

Evidence-Base Medicine



Intern 姚景堯

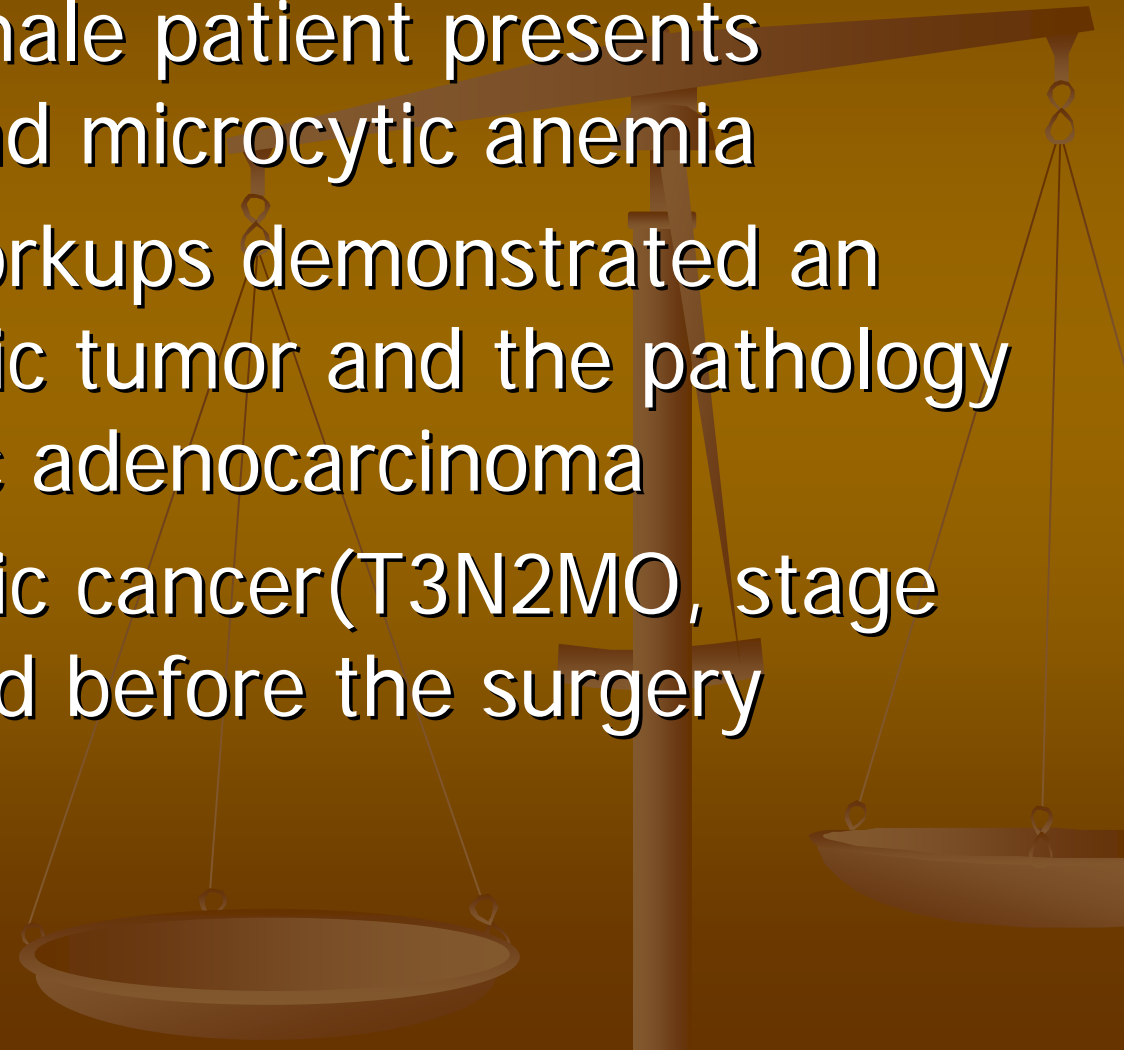
97/9/29

Evidence-Base Medicine

- Which treatment for advanced gastric cancer is the best strategy ?

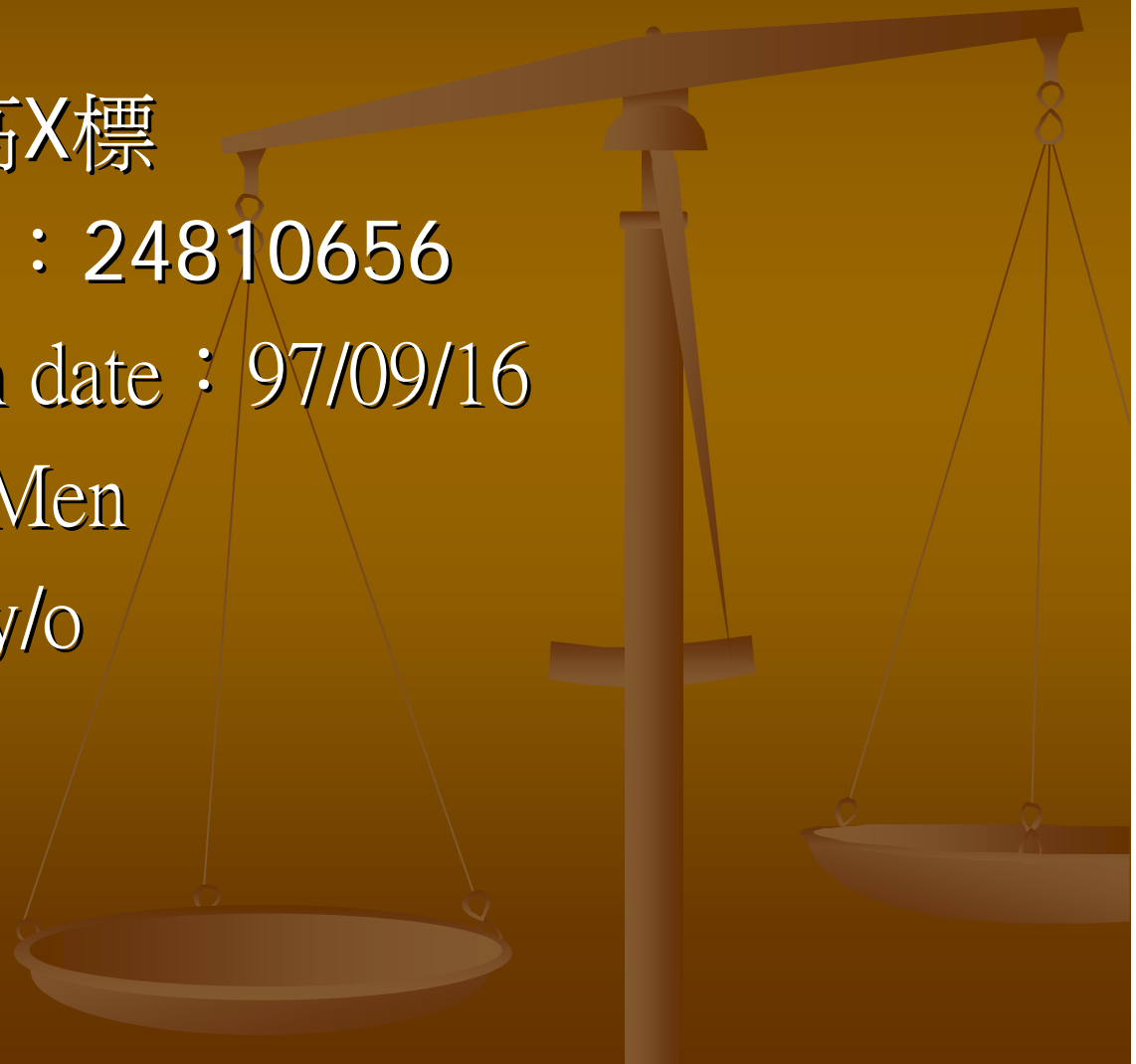


Clinical scenario

- A 52-year-old male patient presents epigastralgia and microcytic anemia
 - Serial image workups demonstrated an ulcerative gastric tumor and the pathology confirms gastric adenocarcinoma
 - Advanced gastric cancer(T3N2M0, stage IIIB) was staged before the surgery
- 

Case profile

- Name : 高X標
- Chart NO. : 24810656
- Admission date : 97/09/16
- Gender : Men
- Age : 52 y/o



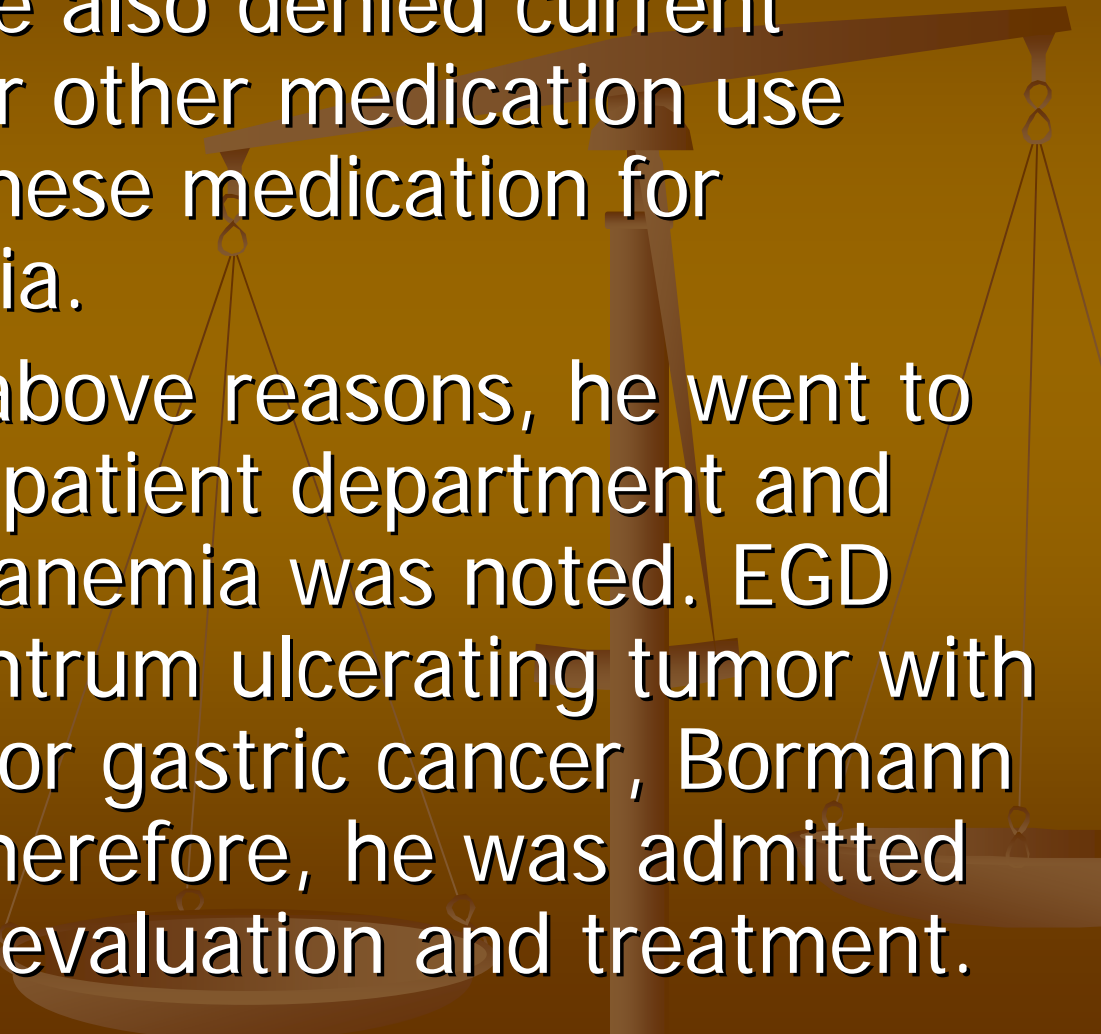
Chief complaint

- Epigastralgia for more than one month

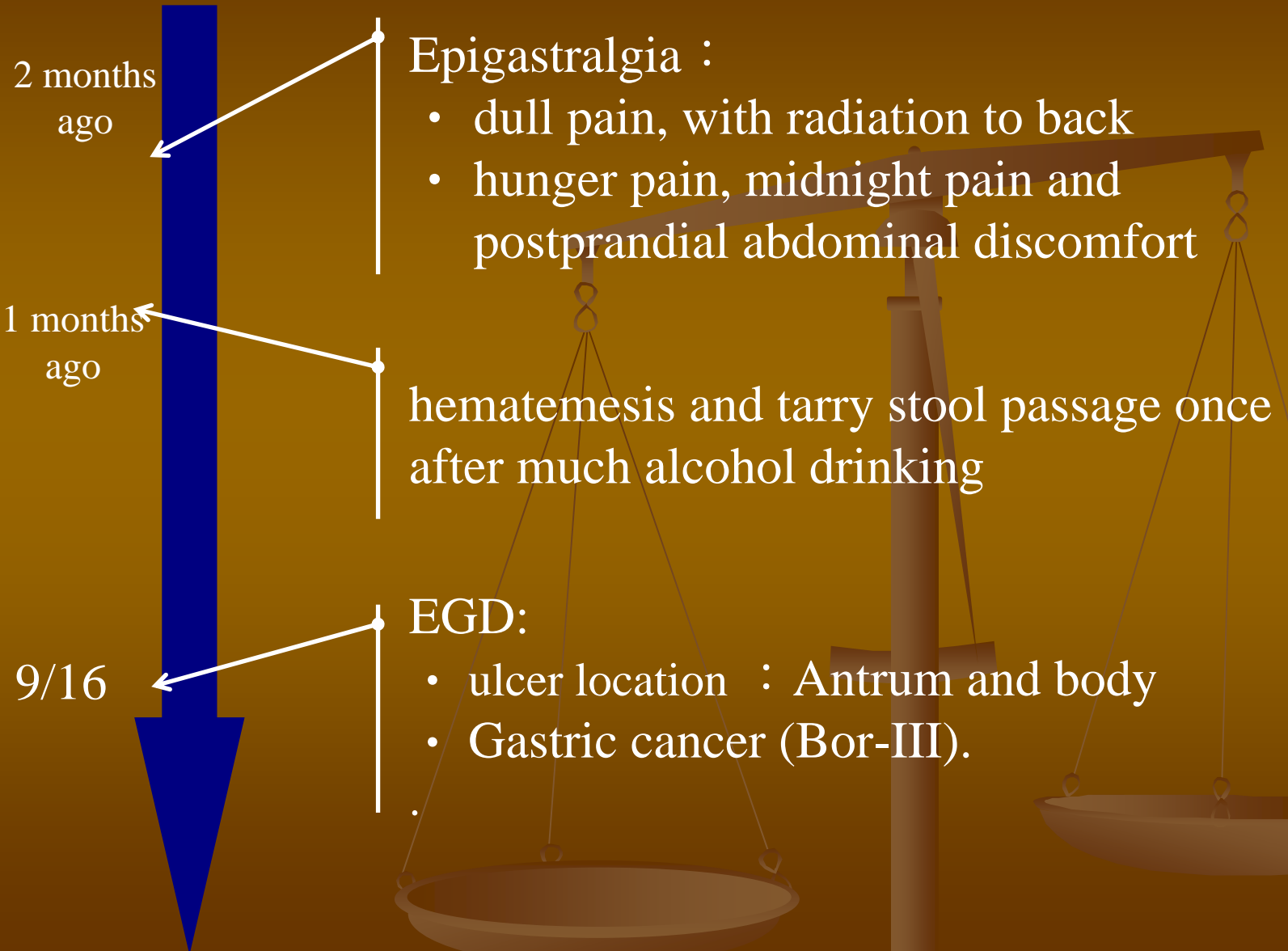


Present Illness

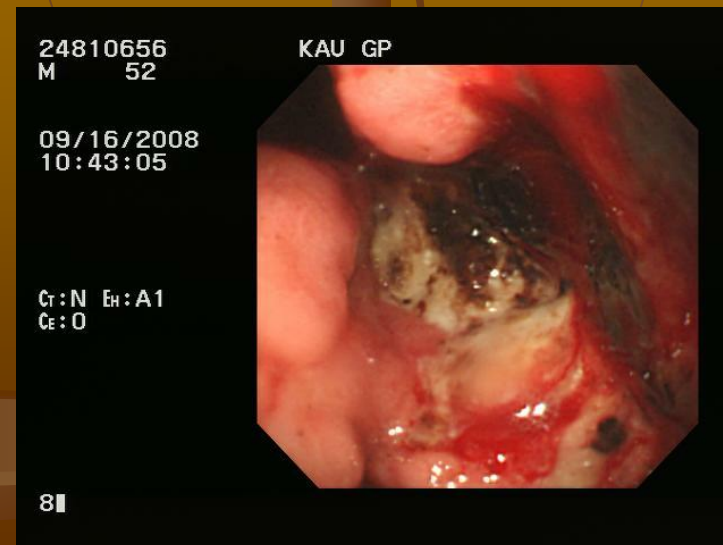
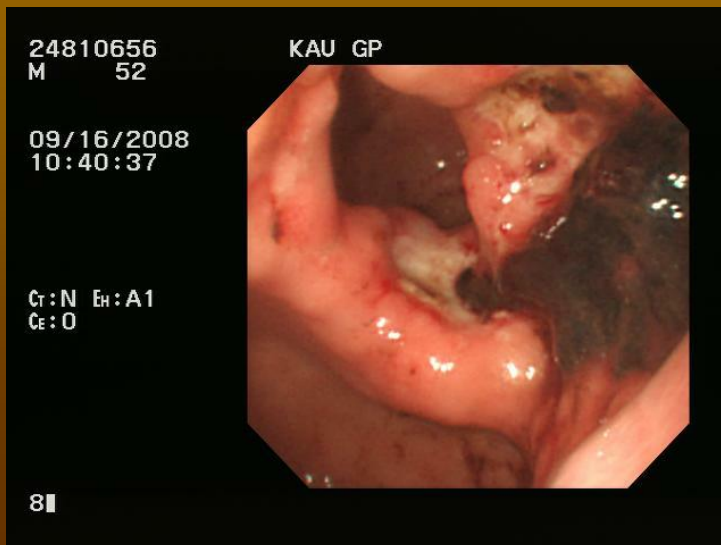
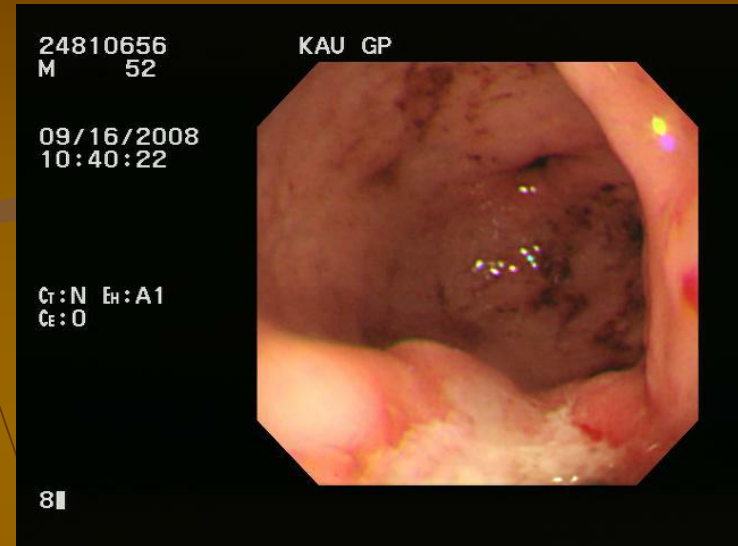
- This 52 year old male denied any systemic disease. He suffered from epigastralgia for about 2 months. The pain was located at epigastric area, dull pain, with radiation to back. He also had hunger pain, midnight pain and postprandial abdominal discomfort. Besides, hematemesis and tarry stool passage once about one month ago after much alcohol drinking. After that episode, he had mild dizziness and weakness sensation, but no dyspnea or palpitation.

