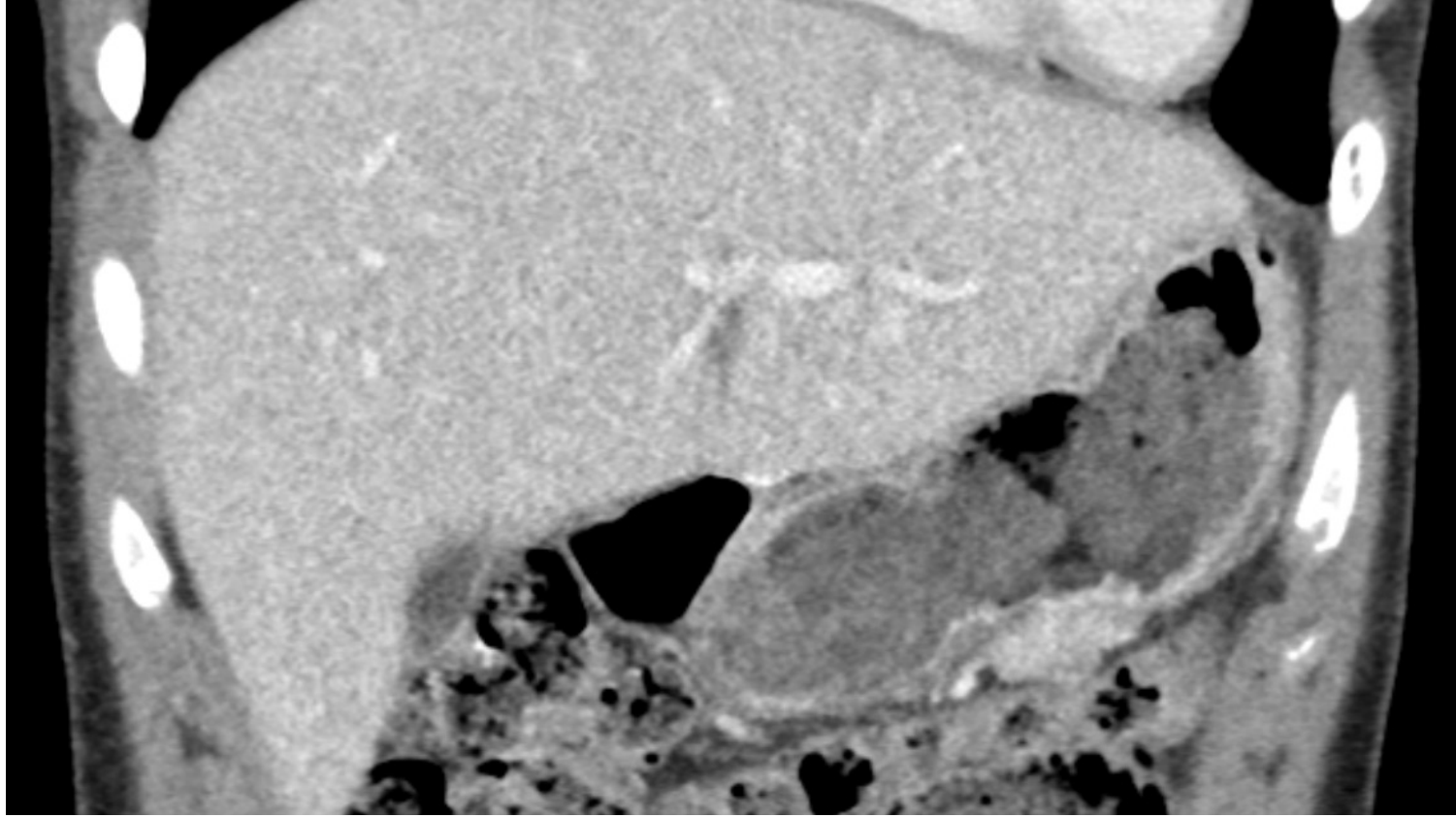
- Work-up of the subepithelial gastric mass
- Essential features of GIST
- Prognosis and risk-stratification
- Decision-making
- Operative approaches
- Post-operative considerations

