

# Gastrointestinal Diseases

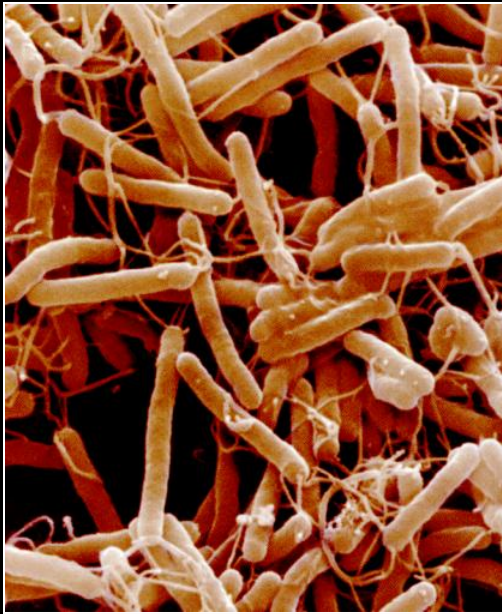
A Western perspective

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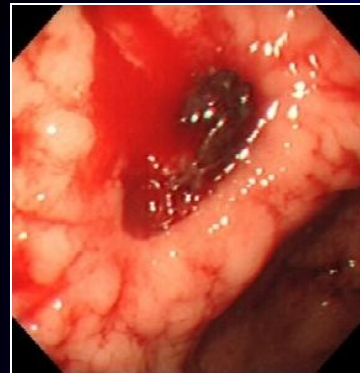


# “Traditional” GI Diseases

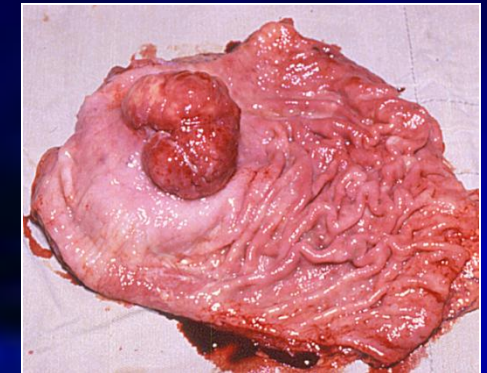
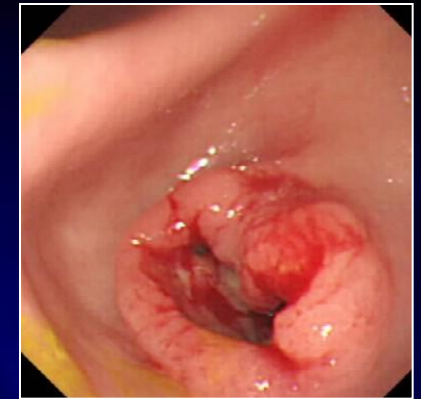