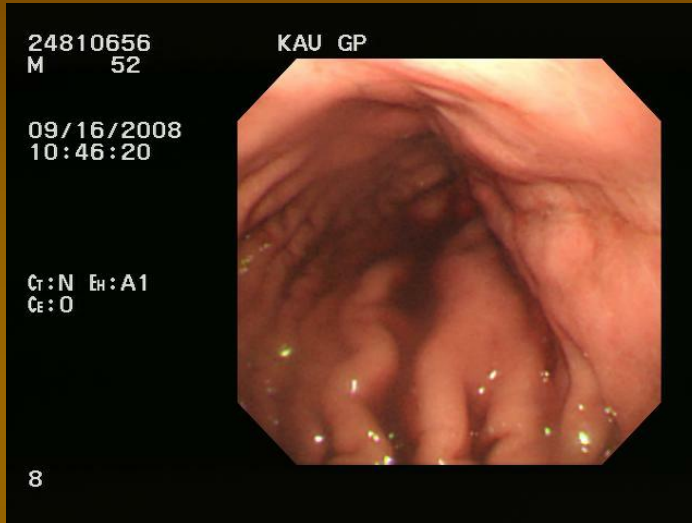
- 
- He denied nausea, vomiting, diarrhea, constipation, bowel habit change, body weight loss, tenesmus or fever. He also denied current painkiller or other medication use except Chinese medication for epigastralgia.
 - Due to above reasons, he went to our GI out patient department and microcytic anemia was noted. EGD revealed antrum ulcerating tumor with oozing, favor gastric cancer, Bormann type III. Therefore, he was admitted for further evaluation and treatment.

Before admission



9/16 EGD

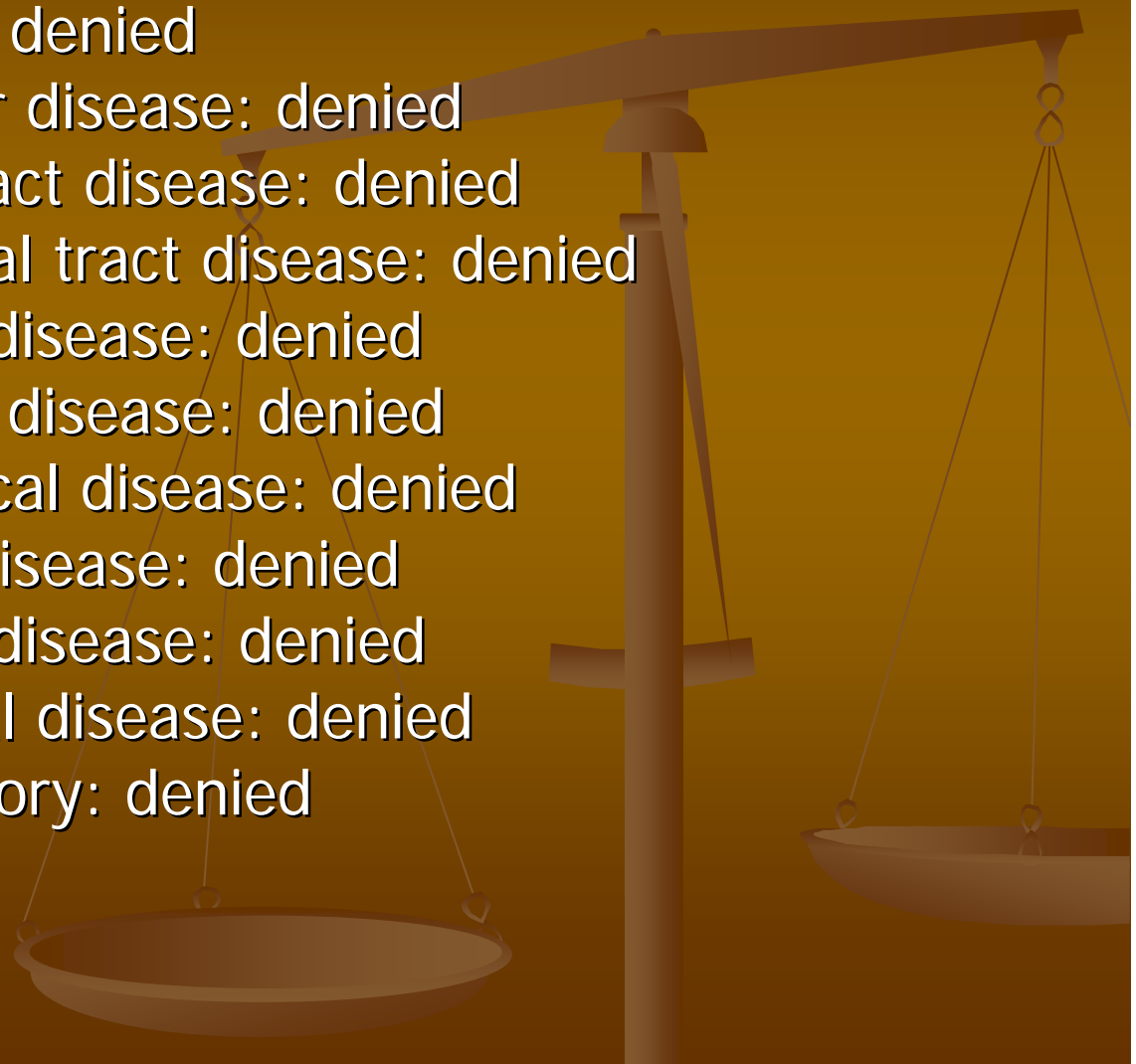




- Duodenum: Negative finding.
- Antrum and body: An ulcerating tumor extending from angularis area to antrum and with oozing bleeding. Ulcer base: uneven and dirty. Ulcer margin: Nodularity and asymmetric change. Consistency: Hard.
- Esophagus and cardiac portion: Negative finding.

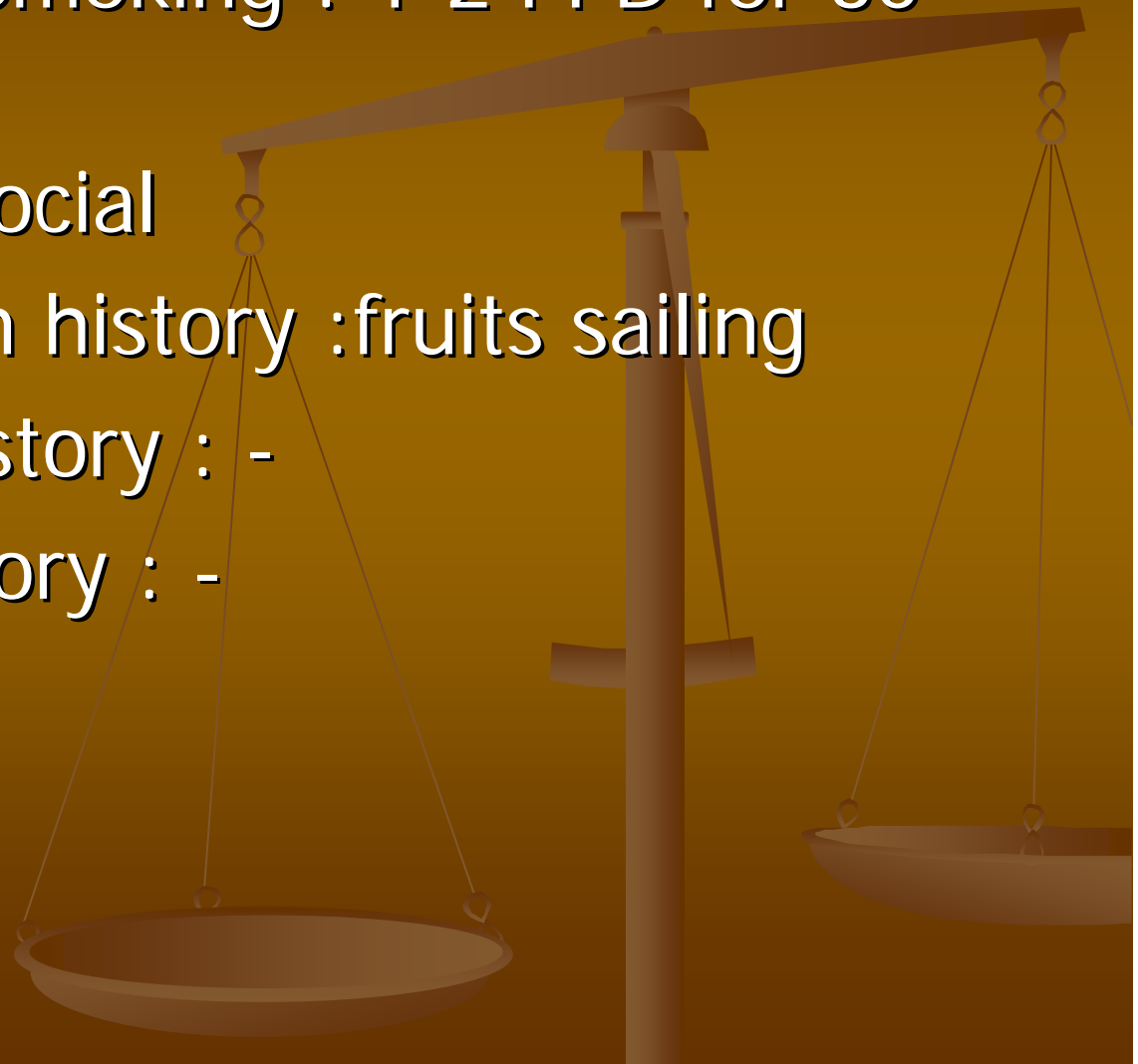
Past History

- Diabetes mellitus: denied
- Hypertension: denied
- Cardiovascular disease: denied
- Respiratory tract disease: denied
- Gastrointestinal tract disease: denied
- Hepatobiliary disease: denied
- Chronic kidney disease: denied
- Rheumatological disease: denied
- Neurological disease: denied
- Psychological disease: denied
- Dermatological disease: denied
- Operation history: denied

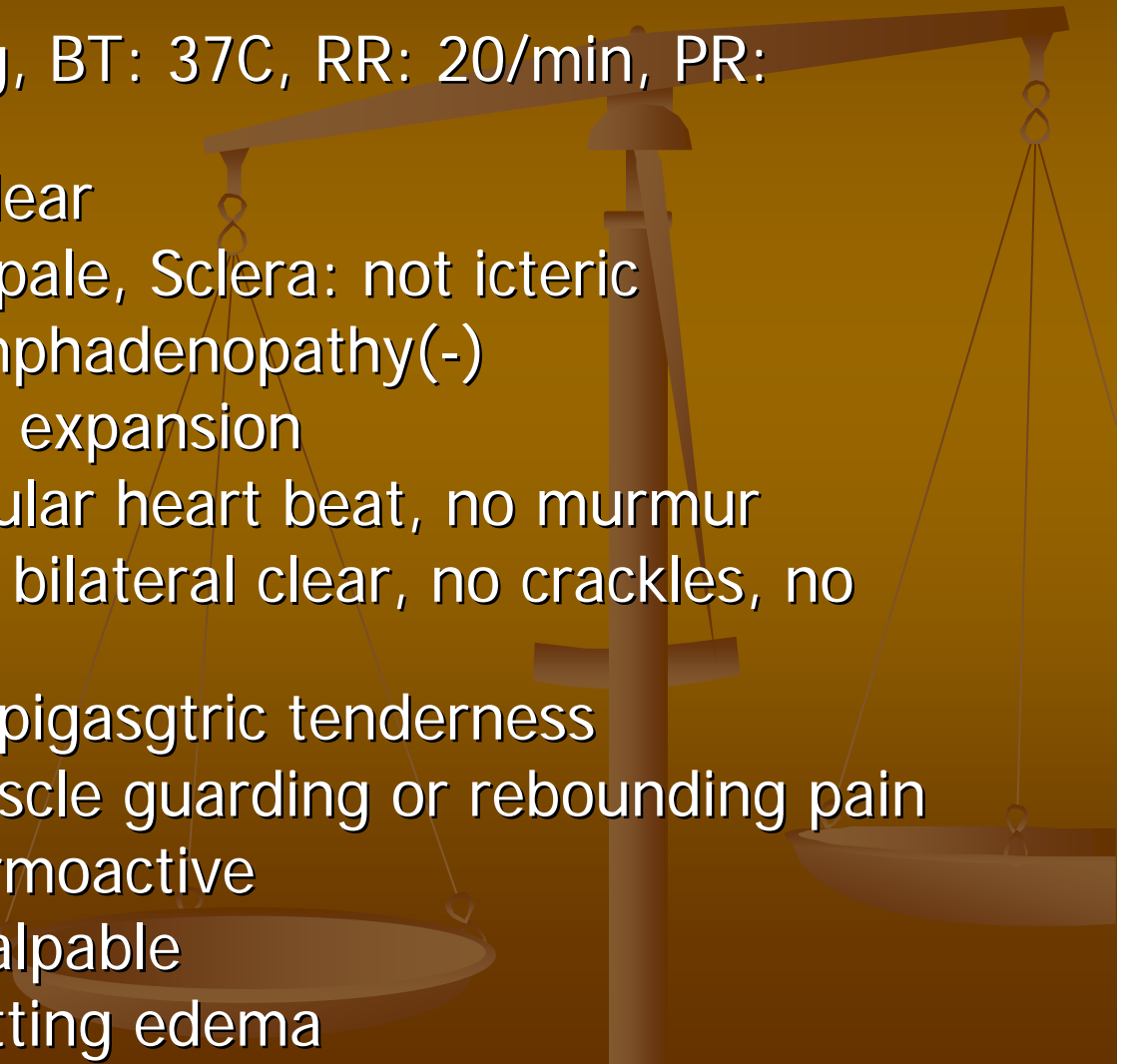


Personal History

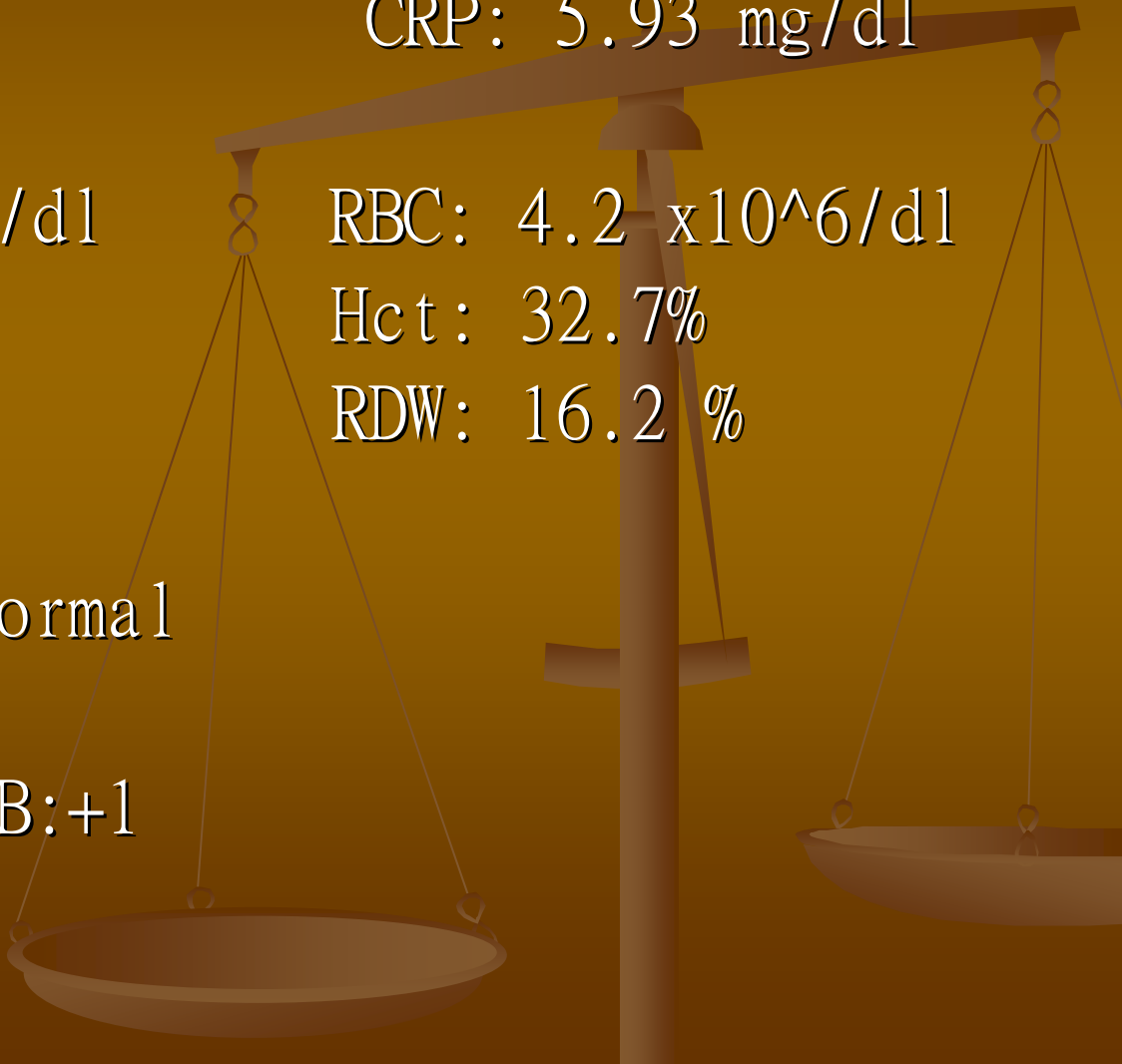
- Cigarette Smoking : 1-2 PPD for 30 years
- Alcohol : social
- Occupation history : fruits sailing
- Contact history : -
- Travel history : -