Subepithelial Gastric Mass

Differential diagnoses

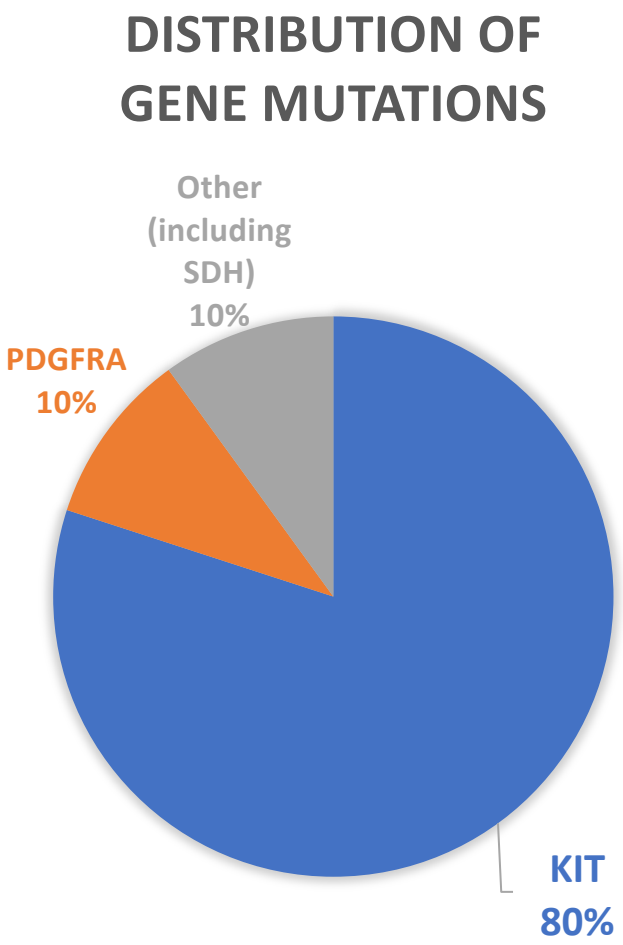
- Gastro-Intestinal Stromal Tumor (GIST)
- Leiomyoma / leiomyosarcoma
- Schwannoma
- Desmoid





EUS FNA: spindle cells

- GIST: CD117, DOG1
- Leiomyomas: SMA
- Schwannomas: S100



GIST: Essential Features

- most common mesenchymal (non-epithelial) neoplasm of the gut.
- originate from the interstitial cells of Cajal
- rare (7-8 cases / million / year), 1-2% of all GI cancers

Prognosis & Risk Stratification

- **Tumor Size** (>5cm, >10cm)
- **Mitotic Index** (>5, >10 mitoses per 50 HPFs)