*Helicobacter pylori*

幽門螺旋桿菌



Peptic ulcer  
消化性潰瘍



Stomach cancer  
胃癌



# The NEW ENGLAND JOURNAL of MEDICINE

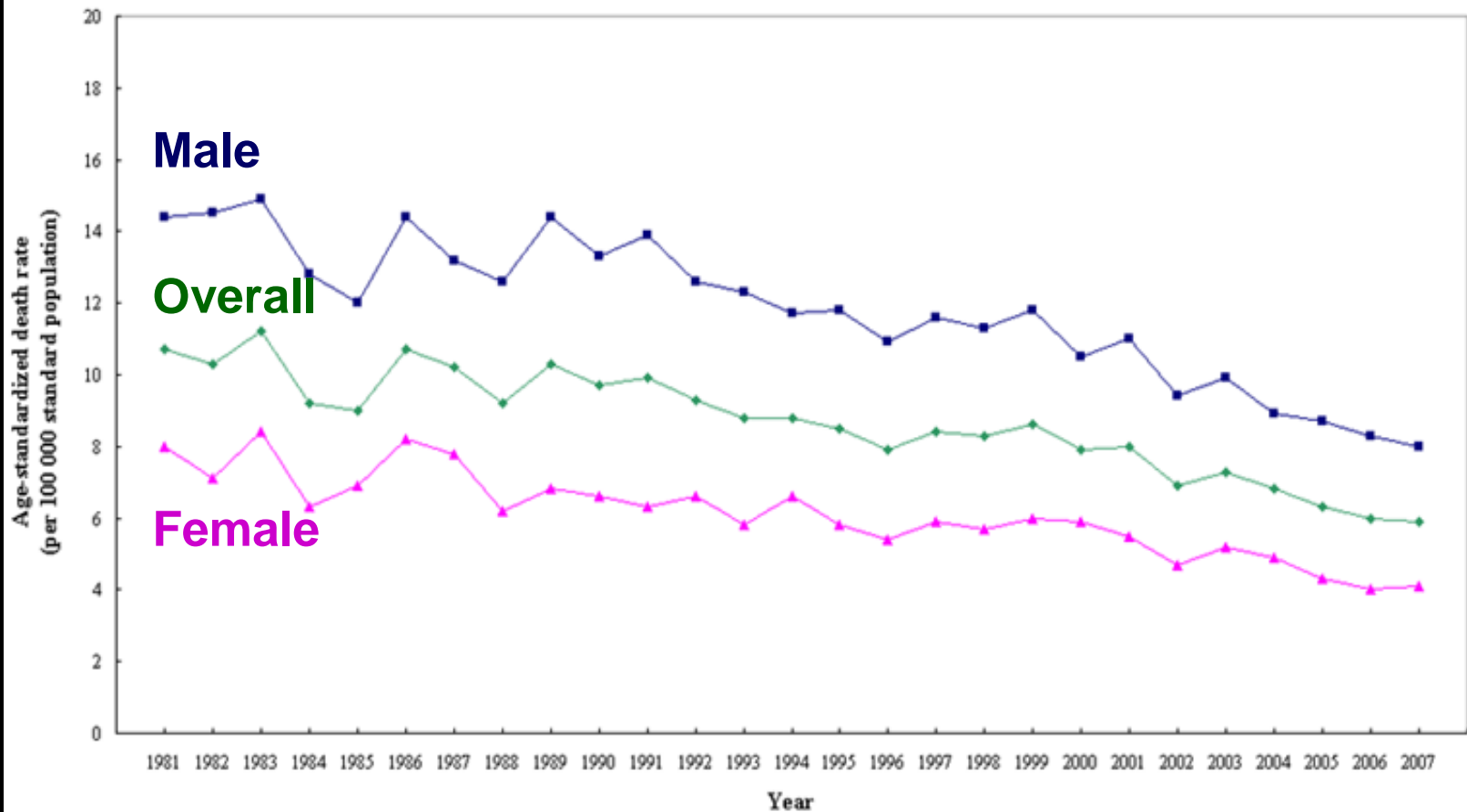
## ANTIBACTERIAL TREATMENT OF GASTRIC ULCERS ASSOCIATED WITH *HELICOBACTER PYLORI*

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AND ARTHUR K.C. LI, M.D.