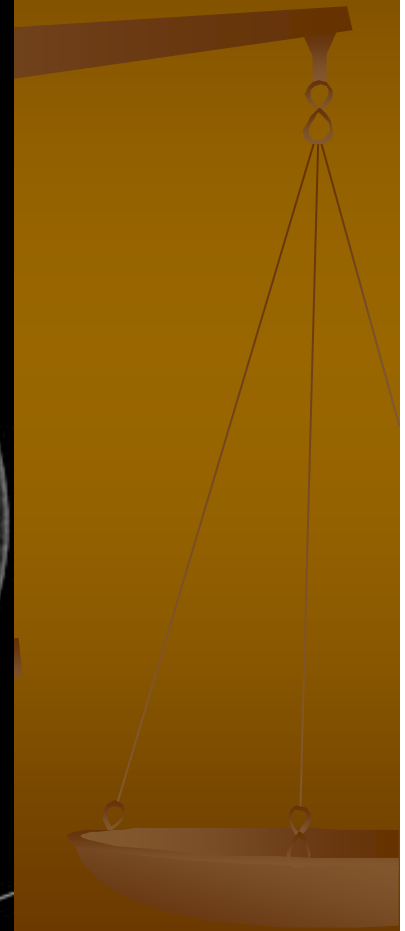
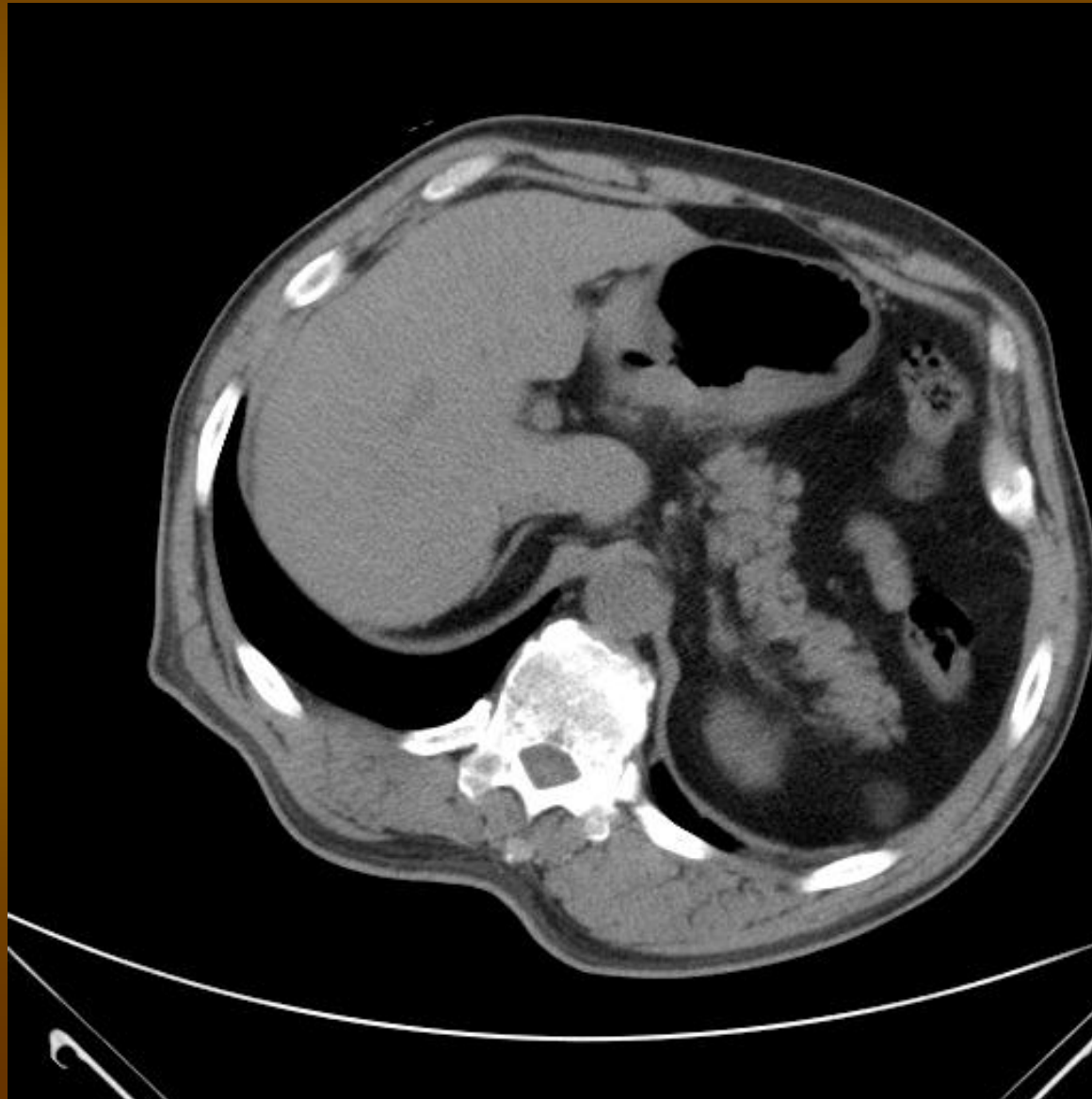
Physical Examination

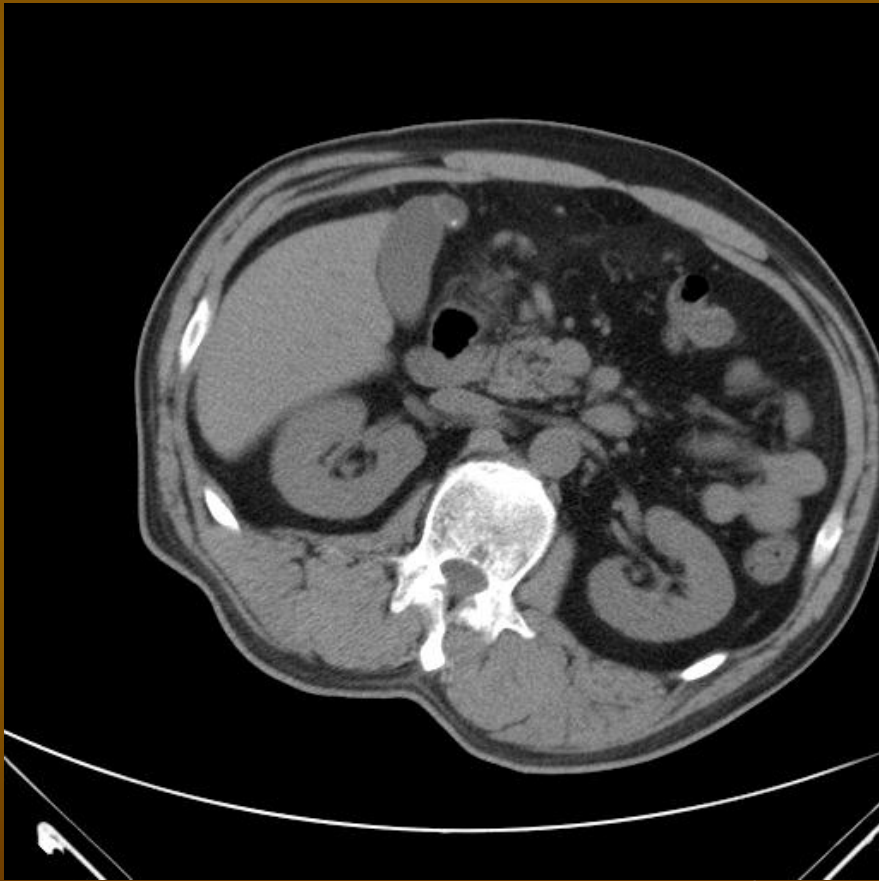
- Weight : Weight : 85.5 Kg ; Height : 174.5 cm ; BMI : 28.08 ; IBW : 66.9
 - Vital sign:
 - BP: 130/77mmHg, BT: 37C, RR: 20/min, PR: 67/min
 - Consciousness: clear
 - Conjunctiva: not pale, Sclera: not icteric
 - Neck: supple, lymphadenopathy(-)
 - Chest: symmetric expansion
 - Heart sound: regular heart beat, no murmur
 - Breathing sound: bilateral clear, no crackles, no wheezing
 - Abdomen: soft, epigasgtric tenderness
no muscle guarding or rebounding pain
 - Bowel sound: normoactive
 - Liver/Spleen impalpable
 - Extrimities: no pitting edema
- 

Lab data

- PTP: 10.0 sec
 - CRP: 5.93 mg/dl
 - Cl: 111 m mol/dl
 - WBC: 11.6 x1000/dl
 - RBC: 4.2 x10⁶/dl
 - Hgb: 10.9 g/dl
 - Hct: 32.7%
 - MCV: 77.8 fl
 - RDW: 16.2 %
 - Urine routine: normal
 - Stool routine: OB:+1
- 

9/17 CT





Impression

- 1) Consider carcinoma in the body and antrum of the stomach with tumor extraserosal extension and more than fifteen regional lymph nodes.

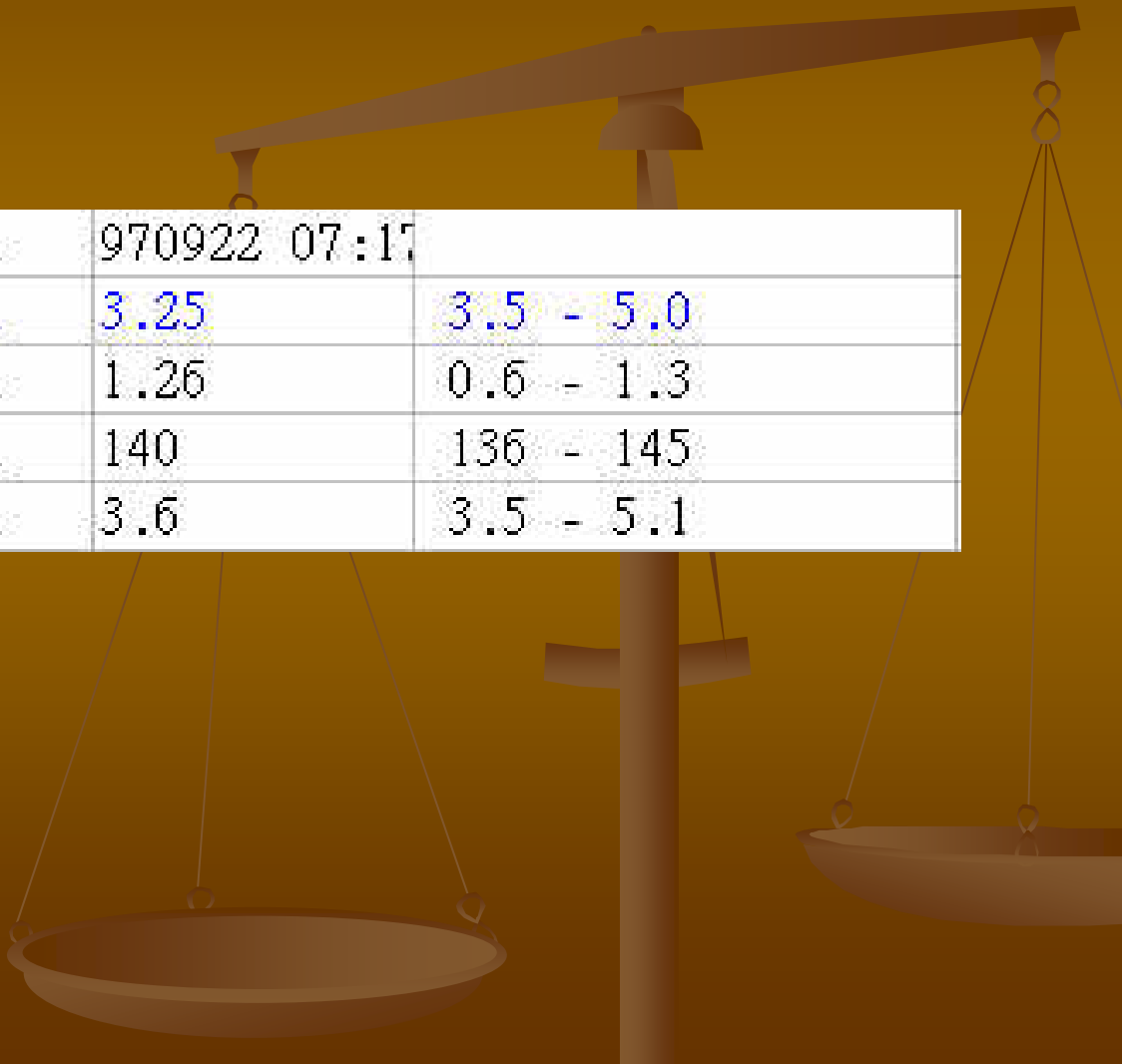
Tumor staging: stage III B (T3N2Mx).

- 2) Small cholelithiasis.
- 3) Atherosclerosis of abdominal aorta.

Lab data 9/15

收到檢體	Blood	970915 07:29	
WBC	Blood	8.3	4.0 - 10.0
RBC	Blood	3.61	4.5 - 6.0
Hgb	Blood	9.7	13 - 17
Hct	Blood	29.1	40 - 53
MCV	Blood	80.8	79.0 - 101.0
MCH	Blood	26.9	26.0 - 35.0
MCHC	Blood	33.3	31.0 - 37.0
PLT	Blood	298	130.0 - 500.0
RDW	Blood	17.6	11.5 - 14.5

Lab data 9/21

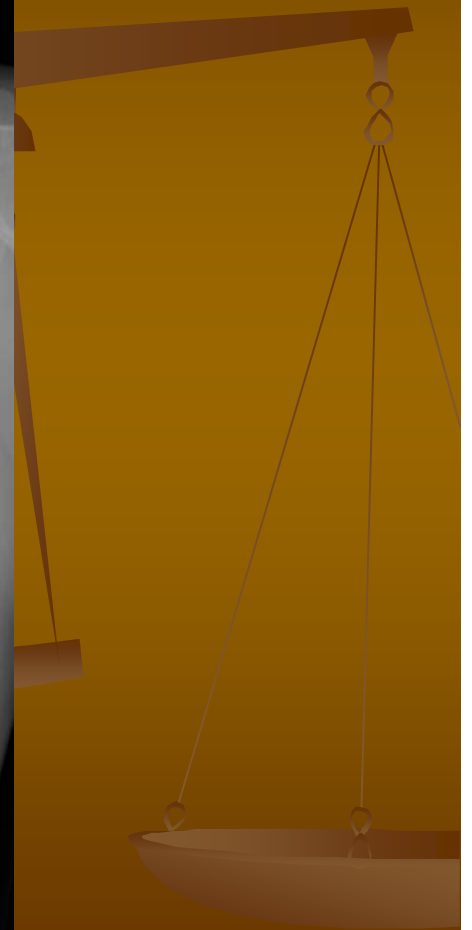
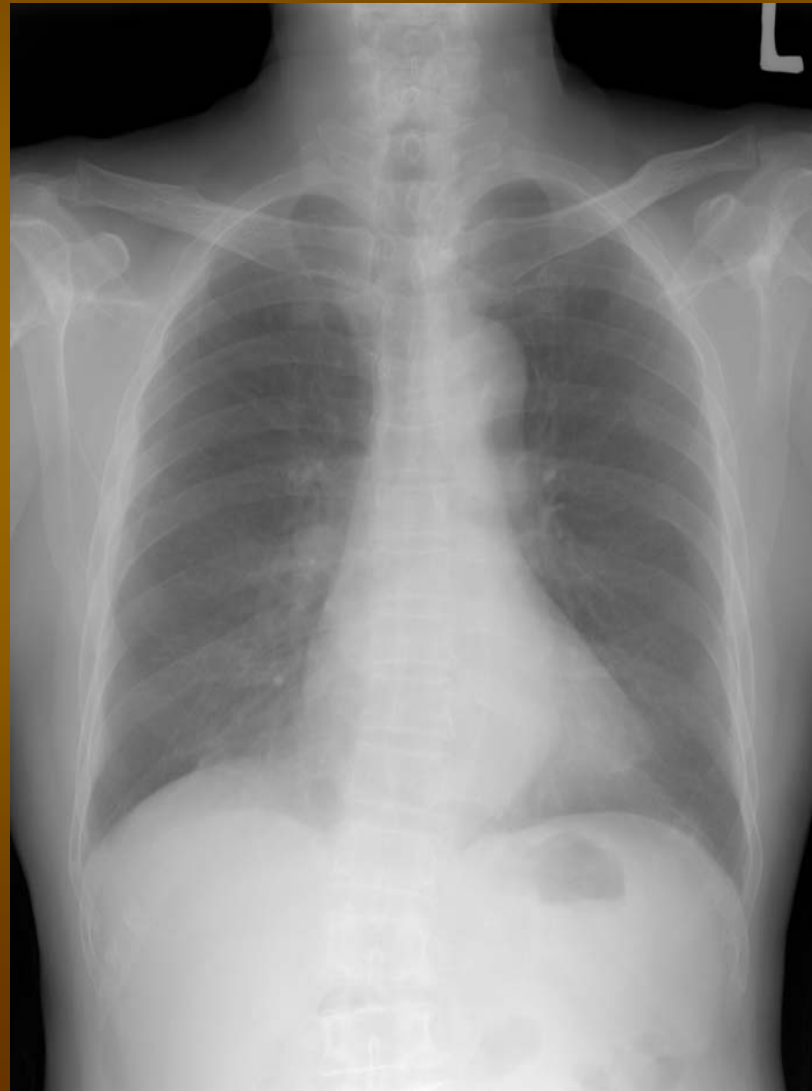


收到檢體	Blood	970922 07:17	
Albumin	Blood	3.25	3.5 - 5.0
Creatinine	Blood	1.26	0.6 - 1.3
NA	Blood	140	136 - 145
K	Blood	3.6	3.5 - 5.1

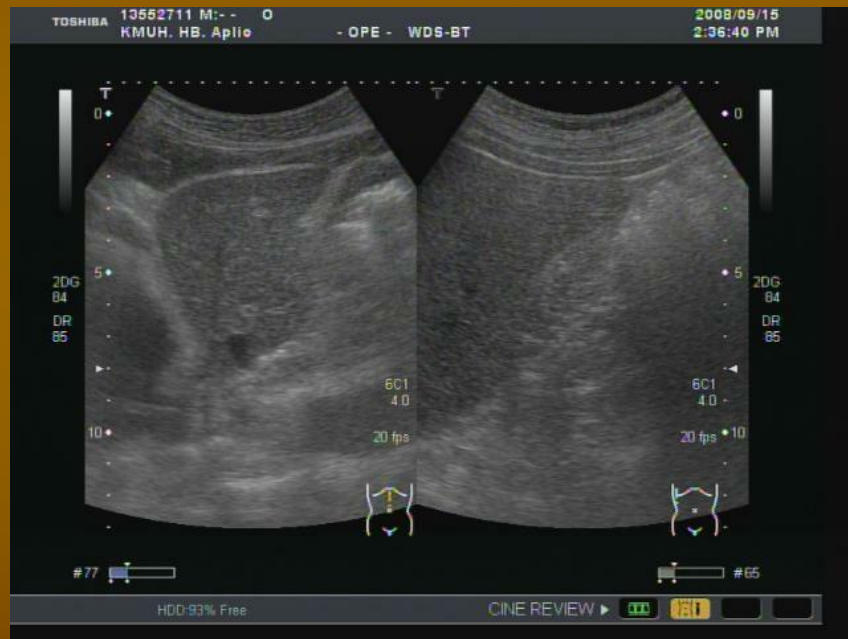
Lab data 9/22

收到檢體	Blood	970922 07:33	
WBC	Blood	7.3	4.0 - 10.0
RBC	Blood	3.44	4.5 - 6.0
Hgb	Blood	9.3	13 - 17
Hct	Blood	27.3	40 - 53
MCV	Blood	79.4	79.0 - 101.0
MCH	Blood	27.0	26.0 - 35.0
MCHC	Blood	34.0	31.0 - 37.0
PLT	Blood	233	130.0 - 500.0
RDW	Blood	17.8	11.5 - 14.5