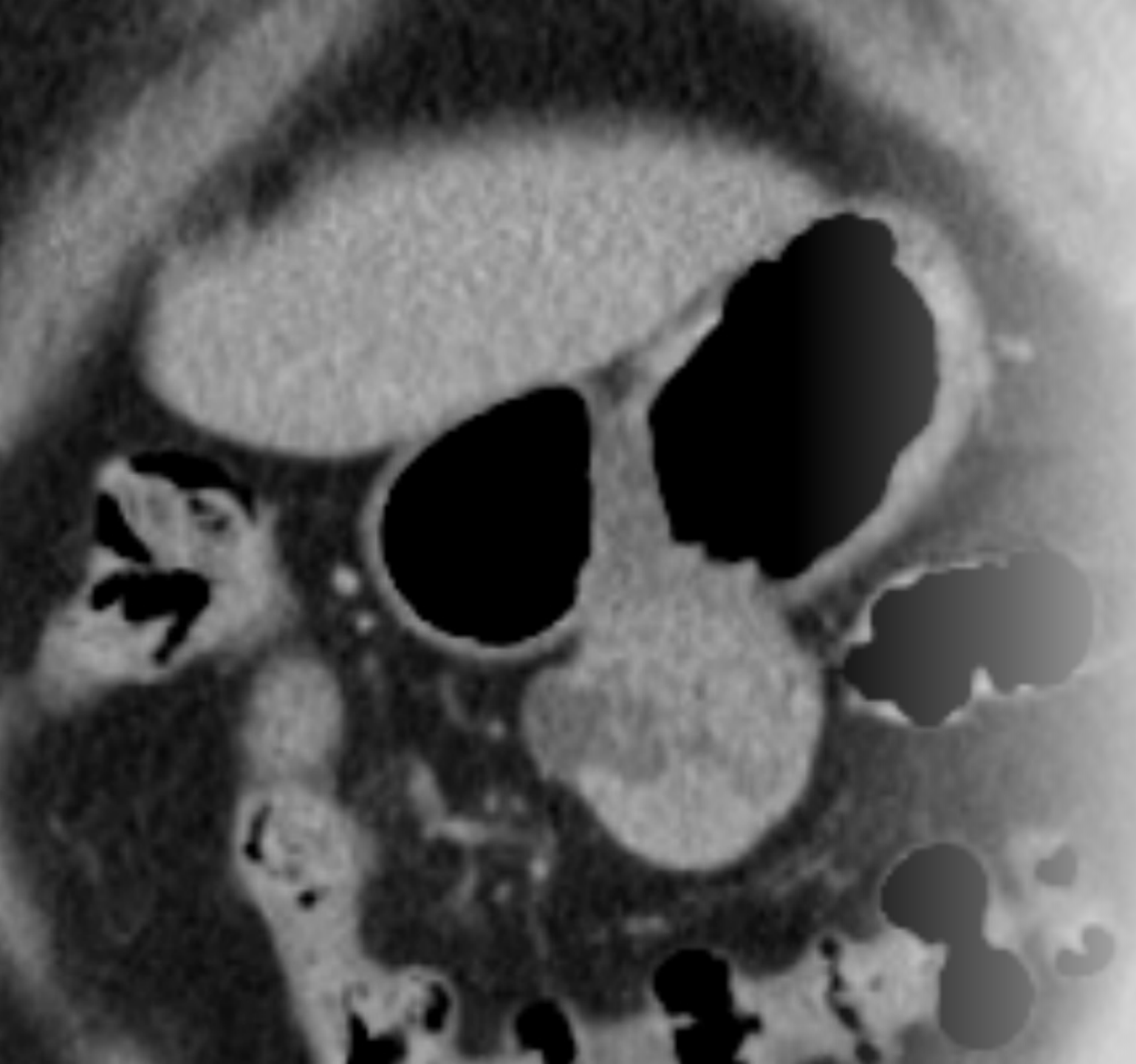
- **Location** (Stomach = most favorable)

Decision-Making

Standard: Complete gross resection

Exceptions

- **Gastric GISTs <2cm**, without high-risk features
  - ➢**observe**
- Where operation would be **highly morbid or require multi-visceral resection**
  - Proximal stomach (? Esophagectomy)
    - Must determine distance to GE junction
  - Proximal duodenum (? Whipple)
    - Must determine distance to ampulla
  - ➢**Neoadjuvant** imatinib