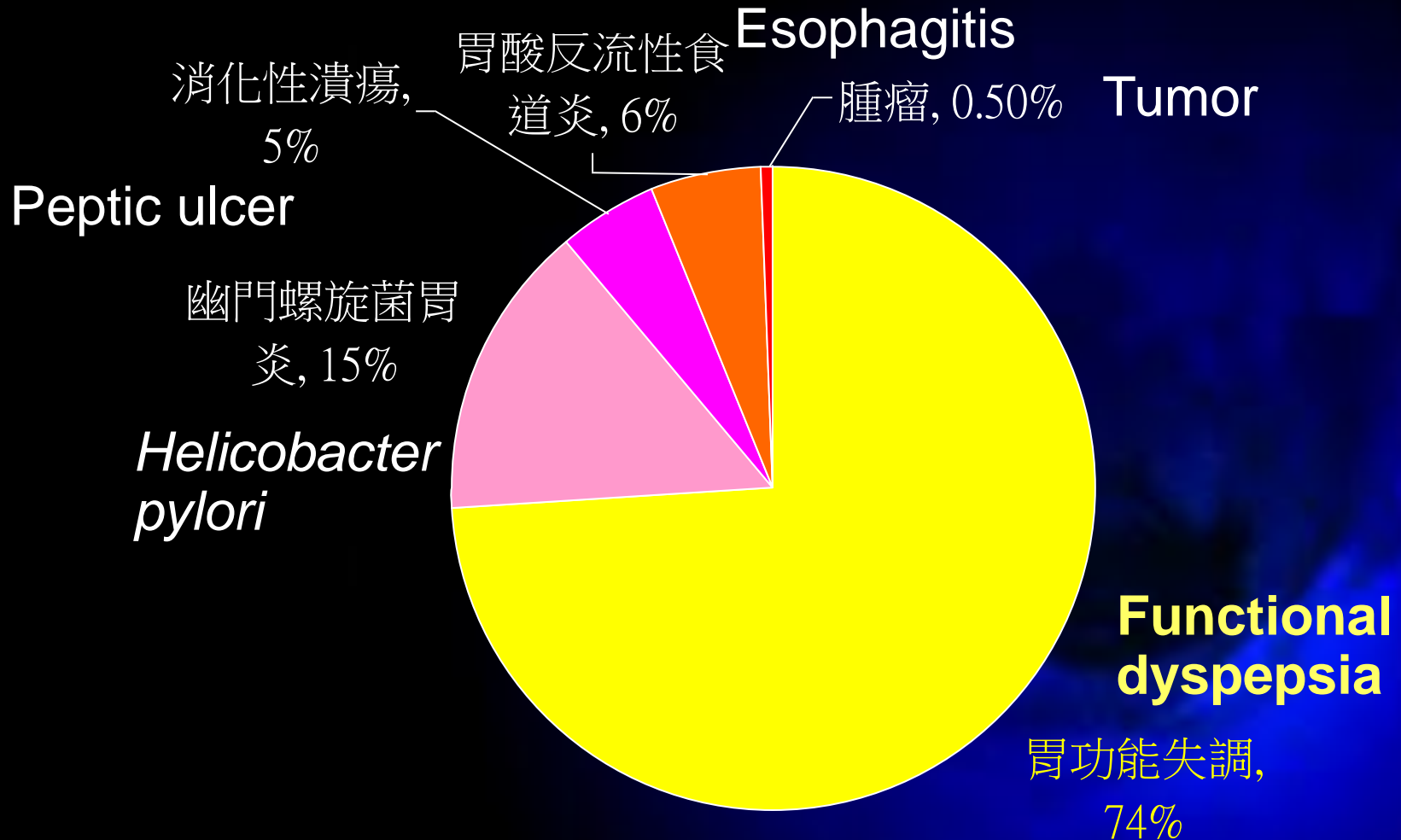


# Stomach cancer: a declining disease

Age-standardized Death Rate due to Stomach Cancer, 1981-2007



# Functional dyspepsia (胃功能失調) is now the commonest upper digestive disorder

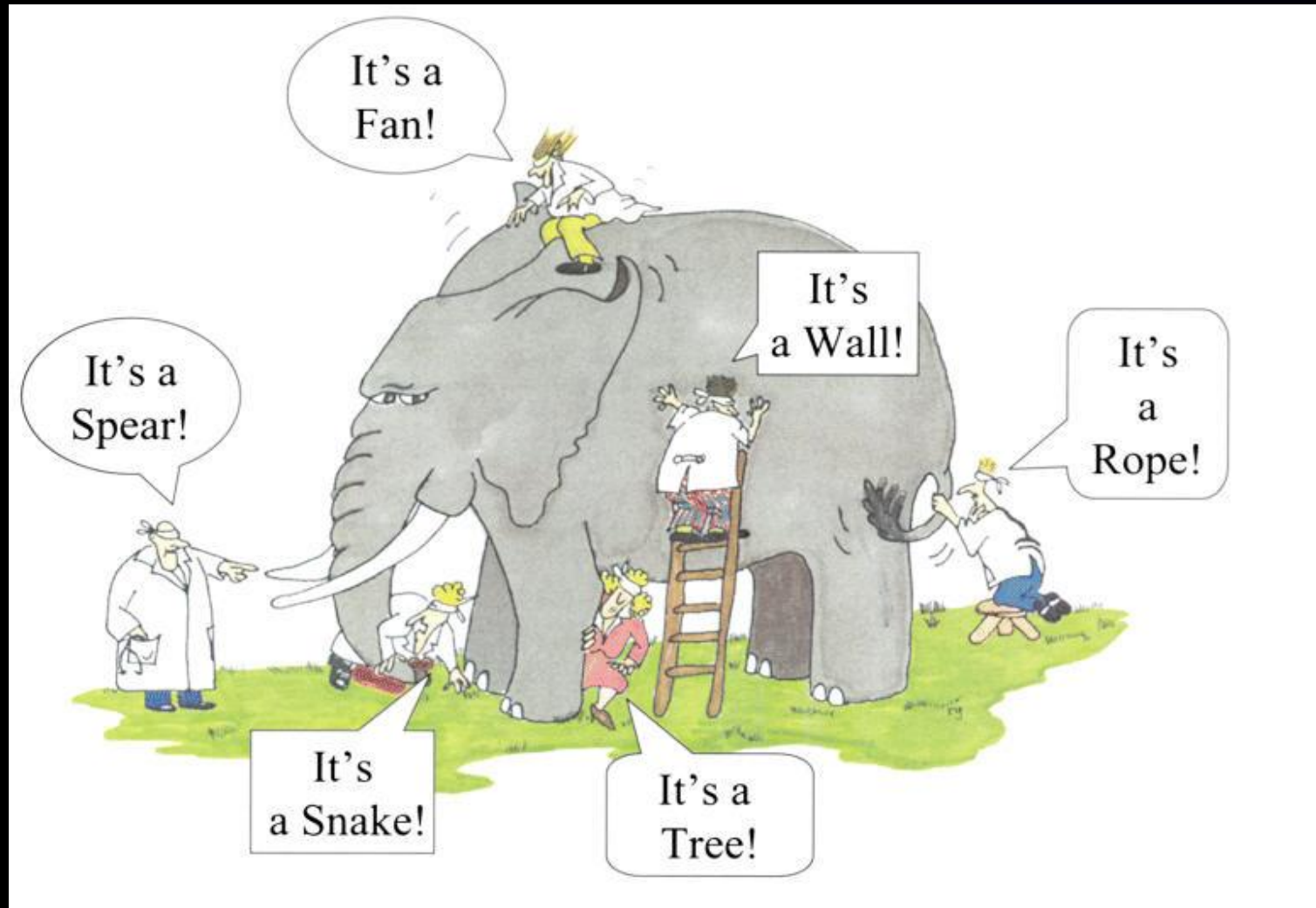


# Functional GI disorders (FGID) 功能性腸胃病

*Recurrent gastrointestinal symptoms with no demonstrable organic cause on investigations*