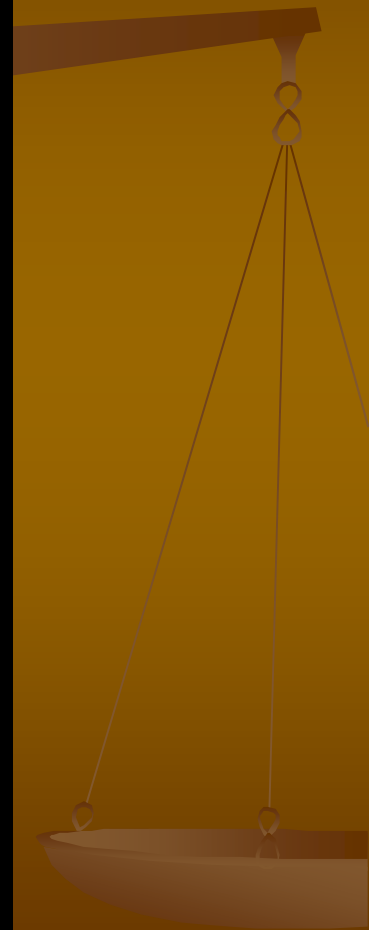
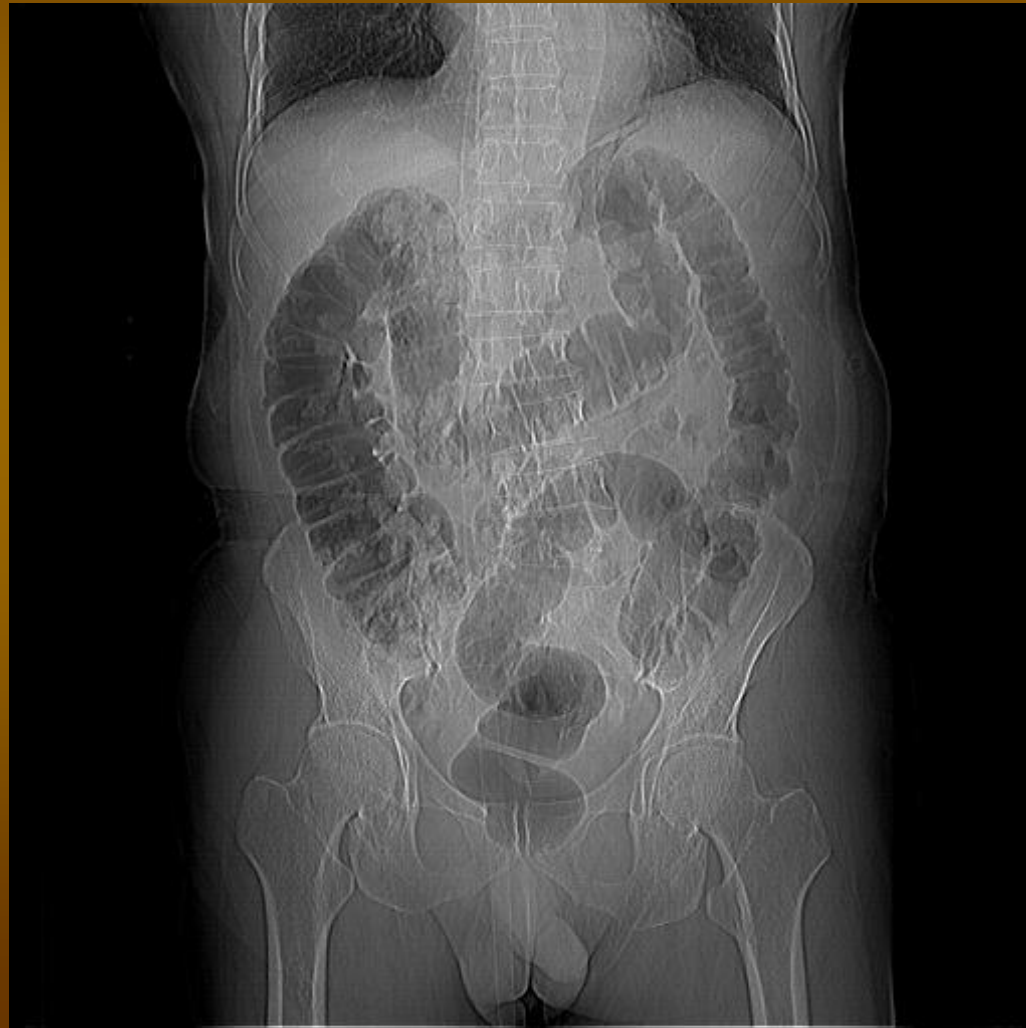
9/12 chest PA



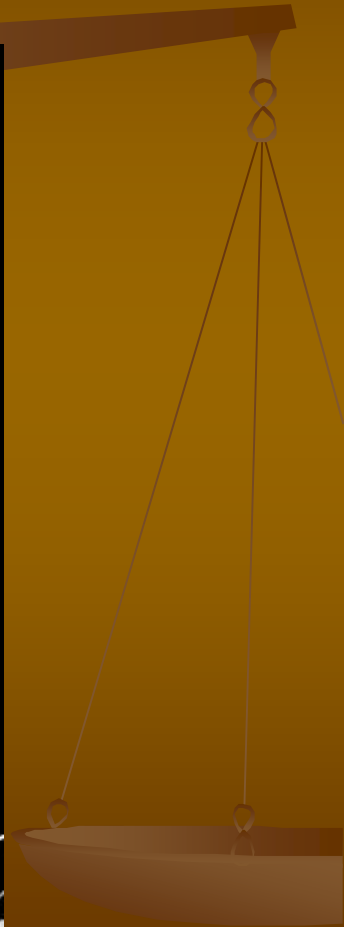
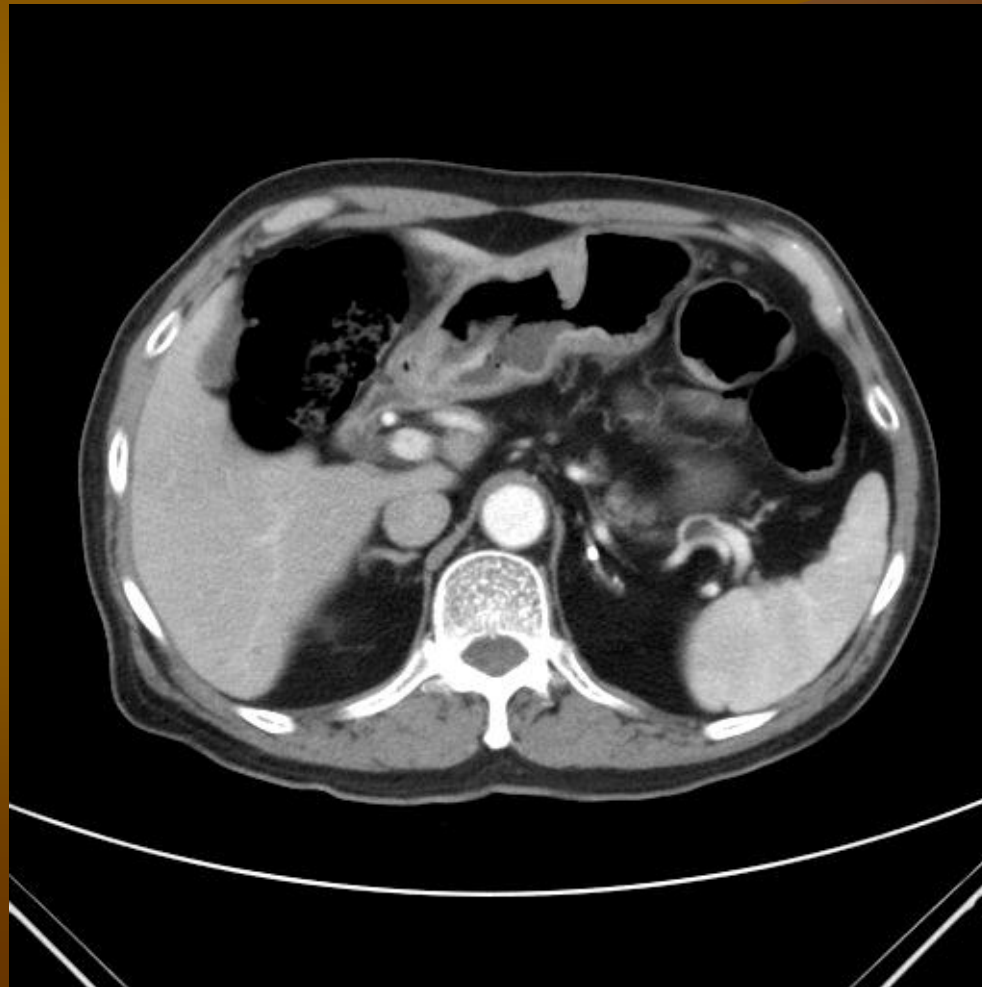
Abdominal echo



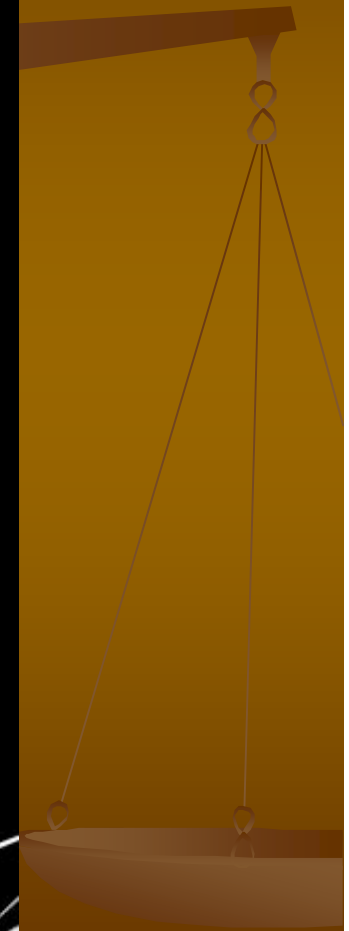
CT KUB



9/15 Abdominal CT



Abdominal CT



Impression


- 1) Consider gastric cancer , stage 3B (T3N2M0) , Recommend endoscopy.
- 2) Multiple small polypoid lesions in the colon.
■ consider colon polyposis.
- 3) Multiple bilateral hepatic cysts.
- 4) Right renal cysts.
- 5) Suspect angiomyolipoma in the left kidney.
- 6) Spondylosis and scoliosis of T-,L-spine.
- 7) Atherosclerosis and tortuous abdominal aorta.
- 8) Calcified granulomas in the lateral aspect of the right inguina.

Background

Primary tumor (T)	Regional lymph node (N)	Distant metastasis (M)
<p>TX primary tumor can not be assessed</p> <p>T0 no evidence of primary tumor</p> <p>Tis carcinoma in situ: intraepithelial tumor without invasion of lamina propria</p> <p>T1 tumor invading lamina propria or submucosa</p> <p>T2 tumor invading muscularis propria or subserosa</p> <p>T2a invading muscularis propria</p> <p>T2b invading subserosa</p> <p>T3 tumor penetrating serosa(visceral peritoneum) without</p> <p>invasion of adjacent organs</p> <p>T4 tumor invading adjacent organs</p>	<p>NX regional lymph node(s) can not be assessed</p> <p>N0 no regional lymph node metastasis</p> <p>N1 metastasis in 1 to 6 regional lymph nodes</p> <p>N2 metastasis in 7 to 15 regional lymph nodes</p> <p>N3 metastasis in more than 15 regional lymph nodes</p>	<p>MX distant metastasis can not be assessed</p> <p>M0 no distant metastasis</p> <p>M1 distant metastasis</p>



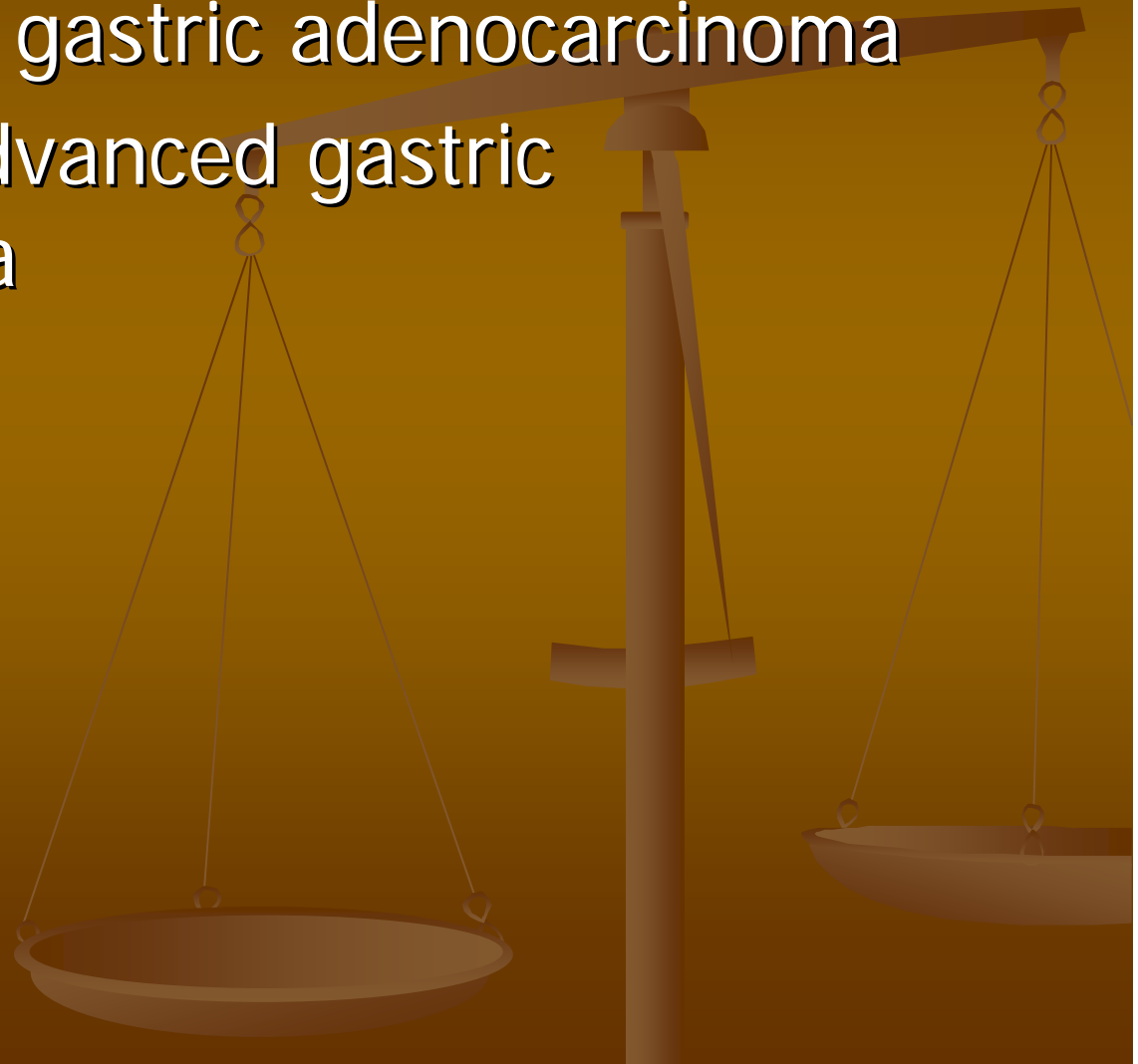
Stage 0	Tis N0 M0
Stage Ia	T1 N0 M0
Stage Ib	T1 N1 M0 T2a/b N0 M0
Stage II	T1 N2 M0 T2a/b N1 M0 T3 N0 M0
Stage IIIa	T2a/b N2 M0 T3 N1 M0 T4 N0 M0
Stage IIIb	T3 N2 M0
Stage IV	T4 N1-3 M0 T1-3 N3 M0 Any T Any N M1