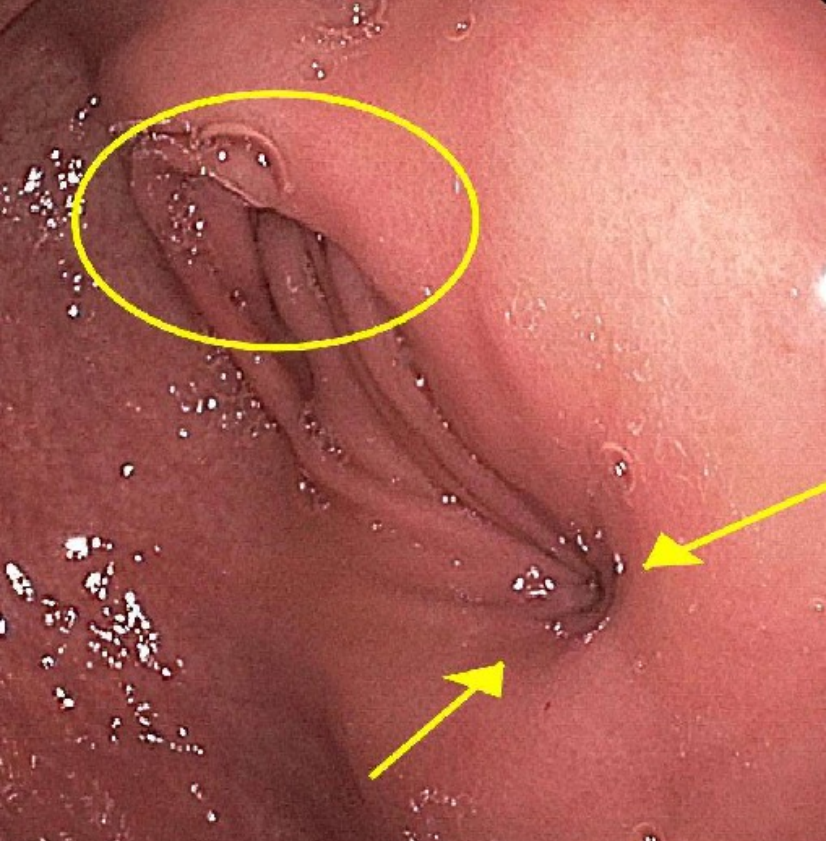


Operative Approaches (1)

- Distal greater curve resection
  - Laparoscopic approach
  - 34 Fr gastric lavage tube
  - Stapled resection
  - Frozen section
- Surgical Pathology
  - 5cm GIST, 0 mitoses
  - PDGFRA mutation
- Post-op plan:
  - Annual surveillance
  - No adjuvant imatinib

Operative Approaches (2)

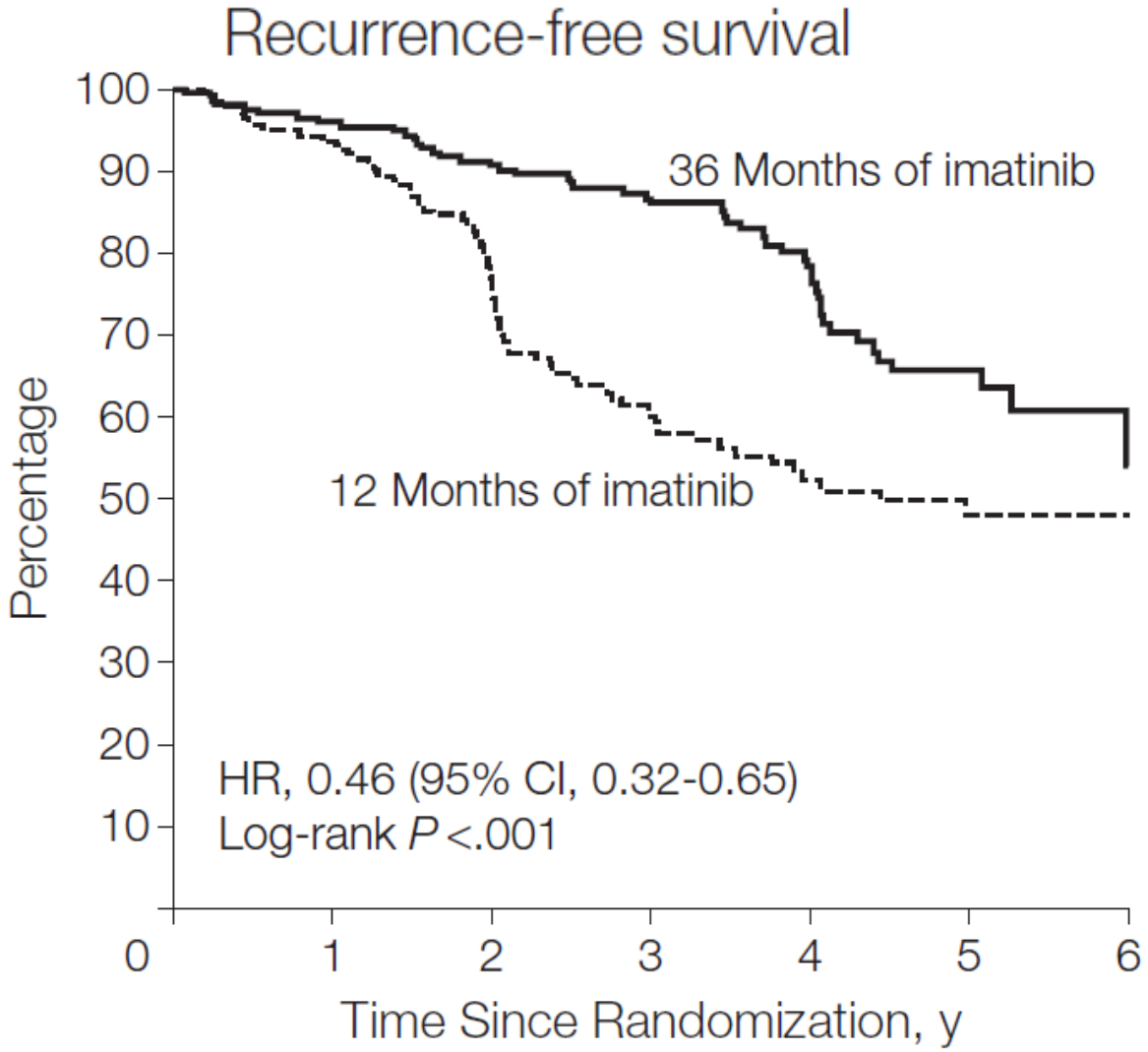
- Proximal greater curve resection
  - Laparoscopic approach
  - 50 Fr Maloney dilator
  - Stapled resection
  - Frozen section
- Surgical Pathology
  - Multifocal GIST: 9.4cm with 3 x 0.5cm tumors
  - 3 mitoses / 50 HPF
  - KIT mutation
- Post-op:
  - Discussed at weekly sarcoma conference
  - Adjuvant imatinib, 3 yrs