- **Non-cardiac chest pain**  
非心源性胸痛  
Angina like chest pain with normal cardiac investigations
- **Functional heartburn**  
功能性燒心  
Heartburn with no response to acid suppressant and negative esophageal pH study
- **Functional dyspepsia**  
胃功能失調  
Epigastric pain or discomfort with normal endoscopy/ scan
- **Irritable bowel syndrome**  
腸易激綜合症  
Recurrent abdominal pain with disturbed bowel motions

# Mechanism of FGID 功能性腸胃病的機理

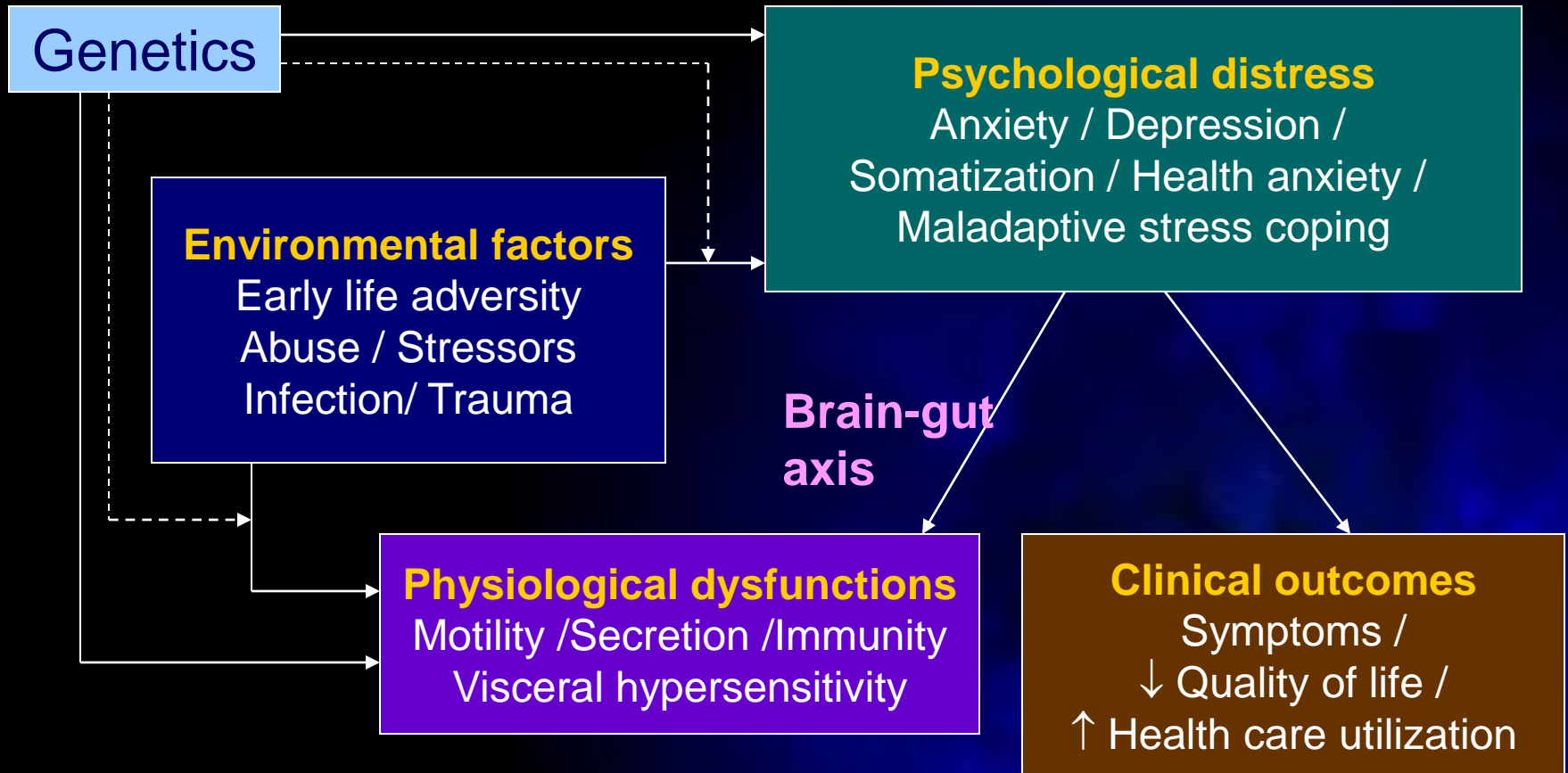


# Physiological abnormalities (生理異常)

- Motility dysfunction 腸胃動力異常
- Visceral hypersensitivity 內臟高敏
- Psychological comorbidity 心理共病
- Neuroendocrine dysfunction 神經內分泌異常
- Immune activation 免疫系統激活
- Bacterial overgrowth 細菌過度生長
- Disturbed gut microbiota 腸道菌群紊亂