**Which treatment for
postoperative advanced gastric
adenocarcinoma is the best
strategy ?**

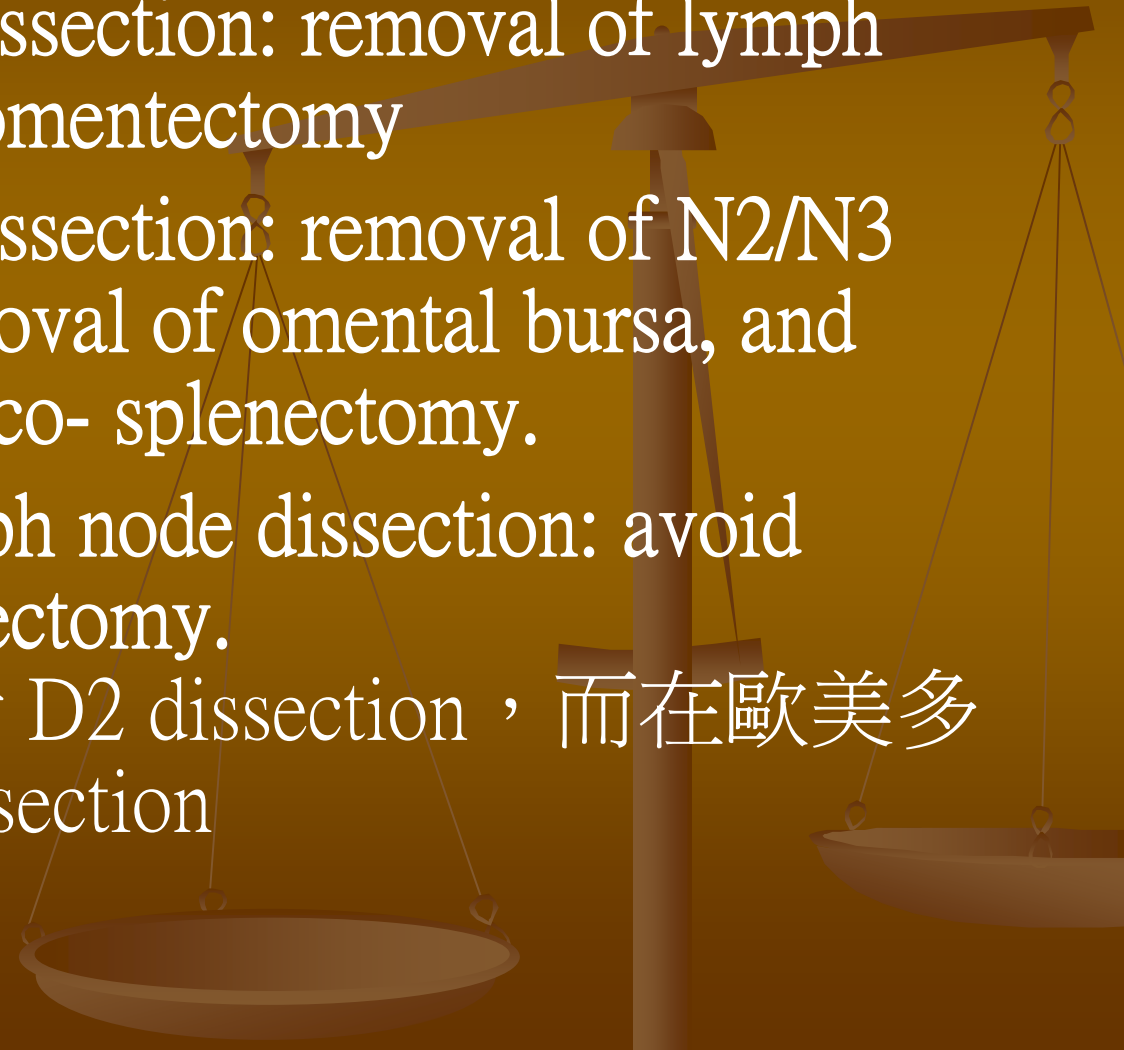
Background questions

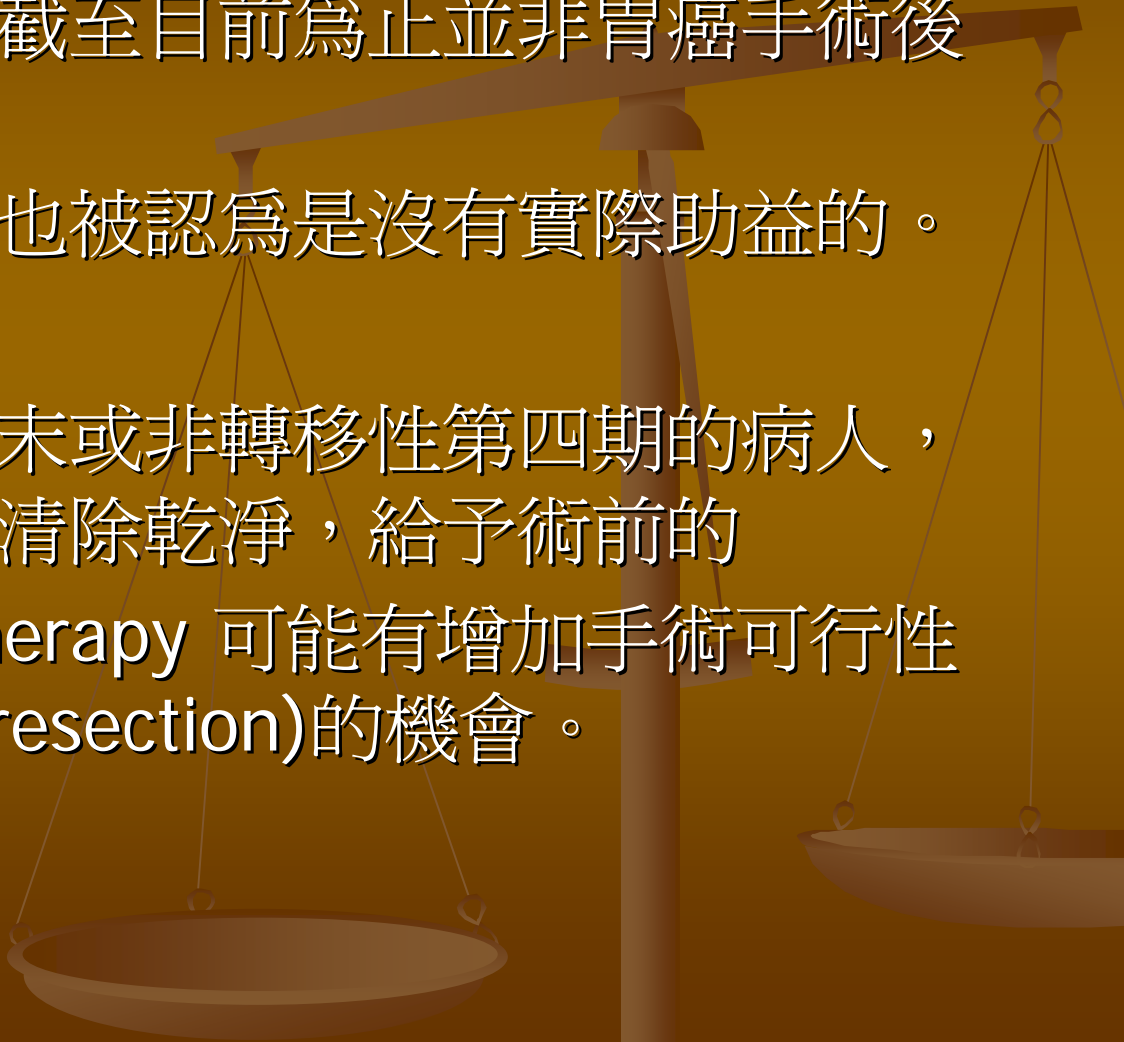
- Classification of gastric adenocarcinoma
- Treatment of advanced gastric adenocarcinoma



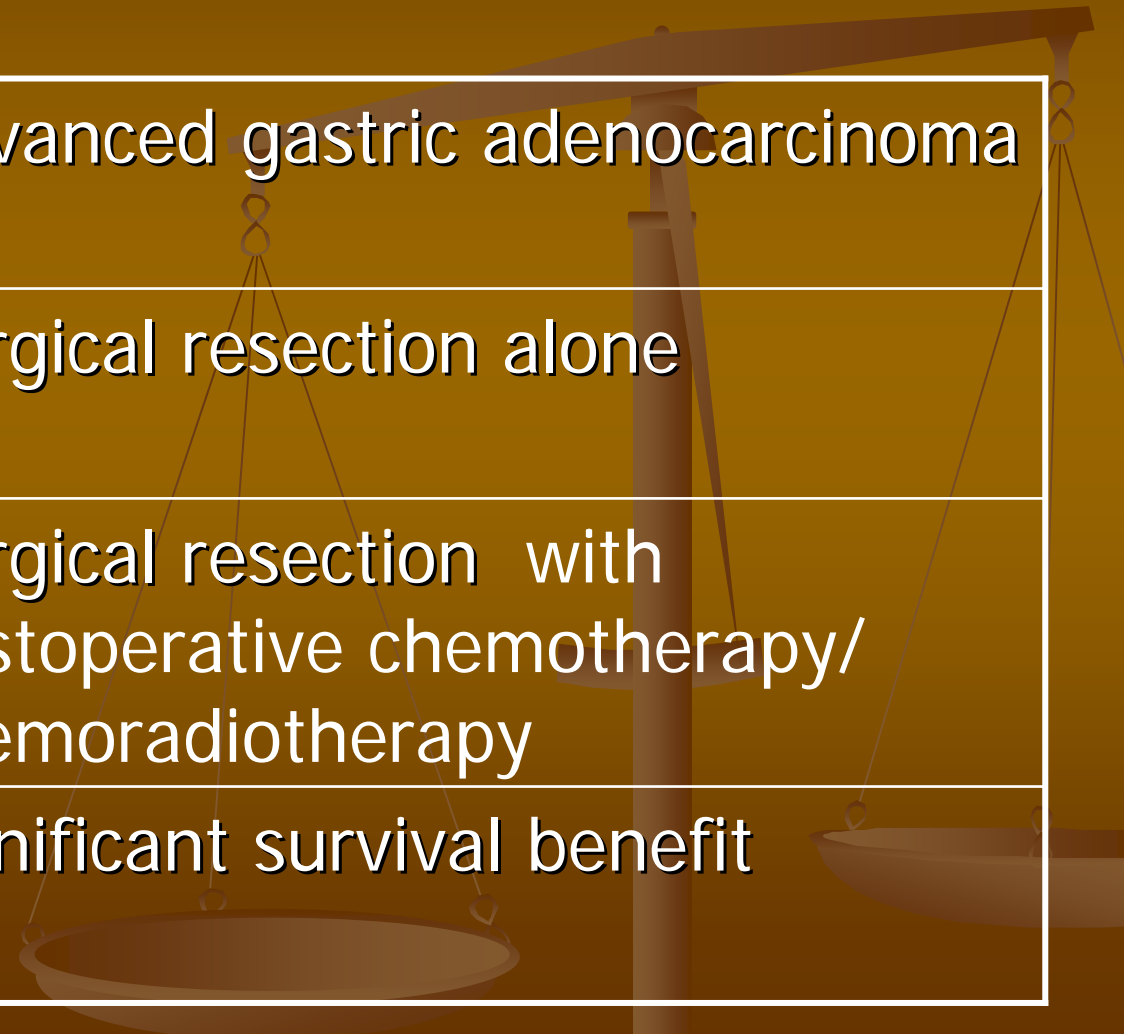
curative treatment

- stage I disease 手術切除後5年存活率可達50%以上
- stage IIIb 的五年存活率就降到 10% 以下
- Pathology differentiation:
 - intestinal type gastric cancer better than diffuse type cancer (5-year survival 26% vs 16%) ◦
 - poorly-differentiated signet ring cell carcinoma sometimes combines with bone marrow infiltration with acute DIC and pancytopenia , poor prognoses , patient often die about one month ◦

- 
- D1 lymph node dissection: removal of lymph nodes of N1 and omentectomy
 - D2 lymph node dissection: removal of N2/N3 lymph nodes, removal of omental bursa, and possible pancreatico- splenectomy.
 - Modified D2 lymph node dissection: avoid pancreatico-splenectomy.
 - 在日本多半進行 D2 dissection，而在歐美多只進行到 D1 dissection

- 
- 手術後之化學治療截至目前為止並非胃癌手術後的常規治療。
 - 輔助性的放射治療也被認為是沒有實際助益的。
 - CCRT
 - 針對嚴重的第三期末或非轉移性第四期的病人，擔心無法局部手術清除乾淨，給予術前的 induction chemotherapy 可能有增加手術可行性及完全切除率(R0 resection)的機會。

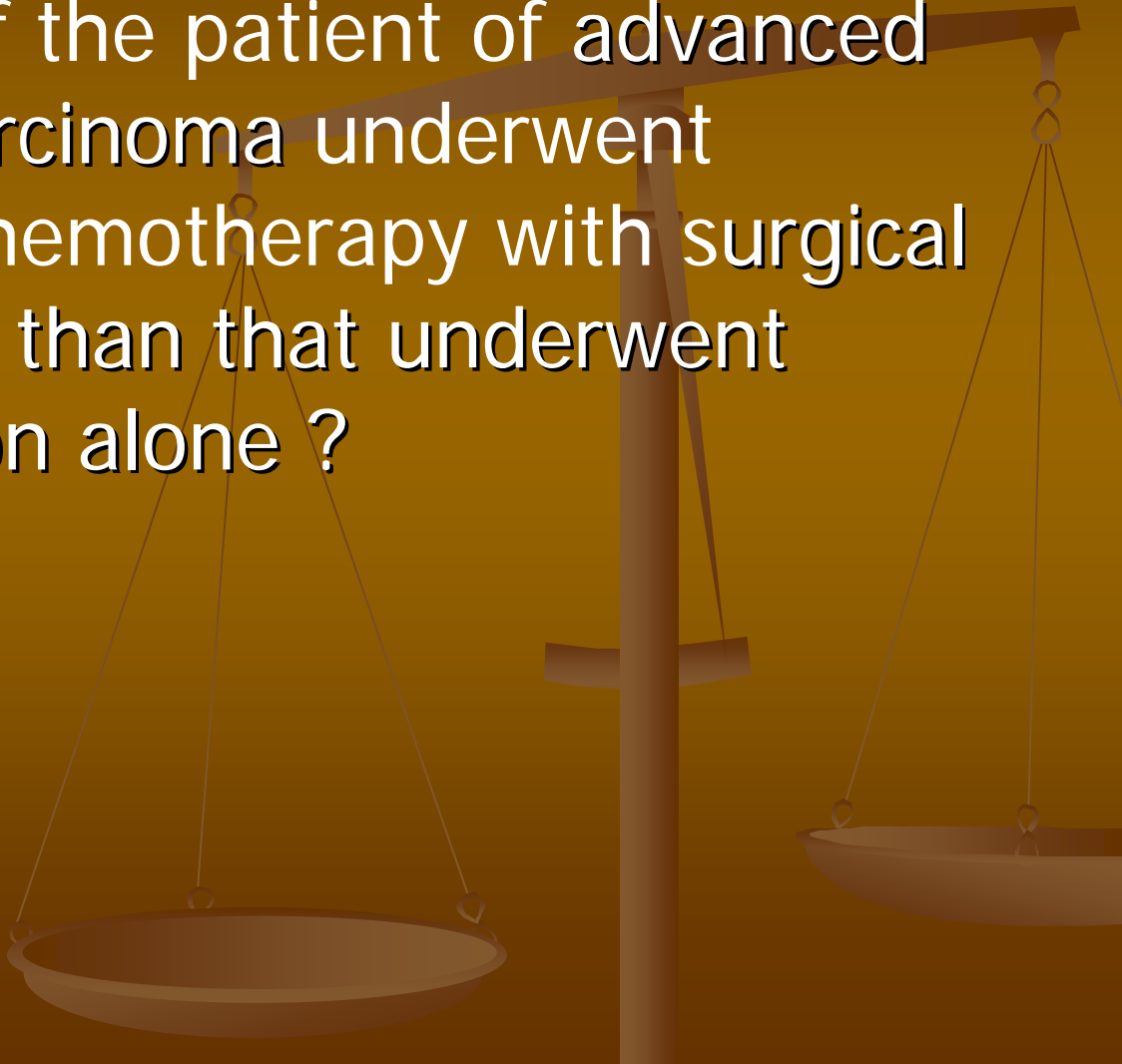
Foreground question



Patient	Advanced gastric adenocarcinoma
Intervention	Surgical resection alone
Comparison	Surgical resection with Postoperative chemotherapy/ chemoradiotherapy
Outcome	significant survival benefit

Asking an answerable question

Is the survival of the patient of advanced gastric adenocarcinoma who underwent Postoperative chemotherapy with surgical resection better than that who underwent surgical resection alone ?





- Key words: advanced gastric cancer ; Chemotherapy

- Cochrane Central 1

- ACP Journal Club 13

- **Key words:** advanced gastric cancer ; Chemotherapy ;
surgical

- PubMed 187

- **Key words:**

Adjuvant treatment ; advanced gastric cancer

- Cochrane Central 1

- Up to date 3 page

- PubMed(review) 216

Acquire

- Synthesis

key words: advanced gastric cancer,
adjuvant chemotherapy

Cochrane review: 1

Pubmed : 187

- Synopsis

key words: advanced gastric cancer, chemotherapy

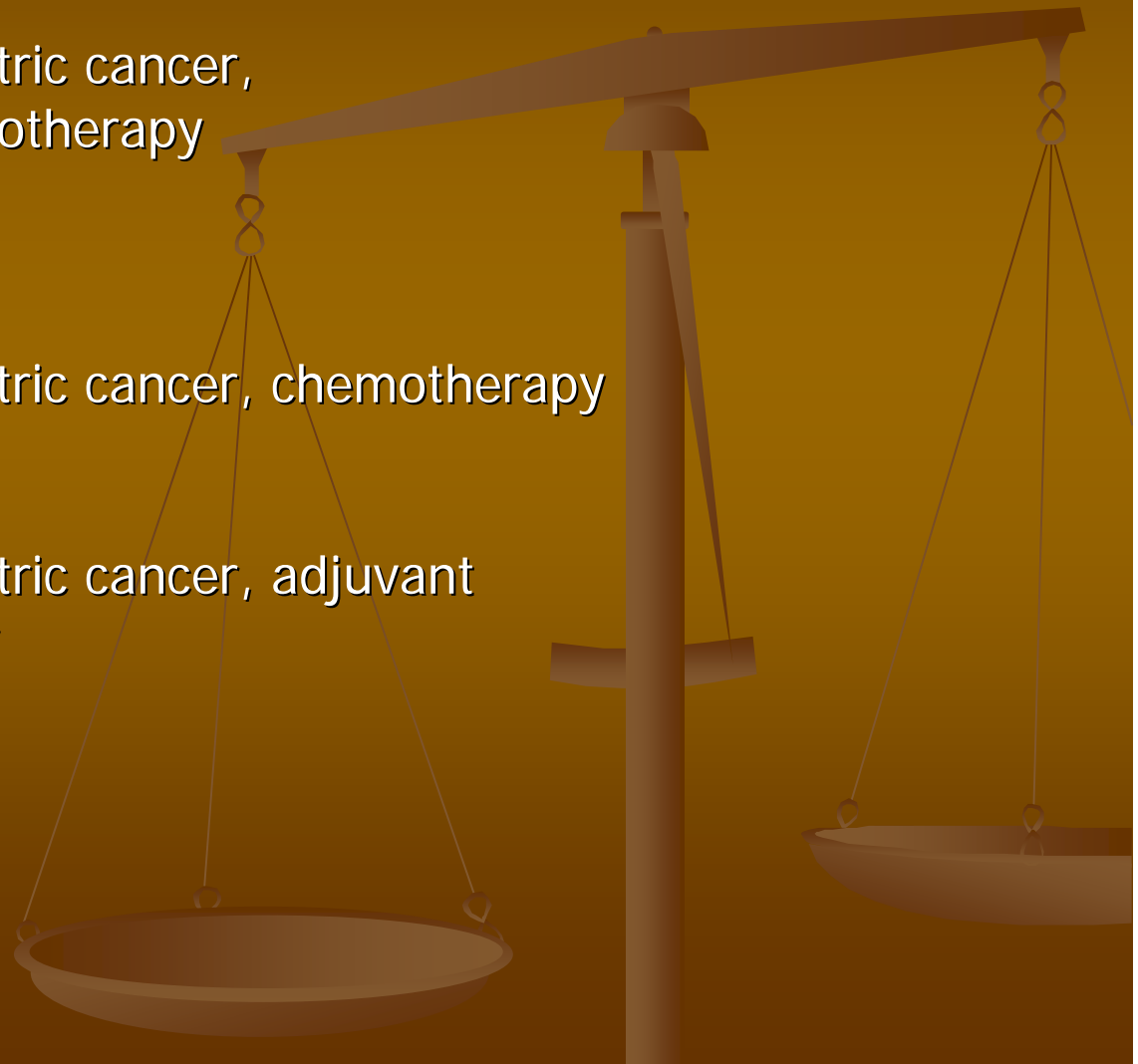
ACP Journal Club: 13

- Summary

key words: advanced gastric cancer, adjuvant
chemotherapy

UpToDate: 1

Textbook: 1





The Cochrane Library

Evidence for healthcare decision-making

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SEARCH

Enter search term Title, Abstract or Keywords

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Search For:

To search using field labels (e.g. heart.ti) use the [Search History](#) page.

In:

Record Title

AND

Record Title

AND

Author

AND

Abstract

AND

Keywords

Go directly to Search History

Boolean operators AND, OR, and NOT can be selected from the pulldown selection boxes or entered directly within the search text boxes. Use parentheses to separate components when entering complex search directly in text box with mixed Boolean operators.

Example: *(corticosteroids AND liver) AND (fibrosis OR cirrhosis)*

Tip No. 2:

The AND operator is used by default between search terms. The string *brain stem* will

Evidence



- 1. Chemotherapy for advanced gastric cancer
Cochrane Database of Systematic Reviews 2008 Issue 3
- 2. The new credo: induction chemotherapy in locally advanced gastric cancer: consequences for surgical strategies.
Gastric Cancer Volume 11, Number 1 / March 2008.
- 3. Perioperative chemotherapy improved survival in resectable adenocarcinoma of the stomach or lower esophagus
ACP Journal Club. 2007 Jan-Feb;146:2.
- 4. Adjuvant and neoadjuvant treatment of gastric cancer
Up To Date Last literature review for version 16.2: May 31, 2008
- 5. Treatment of gastric adenocarcinoma Sleisenger and Fordtran's Gastrointestinal and Liver disease. Mark Feldman et al 8th edition

Chemotherapy for advanced gastric cancer (Review)

Wagner AD, Grothe W, Behl S, Kleber G, Grothey A, Haerting J, Fleig WE



This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2008, Issue 3

<http://www.thecochranelibrary.com>

Evidence-Base 1

- **AIM:**

To assess the effect of chemotherapy versus best supportive care, combination versus single agent chemotherapy and different combination chemotherapy regimens in advanced gastric cancer.



Evidence-Base 1



- **Search strategy :**

searched the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 1, 2004), MEDLINE and EMBASE up to February 2004 and reference lists of articles.