EUS FNA: Spindle cells

- Laparoscopy: densely adherent, converted to open: mass adherent to posterior wall of stomach, transverse colon, SMA -> deemed unresectable; additional core biopsies obtained.
- Final surgical pathology: desmoid-type fibromatosis

Post-operative Considerations (1)



Adjuvant Imatinib for high-risk disease:

- Tumor size >10cm
- Mitotic count >10 mitoses / 50 HPF
- Tumor size >5cm AND mitoses >5
- Tumor rupture

- 5 year RFS 66% vs 48%
  - (HR 0.46, 95% CI 0.32-0.65)

Post-operative Considerations (2)

Surveillance for resected GIST:

- Clinical review and CT abdomen / pelvis q6 months for 3 years, then annually

Resection of Metastases

- If liver-only metastases, then resection combined with imatinib = best opportunity for long-term disease control
- Pre-operative imatinib ~ 6 months

Summary: Contemporary Management of GIST

- EUS biopsy usually necessary
- Stage with contrasted CT
- Tumor size, mitotic rate and organ location are prognostic
- Complete resection = mainstay of therapy
- High-risk disease benefits from 3 years of adjuvant imatinib.

Questions?

Modified NIH risk stratification criteria for GIST with rupture included

Risk category	Tumor size (cm)	Mitotic index (per 50 HPFs)	Primary tumor site
Very low risk	<2.0	≤5	Any
Low risk	2.1 to 5.0	≤5	Any
Intermediate risk	2.1 to 5.0	>5	Gastric
	<5.0	6 to 10	Any
	5.1 to 10.0	≤5	Gastric
High risk	Any	Any	Tumor rupture
	>10 cm	Any	Any
	Any	>10	Any
	>5.0	>5	Any
	2.1 to 5.0	>5	Nongastric
	5.1 to 10.0	≤5	Nongastric

NIH: National Institutes of Health; GIST: gastrointestinal stromal tumor; HPF: high power fields.

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