# Bio-psycho-social (生物-心理-社會) basis of FGID

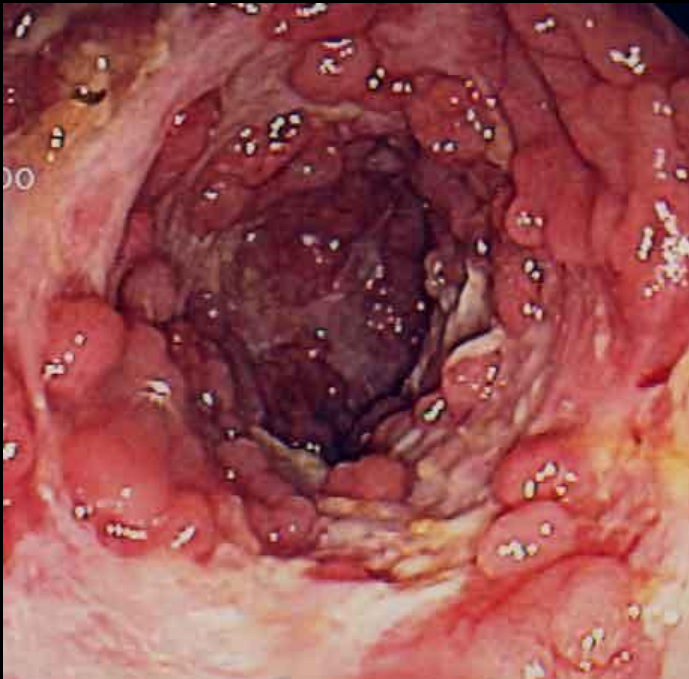


# Treatment of FGID is unsatisfactory

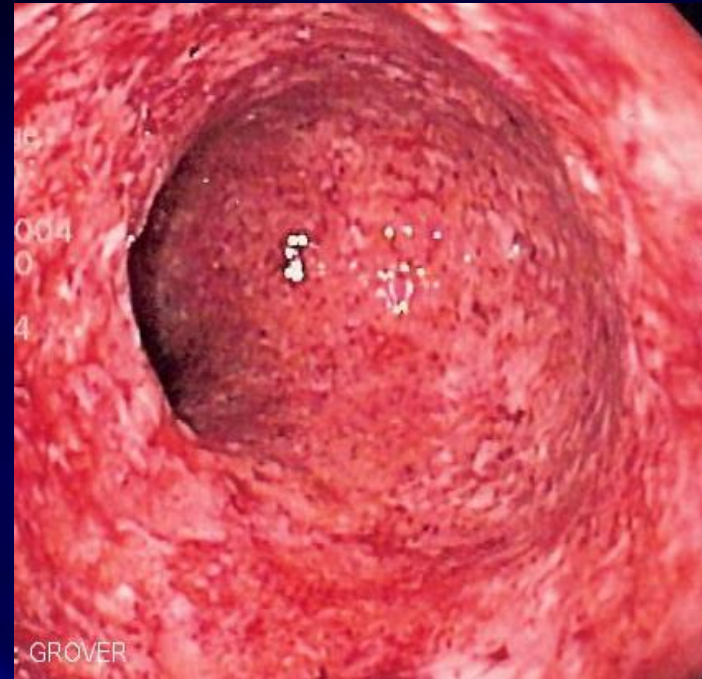
- Placebo response (安慰劑效應) rate: 30-80%
- Therapeutic gain (治療增益) <20% for most drugs
- Withdrawals due to serious side effects
  - Alosetron: Ischemic colitis (缺血性腸炎)
  - Cisapride: Cardiac arrhythmia (心律失調)
  - Tegaserod: Ischemic heart disease (缺血性心臟病)
- Need of multidisciplinary approach (多學科的方法)

# Inflammatory Bowel Disease (IBD) 炎症性腸病

Immune-mediated GI disease (免疫介導的腸胃病)