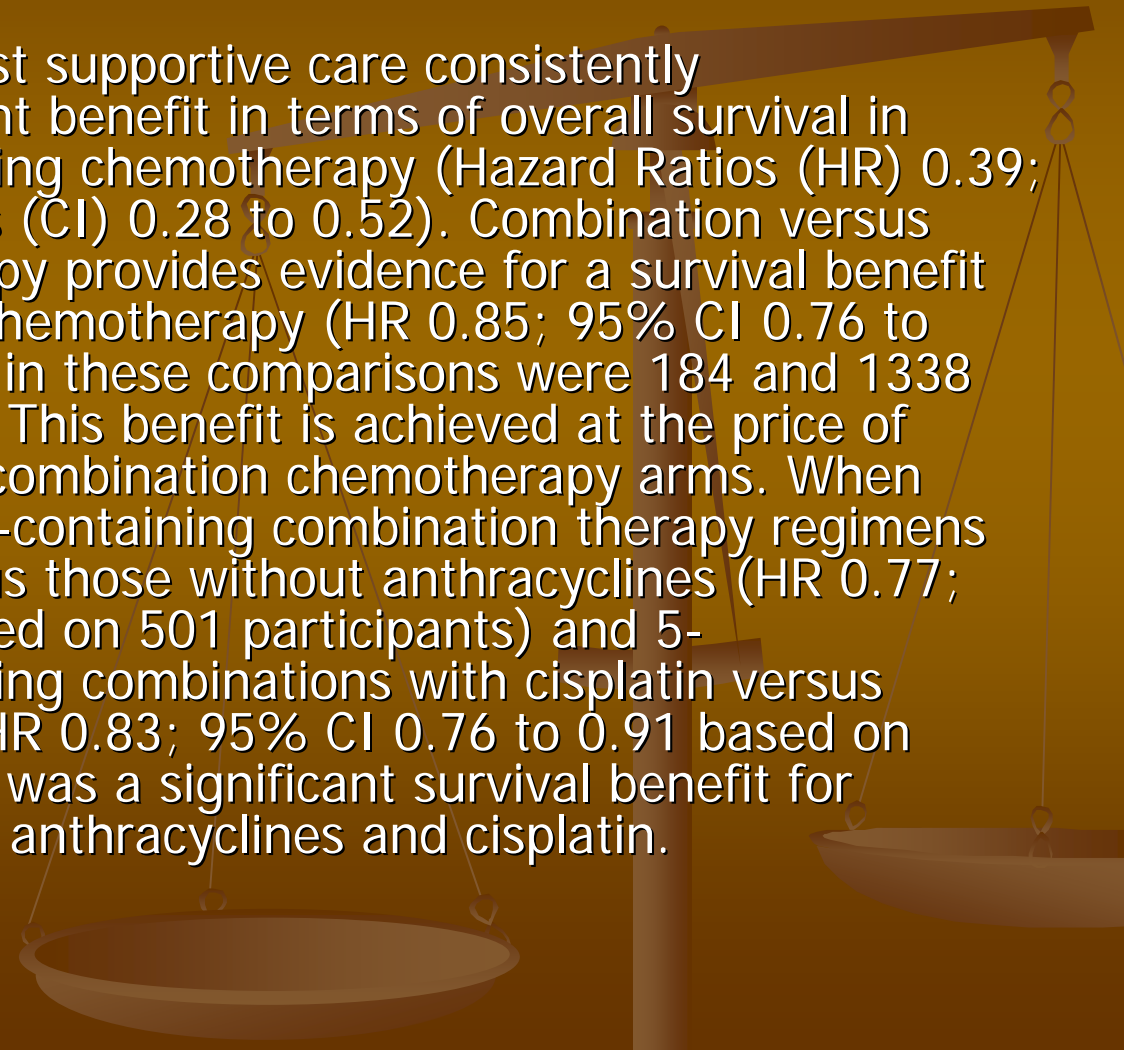
- **Selection criteria :**

Randomised controlled trials on systemic intravenous chemotherapy versus best supportive care, combination versus single agent chemotherapy and different combination chemotherapies in advanced gastric cancer.

Evidence-Base 1

- Result:

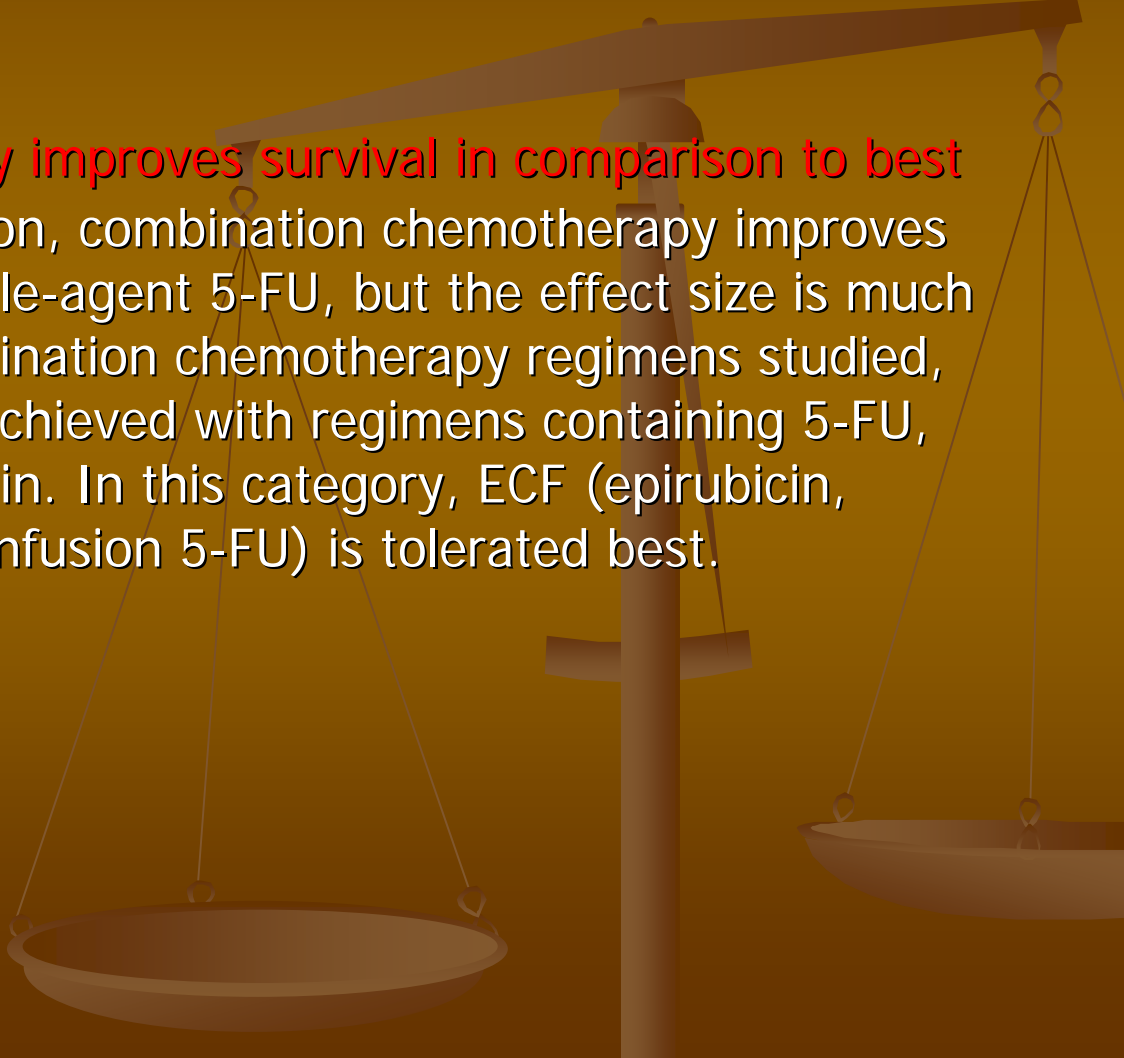
Chemotherapy versus best supportive care consistently demonstrated a significant benefit in terms of overall survival in favor of the group receiving chemotherapy (Hazard Ratios (HR) 0.39; 95% confidence intervals (CI) 0.28 to 0.52). Combination versus single-agent chemotherapy provides evidence for a survival benefit in favor of combination chemotherapy (HR 0.85; 95% CI 0.76 to 0.96). Numbers included in these comparisons were 184 and 1338 participants respectively. This benefit is achieved at the price of increased toxicity in the combination chemotherapy arms. When comparing 5-FU/cisplatin-containing combination therapy regimens with anthracyclines versus those without anthracyclines (HR 0.77; 95% CI 0.62 to 0.95 based on 501 participants) and 5-FU/anthracycline-containing combinations with cisplatin versus those without cisplatin (HR 0.83; 95% CI 0.76 to 0.91 based on 1147 participants), there was a significant survival benefit for regimens including 5-FU, anthracyclines and cisplatin.



Evidence-Base 1

- Conclusion:

Chemotherapy significantly improves survival in comparison to best supportive care. In addition, combination chemotherapy improves survival compared to single-agent 5-FU, but the effect size is much smaller. Among the combination chemotherapy regimens studied, best survival results are achieved with regimens containing 5-FU, anthracyclines and cisplatin. In this category, ECF (epirubicin, cisplatin and continuous infusion 5-FU) is tolerated best.



Evidence-Base 1

- Level of evidence: II







Search PubMed for advanced gastric cancer +Chemotherapy+ surgical [Advanced Search](#) [Save Search](#)

Display Summary Show 20 Title Send to

All: 992 **Review: 187** ✕

Items 1 - 20 of 187

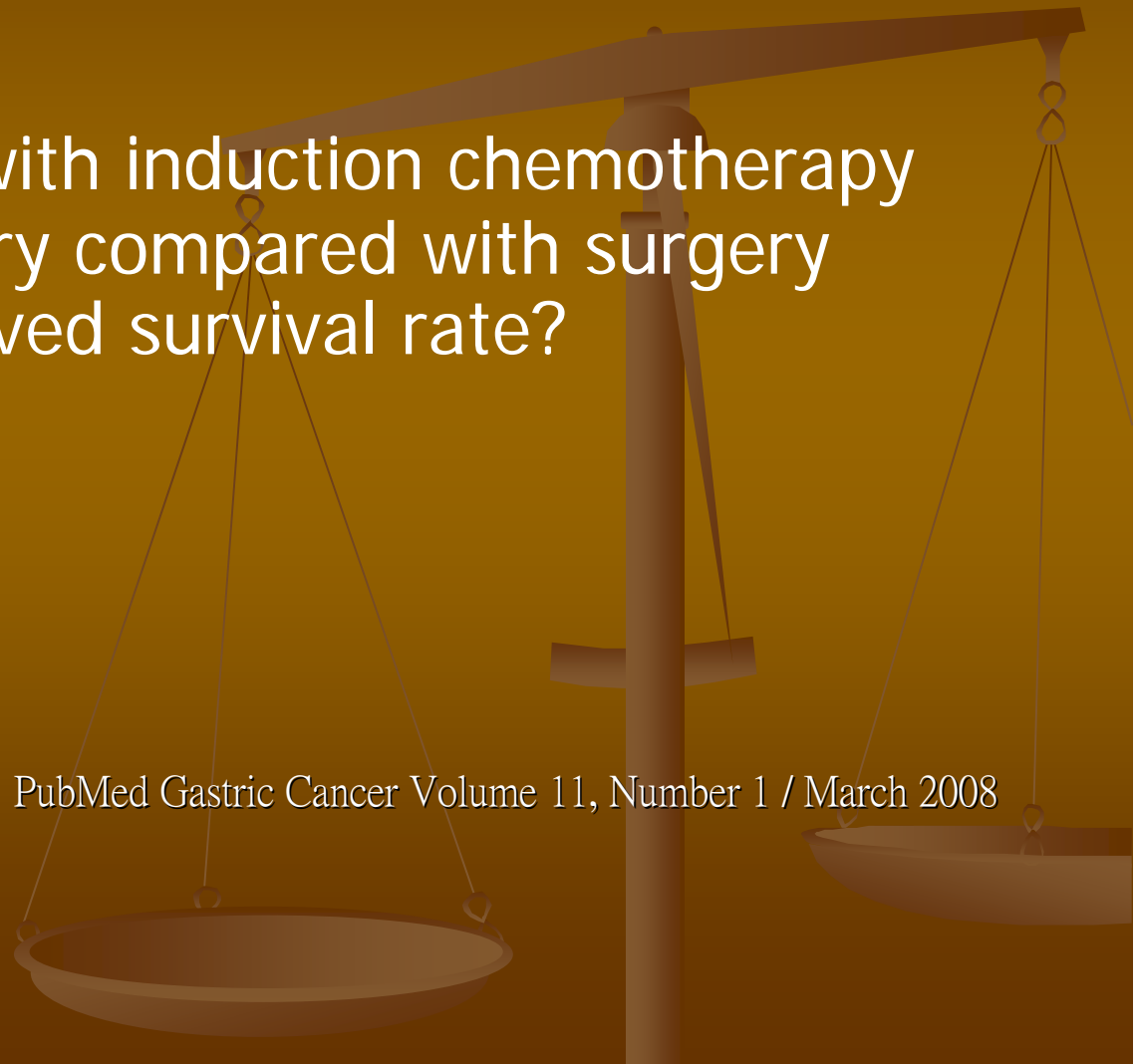
- 4:** [Ohtsu A.](#) Related Article
 Chemotherapy for metastatic gastric cancer: past, present, and future.
 J Gastroenterol. 2008;43(4):256-64. Epub 2008 May 6. Review.
 PMID: 18458840 [PubMed - indexed for MEDLINE]
- 5:** [Lee JL, Kang YK.](#) Related Article
 Capecitabine in the treatment of advanced gastric cancer.
 Future Oncol. 2008 Apr;4(2):179-98. Review.
 PMID: 18407732 [PubMed - indexed for MEDLINE]
- 6:** [Ott K, Lordick F, Herrmann K, Krause BJ, Schuhmacher C, Siewert JR.](#) Related Article
 The new credo: induction chemotherapy in locally advanced gastric cancer: consequences for surgical strategies
 Gastric Cancer. 2008;11(1):1-9. Epub 2008 Mar 29. Review.
 PMID: 18373171 [PubMed - indexed for MEDLINE]
- 7:** [Kubota T.](#) Related Article
 The role of S-1 in the treatment of gastric cancer.
 Br J Cancer. 2008 Apr 22;98(8):1301-4. Epub 2008 Mar 25. Review.
 PMID: 18362933 [PubMed - indexed for MEDLINE]

Evidence-Base 2

- **AIM:**

Did the patients with induction chemotherapy followed by surgery compared with surgery alone show improved survival rate?

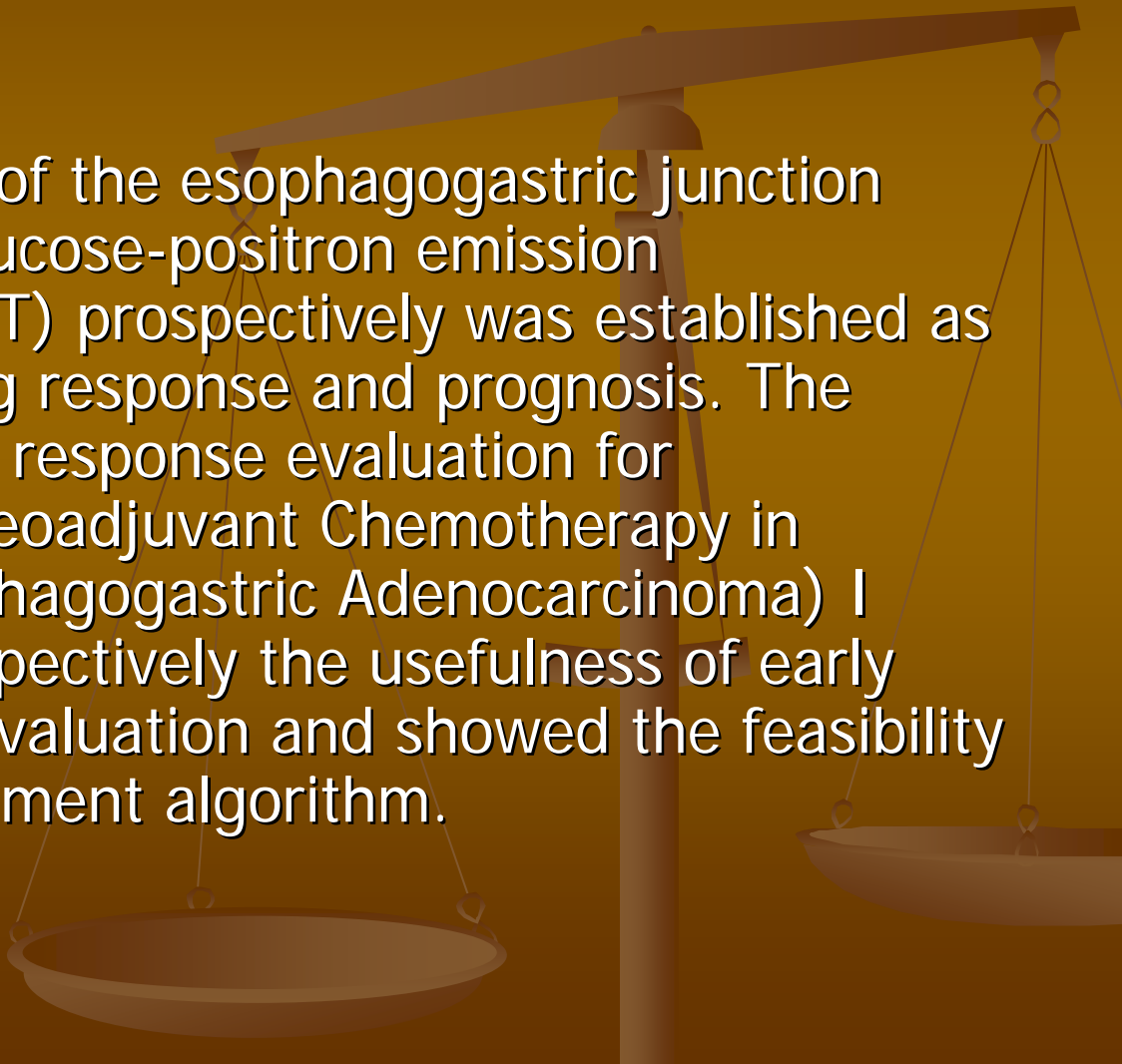
PubMed Gastric Cancer Volume 11, Number 1 / March 2008



Evidence-Base 2

- Method :

In adenocarcinomas of the esophagogastric junction (AEG), fluorodeoxyglucose-positron emission tomography (FDG-PET) prospectively was established as a surrogate predicting response and prognosis. The MUNICON (Metabolic response evaluation for Individualisation of neoadjuvant Chemotherapy in esophageal and esophagogastric Adenocarcinoma) I study confirmed prospectively the usefulness of early metabolic response evaluation and showed the feasibility of a PET-guided treatment algorithm.



Evidence-Base 2

- Result:

Two randomized phase III studies have shown improved survival for patients with induction chemotherapy followed by surgery compared with surgery alone. It is generally accepted that patients who respond to induction therapy have a significantly improved survival compared with that in nonresponding patients.



Evidence-Base 2

- Conclusion :

Perioperative chemotherapy in stage II and stage III gastric cancer is now accepted as a standard of care in the Western world.



Evidence-Base 2

- Level of evidence: II



ACP Journal Club - Search Results

Search for:

Phrases must be in "quotes"

Article type:
Therapeutics
Diagnosis
Clinical Prediction Guide
Prognosis

Don't use synonyms

Found 13 matches. Showing 1 - 10.

1. OAN: 2006 - Phase III study of docetaxel and cisplatin plus fluorouracil compared with cisplatin and fluorouracil as first-line therapy for advanced gastric cancer: a report of the V325 Study Group.

2. OAN: 2005 - Chemotherapy for advanced gastric cancer.

3. OAN: 2005 - Increase of survival benefit in advanced resectable colon cancer by extent of adjuvant treatment: results of a randomized trial comparing modulation of 5-FU + levamisole with folinic acid or with interferon-alpha.

4. OAN: 2007 - Randomized controlled trial of adjuvant uracil-tegafur versus surgery alone for serosa-negative, locally advanced gastric cancer.

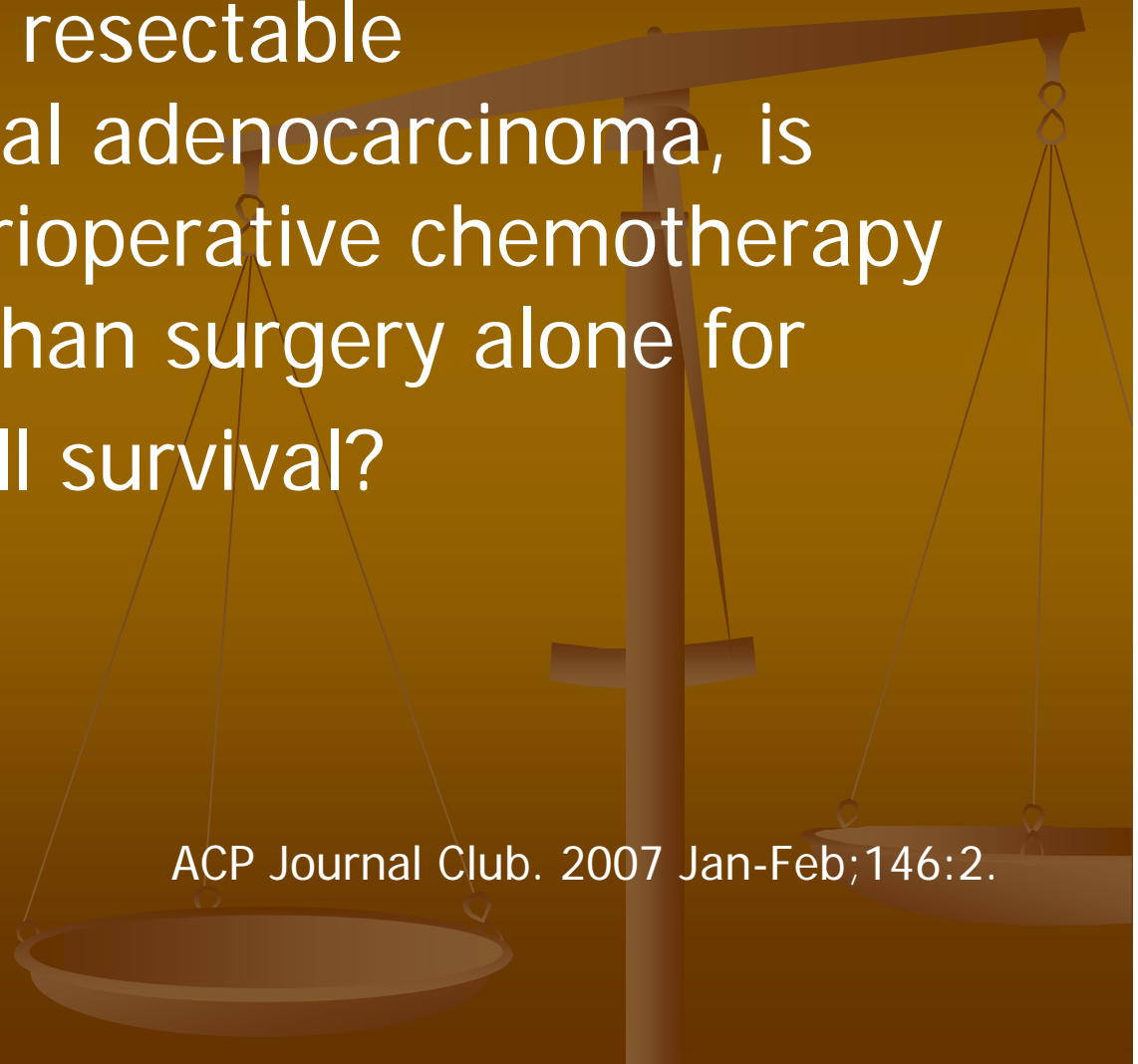
5. OAN: 2006 - Chemotherapy in advanced gastric cancer: a systematic review and meta-analysis based on aggregate data.

6. OAN: 2008 - Capecitabine and oxaliplatin for advanced esophagogastric cancer.

Evidence-Base 3

- In patients with resectable gastroesophageal adenocarcinoma, is surgery plus perioperative chemotherapy more effective than surgery alone for improving overall survival?

ACP Journal Club. 2007 Jan-Feb;146:2.



Evidence-Base 3



- **Methods :**

- **Design:** Randomized controlled trial.

Allocation: Concealed.*

Blinding: Unblinded.*

Follow-up period: Median 4 years.

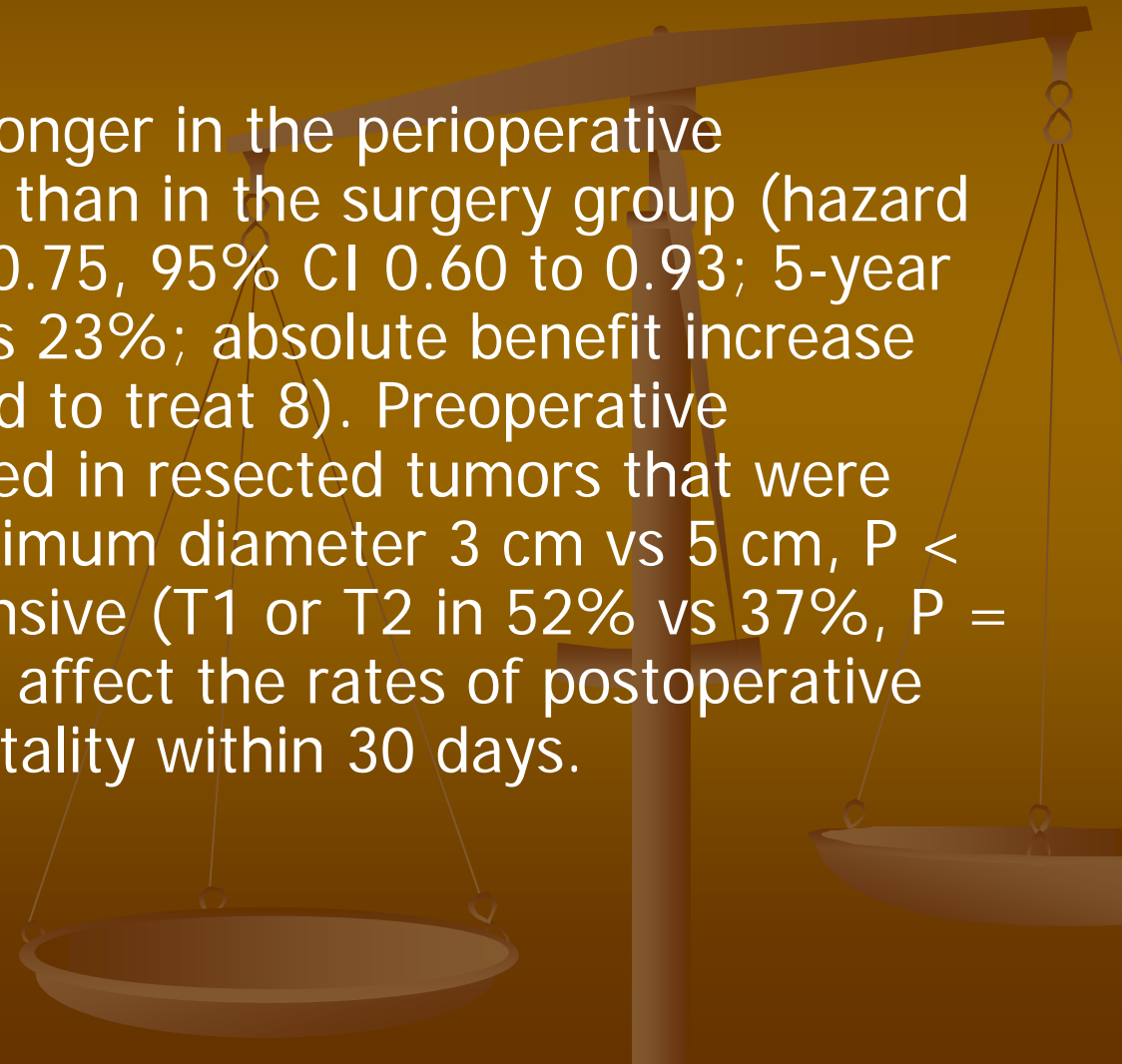
Setting: 56 centers in the United Kingdom, the Netherlands, New Zealand, Germany, Singapore, and Brazil

- **Patients:** 503 patients 23 to 85 years of age (median age 62 y, 79% men) with adenocarcinoma of the stomach, lower esophagus, or gastroesophageal junction that penetrated the submucosa, but without evidence of distant metastases or inoperable local disease.
- **Intervention:** Surgery alone (n = 253) or surgery plus perioperative chemotherapy (n = 250) with epirubicin, 50 mg/m² on day 1; cisplatin, 60 mg/m² on day 1; and fluorouracil, 200 mg/m² daily by continuous intravenous infusion for 21 days, given for 3 cycles before surgery and 3 cycles after surgery.
- **Outcomes:** Overall survival. Secondary outcomes included surgical and pathologic assessments of tumor size and stage, postoperative complications, and mortality within 30 days.

Evidence-Base 3

■ results :

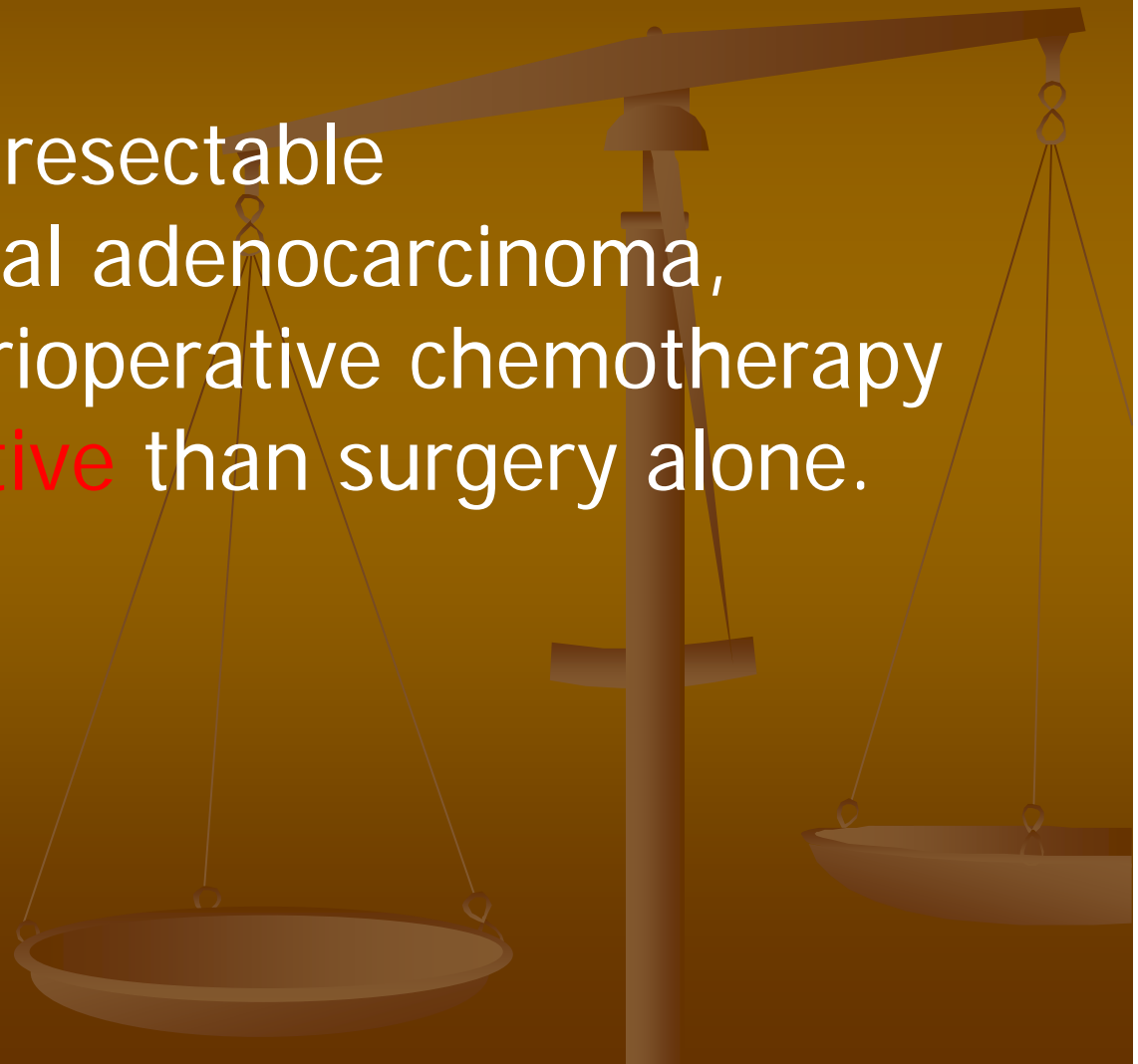
Overall survival was longer in the perioperative chemotherapy group than in the surgery group (hazard ratio [HR] for death 0.75, 95% CI 0.60 to 0.93; 5-year survival rates 36% vs 23%; absolute benefit increase 13%; number needed to treat 8). Preoperative chemotherapy resulted in resected tumors that were smaller (median maximum diameter 3 cm vs 5 cm, $P < 0.001$) and less extensive (T1 or T2 in 52% vs 37%, $P = 0.002$), but it did not affect the rates of postoperative complications or mortality within 30 days.



Evidence-Base 3

- **Conclusion :**

In patients with resectable gastroesophageal adenocarcinoma, surgery plus perioperative chemotherapy was **more effective** than surgery alone.



Evidence-Base 3

- Level of evidence: II



Search Results for "Adjuvant treatment + advanced gastric cancer"

- Adjuvant and neoadjuvant treatment of gastric cancer
- Early gastric cancer
- Surgery in the treatment of invasive gastric and gastroesophageal junction cancer
- Adjuvant systemic therapy for early breast cancer: Rationale, assessing the need for and benefit from therapy, and treatment guidelines
- Adjuvant systemic therapy for hormone receptor positive early stage breast cancer in postmenopausal women
- Risk factors for gastric cancer
- Adjuvant systemic therapy for hormone receptor positive early stage breast cancer in premenopausal women
- Adjuvant systemic therapy for older women with early stage breast cancer
- Adjuvant and neoadjuvant therapy for pancreatic and ampullary adenocarcinoma

Topic

INTRODU

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Evidence-Base 4



- **AIM:**

This topic review will focus on adjuvant and neoadjuvant therapies for gastric cancer.

Up To Date Last literature review for version 16.2: May 31, 2008

Evidence-Base 4



- **Adjuvant chemotherapy :**

More than 30 randomized trials have compared adjuvant systemic chemotherapy to surgery alone in resectable gastric cancer

- **Neoadjuvant chemotherapy**

Neoadjuvant chemotherapy is typically administered as a means of "downstaging" a locally advanced tumor prior to an attempt at curative resection. This approach has been applied to patients thought to have resectable disease as well as those with apparently unresectable but nonmetastatic disease.

Evidence-Base 4



■ RESULTS:

■ Adjuvant chemotherapy :

with variable results. Several reasons have been proposed to account for these conflicting results:

1. Some of the reportedly negative trials were clearly underpowered to detect a significant survival difference
2. Other trials utilized inferior surgical techniques
3. The long time to recovery from major upper GI tract surgery can delay or prevent the use of postoperative therapy. In addition, depending on the regimen used, adverse effects can be significant.
4. These issues have resulted in less than 80 percent of planned doses being administered in many trials, despite patients being treated to maximum tolerance.
5. Geographic variation may account for some of the differences,
6. Three-year disease-free (48 versus 31 percent) and overall survival rates (50 versus 41 percent) were significantly better with combined modality therapy, and median survival was significantly longer (36 versus 27 months)

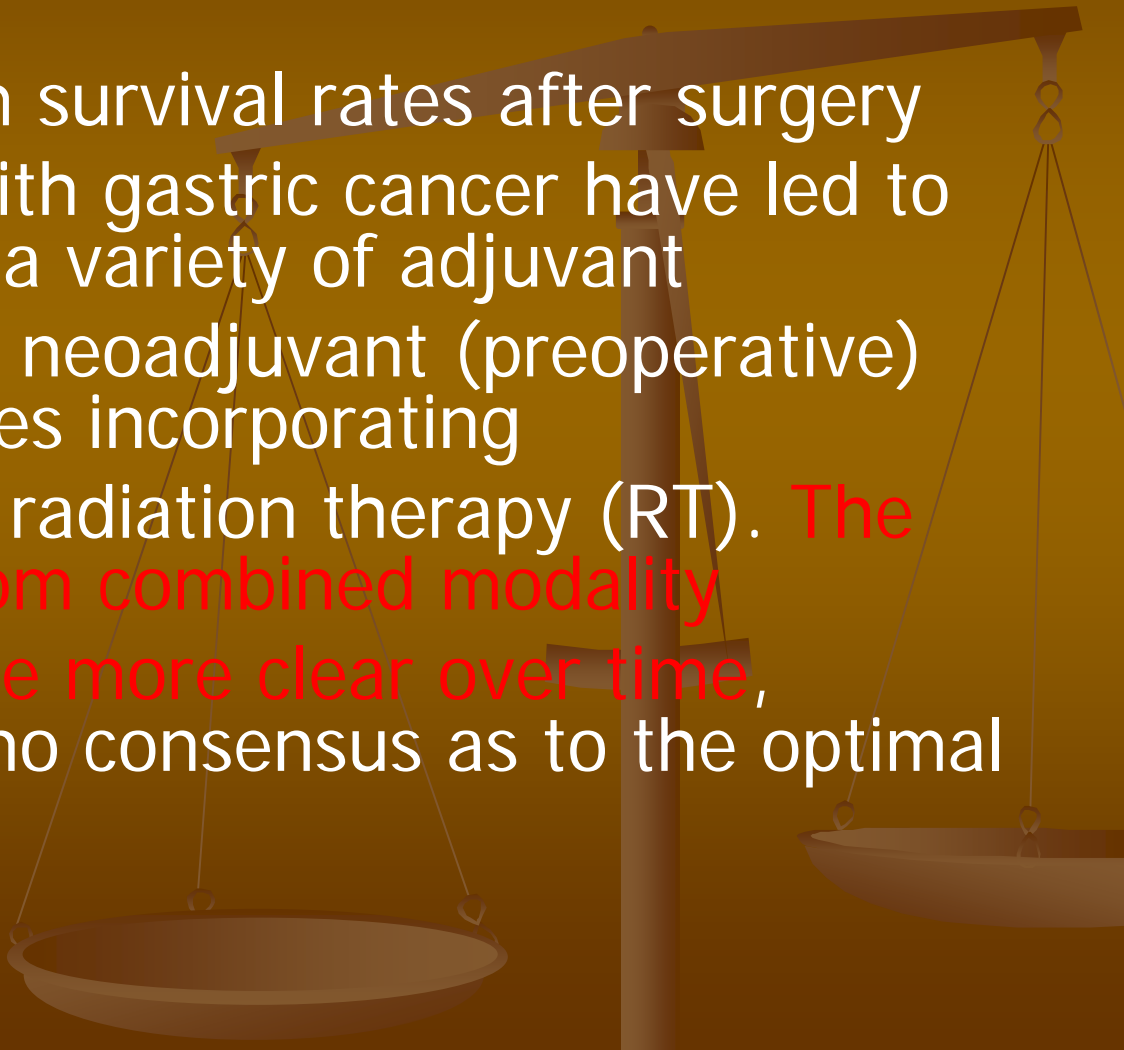
■ Neoadjuvant chemotherapy

At least three such trials have compared conventional IV neoadjuvant chemotherapy with surgery alone, only two of which have been published in final form. Despite the negative Dutch trial, the impressive results of the well conducted MAGIC and French trials have led to the adoption of the perioperative chemotherapy approach to treatment of gastric cancer in much of Europe and other parts of the world.