Crohn's disease  
克隆氏症

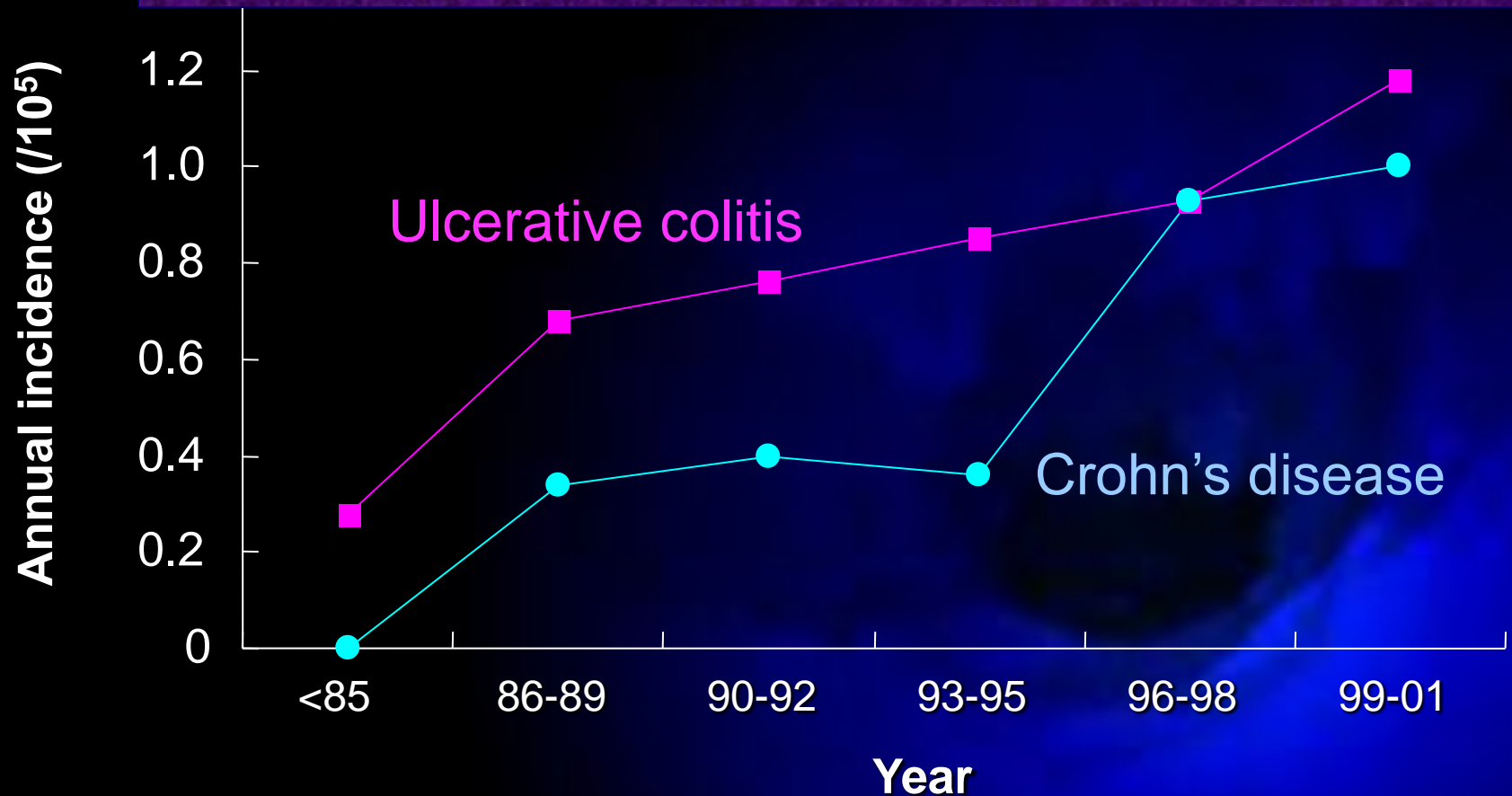


Ulcerative colitis  
潰瘍性結腸炎

# IBD: An emerging disease in HK

Annual age-adjusted incidence: **2.1 per 10<sup>5</sup>** in 2006

Chow et al. Am J Gastroenterol 2009



Leong et al. Inflamm Bowel Dis 2004

# IBD: A disease of affluence

- Urbanization
- Diet
  - ↑ Fat (OR=2.6)
  - ↑ Refined Sugar (OR=2.8)
- Domestic hygiene
  - Hot-water tap (OR=5.0)
  - Separate bathroom (OR=3.3)

Loftus et al. Gut 2000; Ekblom et al. Dig Dis Sci 1991  
Yoshida et al. Med Clin North Am 1990; Gent et al. Lancet 1994  
Duggan et al. Gut 1998; Tragnone et al. Eur J Gastroenterol Hepatol 1995  
Reif et al. Gut 1997; Sakamoto et al. Inflamm Bowel Dis 2005

# Shortcomings of IBD treatment

- Serious side effects
  - Infection (感染)
  - Bone marrow suppression (骨髓抑制)
  - Concern about malignancy (癌症)
- Limited efficacy
- Gradual loss of efficacy
- High cost (~\$8000/month)