Evidence-Base 4

- CONCLUSION :

The poor long-term survival rates after surgery alone in patients with gastric cancer have led to the exploration of a variety of adjuvant (postoperative) and neoadjuvant (preoperative) treatment strategies incorporating chemotherapy and radiation therapy (RT). **The survival benefit from combined modality therapy has become more clear over time,** although there is no consensus as to the optimal approach.



Evidence-Base 4

- Level of evidence: I



Evidence-Base 5

- A national multicenter, two-armed, prospective randomized trial of adjuvant postoperative chemoradiotherapy has demonstrated a significant benefit of combined therapy.
- In this study, 603 patients were accrued and randomly assigned to either postoperative observation(OBS) or a combined-modality therapy(CMT) consisting of one cycle of 5-FU-based chemotherapy before radiotherapy, two cycles during RT, and two cycles after the completion of RT, with a median follow-up period of 5 years.

JeanMarie Houghton: Sleisenger and Fordtran's Gastrointestinal and Liver disease. Mark Feldman et al 8th edition. Pennsylvania: Saunders, 2006: 1157

Evidence-Base 5

- The median overall survival in the OBS group was **27 months**, compared with **36 months** in the CMT group
- The three-year relapse-free survival rate was significantly better in the CMT group (**48%**) than in the OBS group (**31%**)

JeanMarie Houghton: Sleisenger and Fordtran's Gastrointestinal and Liver disease. Mark Feldman et al 8th edition. Pennsylvania: Saunders, 2006: 1157

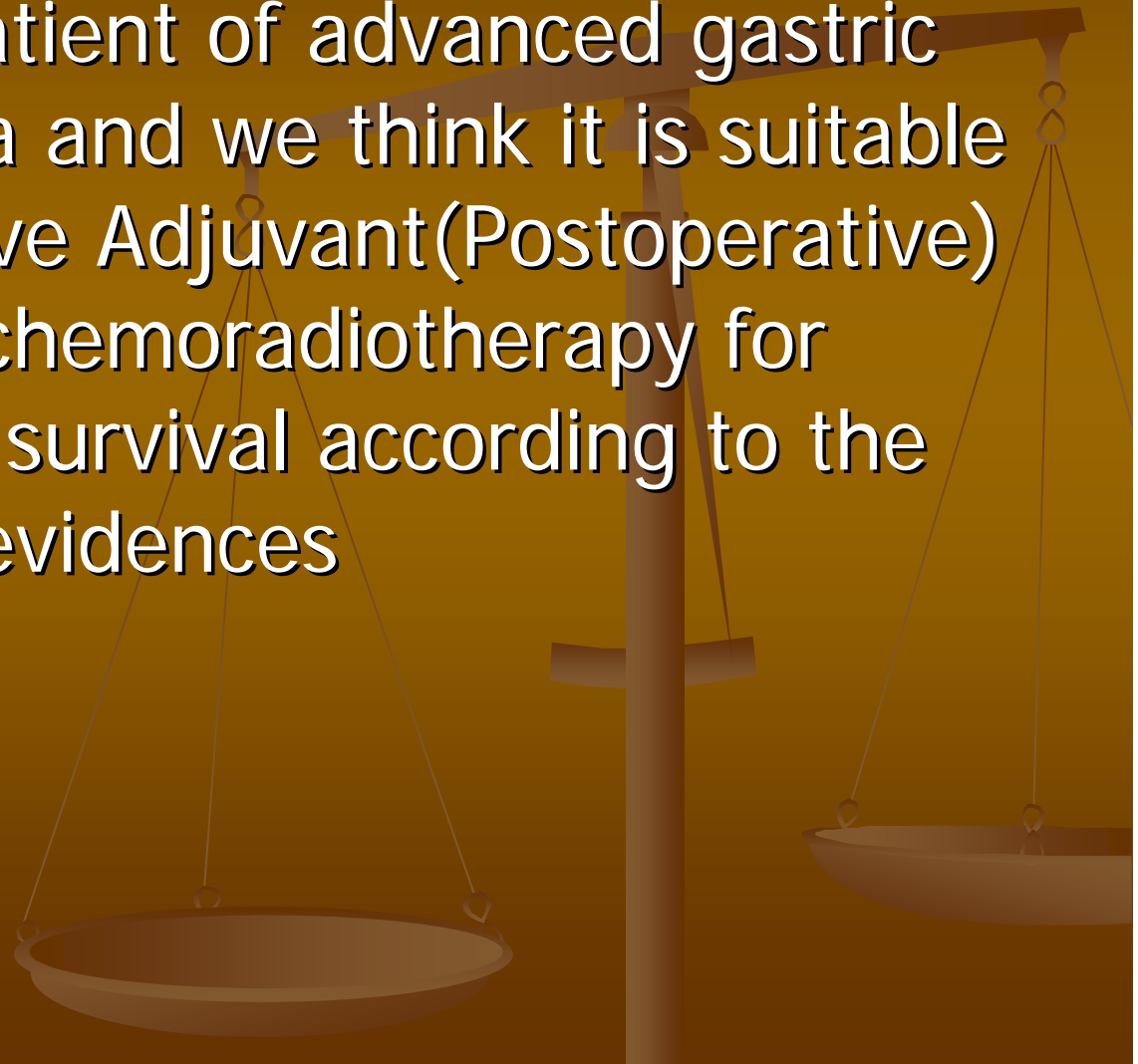
Evidence-Base 5

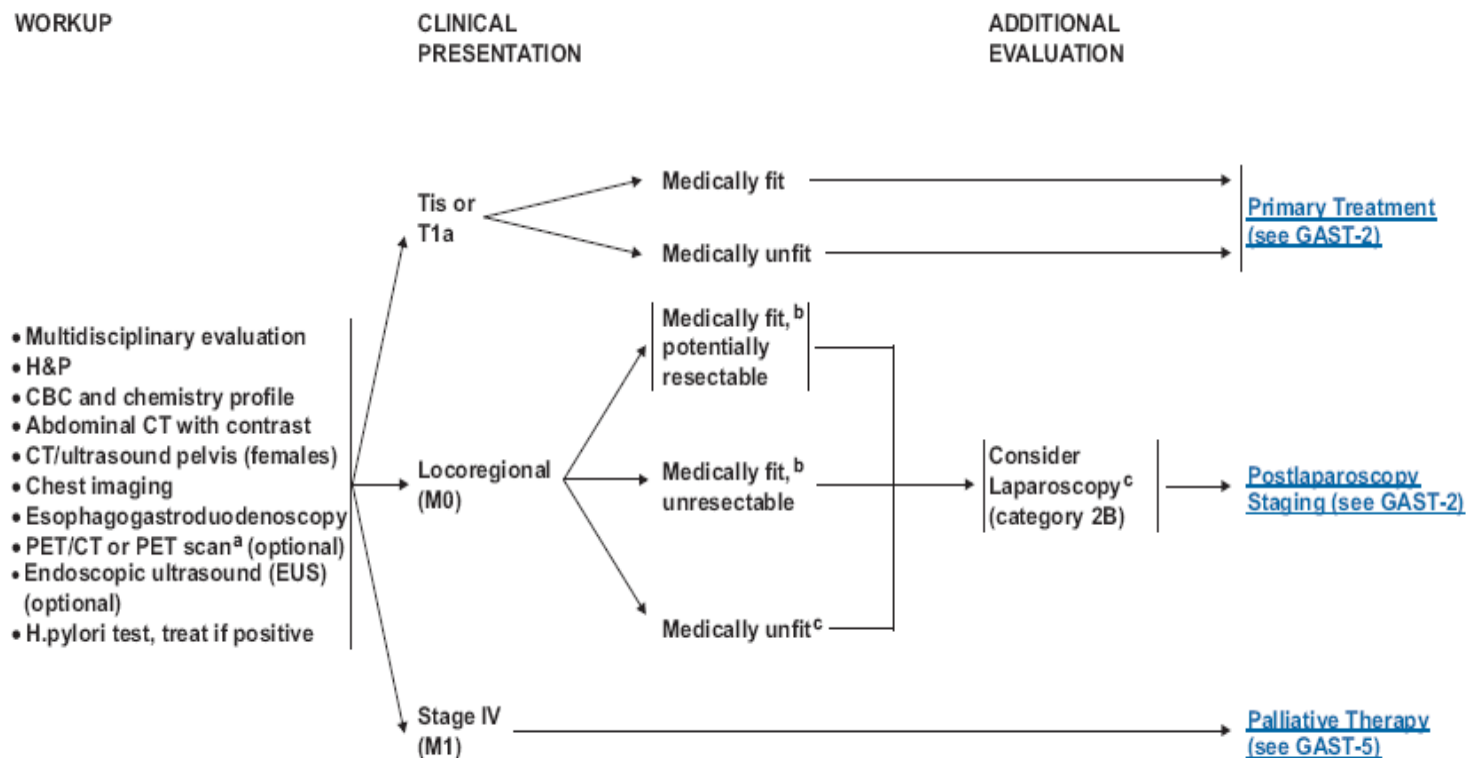
- Level of evidence: II



Apply

- Our case is a patient of advanced gastric adenocarcinoma and we think it is suitable for him to receive Adjuvant (Postoperative) chemotherapy/chemoradiotherapy for lengthening his survival according to the above medical evidences



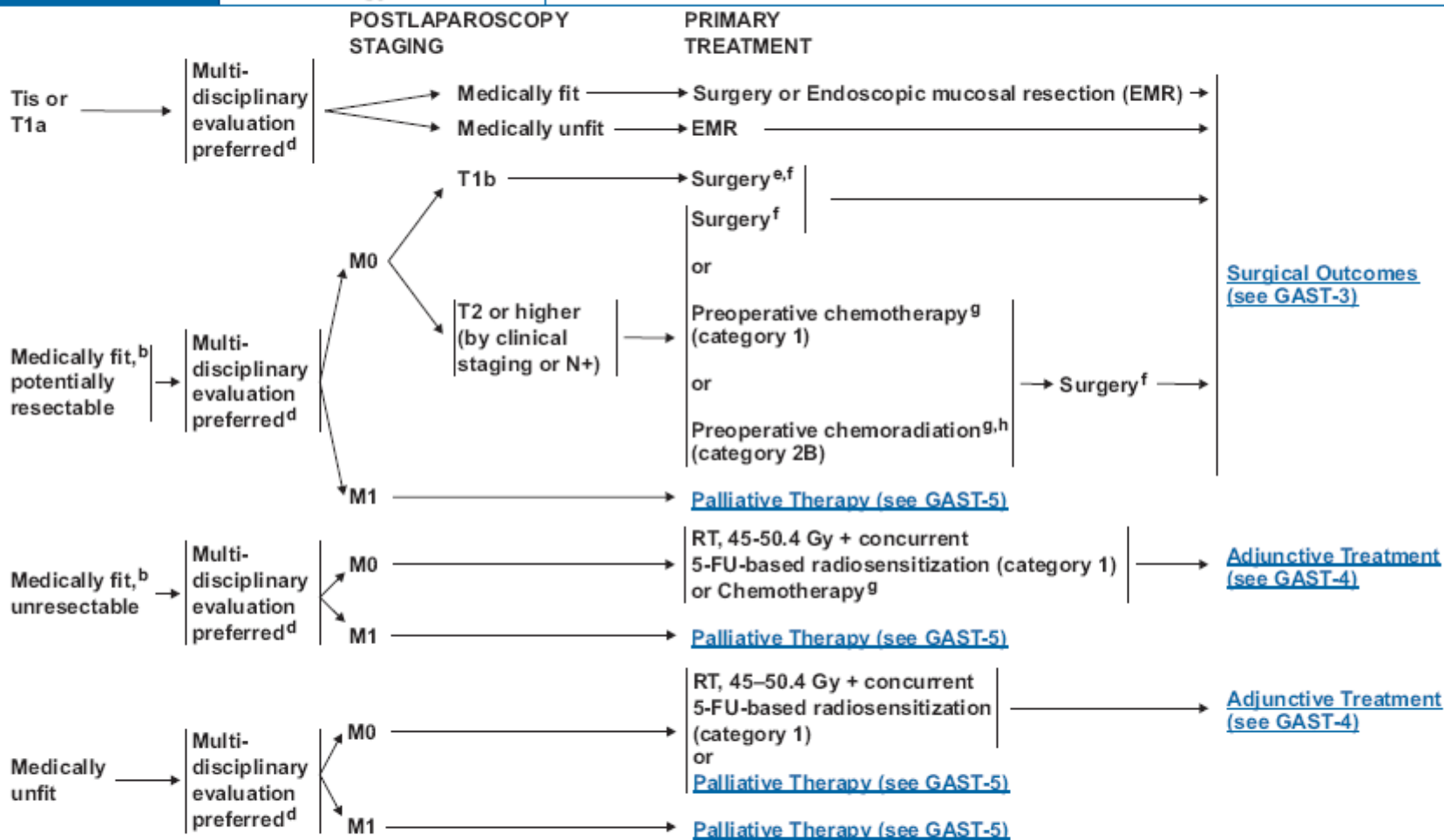


^aMay not be appropriate for T1 or M1 patients.

^bMedically able to tolerate major abdominal surgery.

^cLaparoscopy is performed to evaluate for peritoneal spread when considering chemoradiation or surgery. Laparoscopy is not indicated if a palliative resection is planned.

Note: All recommendations are category 2A unless otherwise indicated.
Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.



^bMedically able to tolerate major abdominal surgery.

^dSee Principles of Multidisciplinary Team Approach (GAST-A).

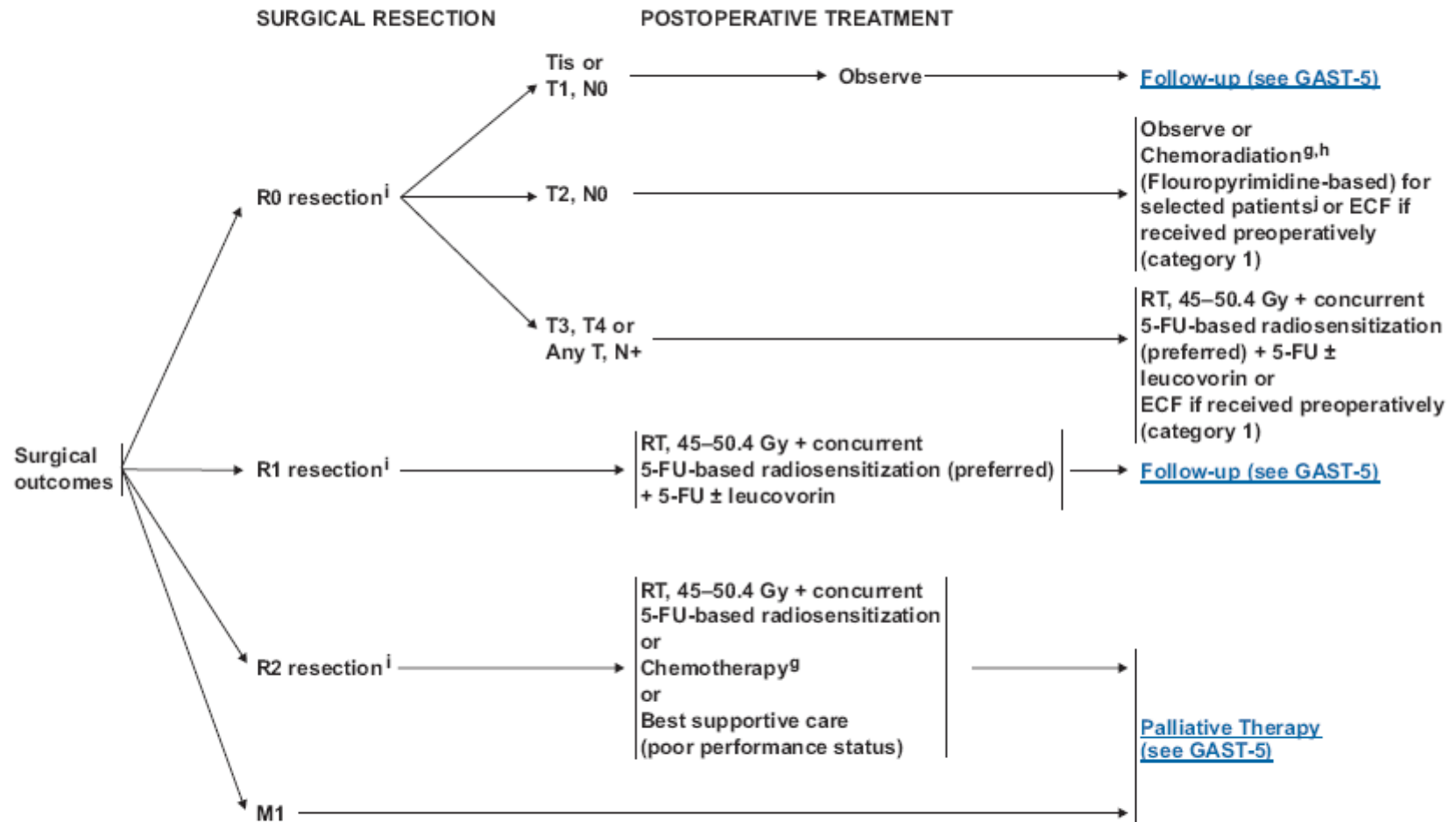
^eSurgery as primary therapy is appropriate for T1 cancer or actively bleeding cancer, or when postoperative therapy is preferred.

^fSee Principles of Surgery (GAST-B).

^gSee Principles of Systemic Therapy (GAST-C).

^hSee Principles of Radiation Therapy (GAST-D).

Note: All recommendations are category 2A unless otherwise indicated.
 Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.



^gSee Principles of Systemic Therapy (GAST-C).

^hSee Principles of Radiation Therapy (GAST-D).

ⁱR0= No cancer at resection margins, R1= Microscopic residual cancer, R2= Macroscopic residual cancer or M1B.

^jHigh risk features include poorly differentiated or higher grade cancer, lymphovascular invasion, neural invasion, or < 50 years of age.

Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.

Thanks for your attention