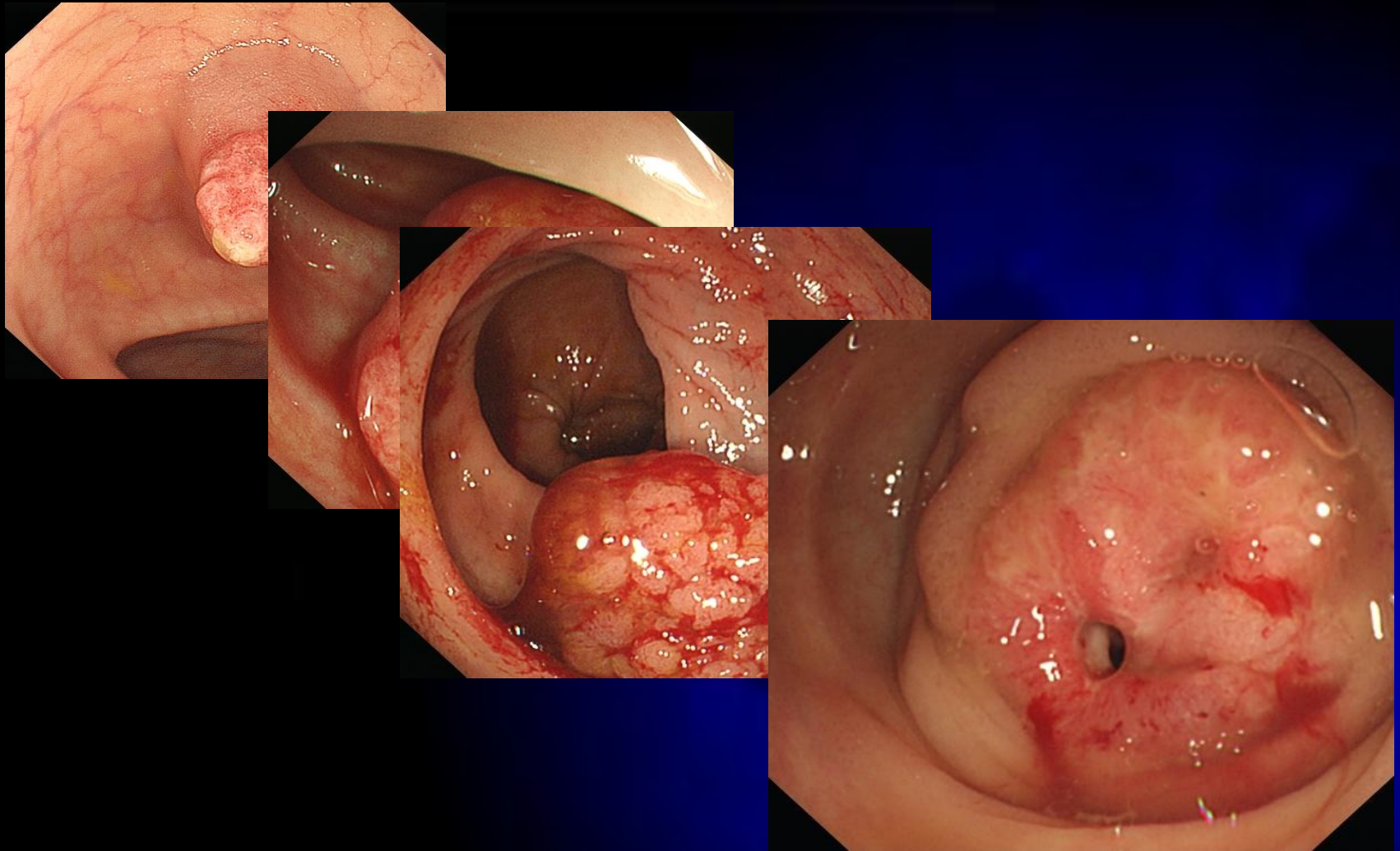


Immunosuppressant  
免疫抑制劑

Biologics (生物制劑)

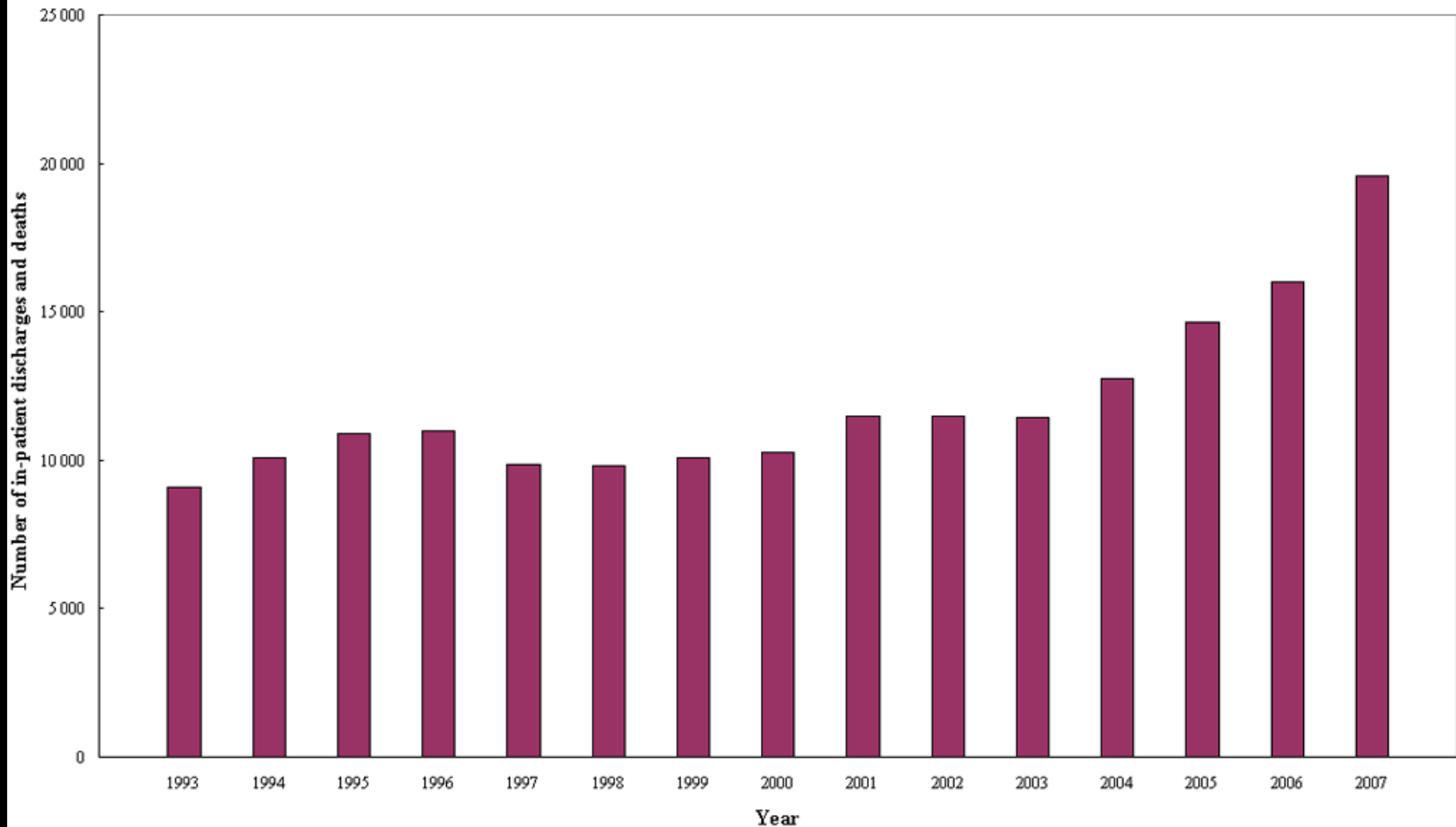


# Colorectal cancers (大腸癌)



# Rising trend of colon cancer in HK

Number of In-patient Discharges and Deaths due to Colorectal Cancer in Hospitals, 1993-2007

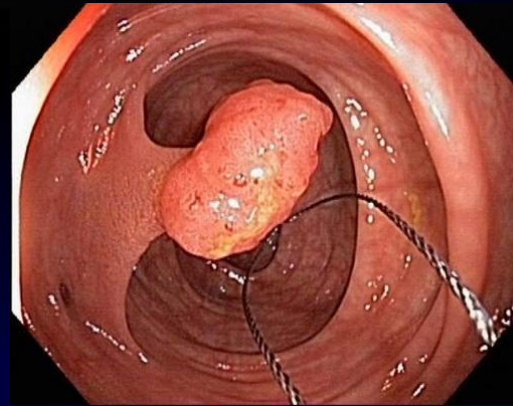




# Commonest cancers in HK (2010)

Rank	Site	New cases registered	Relative frequency	Crude incidence rate*
1	Lung	4,480	17.0%	63.8
2	Colorectum	4,370	16.6%	62.2
3	Breast	3,025	11.5%	43.1
4	Liver	1,863	7.1%	26.5
5	Prostate	1,492	5.7%	21.2
6	Stomach	1,107	4.2%	15.8
7	Nasopharynx	858	3.3%	12.2
8	Non-melanoma skin	816	3.1%	11.6
9	Non-Hodgkin lymphoma	779	3.0%	11.1
10	Corpus uteri	713	2.7%	10.2
	<b>All sites</b>	<b>26,390</b>	<b>100.0%</b>	<b>375.7</b>

# Colorectal Cancer Screening 篩查



Colonoscopic polypectomy  
大腸鏡瘻肉切除術

# Can we prevent colon cancers?

- Screening and polypectomies
- Lack of safe chemoprophylaxis 藥物預防
- Challenges
  - Aging population
  - Obesity 肥胖
  - Metabolic syndrome 代謝綜合症
  - Westernized diet
  - Low awareness and acceptance of cancer screening
  - Colonoscopy workload

# Unmet needs for emerging GI Diseases

- Multi-factorial 多因素
- Multi-system basis 多系統性
- Lack of efficacy
- High drug cost
- Serious side effects
- Need multi-disciplinary management
- Effective prevention

# Integrative Medicine for GI diseases

- Combination therapy
  - ↑ Efficacy
  - ↓ Treatment related side effects
  - ↓ Healthcare cost
- Incorporation of TCM into multi-disciplinary care model
- Preventive medicine 治未病

# What we are working on

- Training program for family physicians, specialists and TCM physicians
- Integrative medical care models for FGID and colon cancer in Integrative Medical Clinic
- Clinical trials and outcome research on FGID, IBD and colon cancer in CFDA accredited GI clinical trial centre
- Pharmacokinetic and pharmacodynamic studies in State Key Laboratory of Digestive Disease