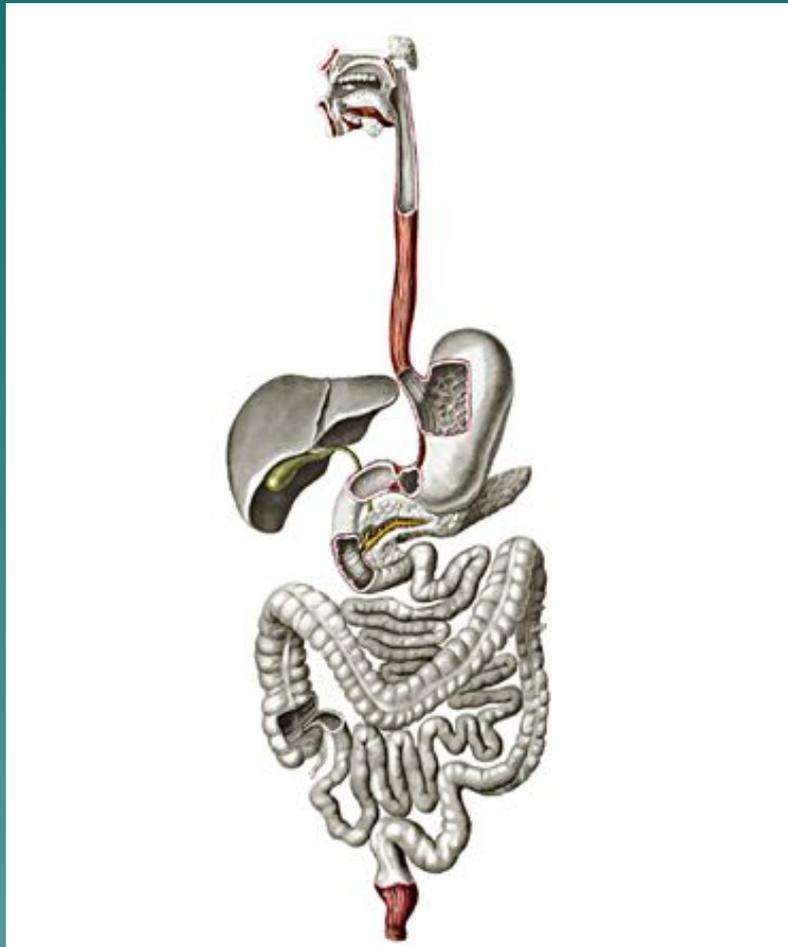


# Lecture: «ESOPHAGEAL CANCER, STOMACH CANCER»



LECTURER  
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PhD

# Epidemiology of esophageal cancer

- ◆ Esophageal cancer is the eighth most common cancer worldwide, responsible for 462,000 new cases in 2002 (4,2 % of the total), and six most common cause of death from cancer with 386,000 deaths (5,7 % of the total).
- ◆ Esophageal cancer occurs in several parts of the world. There is a high incidence in parts of China, the Central and Eastern European countries, Iran and Japan, as well as in Africa and areas of Western Europe such as French Bretagne, Finland, Scotland and Sweden.
- ◆ Esophageal cancer is mainly seen in patients over the age of 40; the incidence increases with age.
- ◆ Cancer of the esophagus has a very poor survival: 16% of the cases in the USA and 10% in Europe survive at least 5 years.

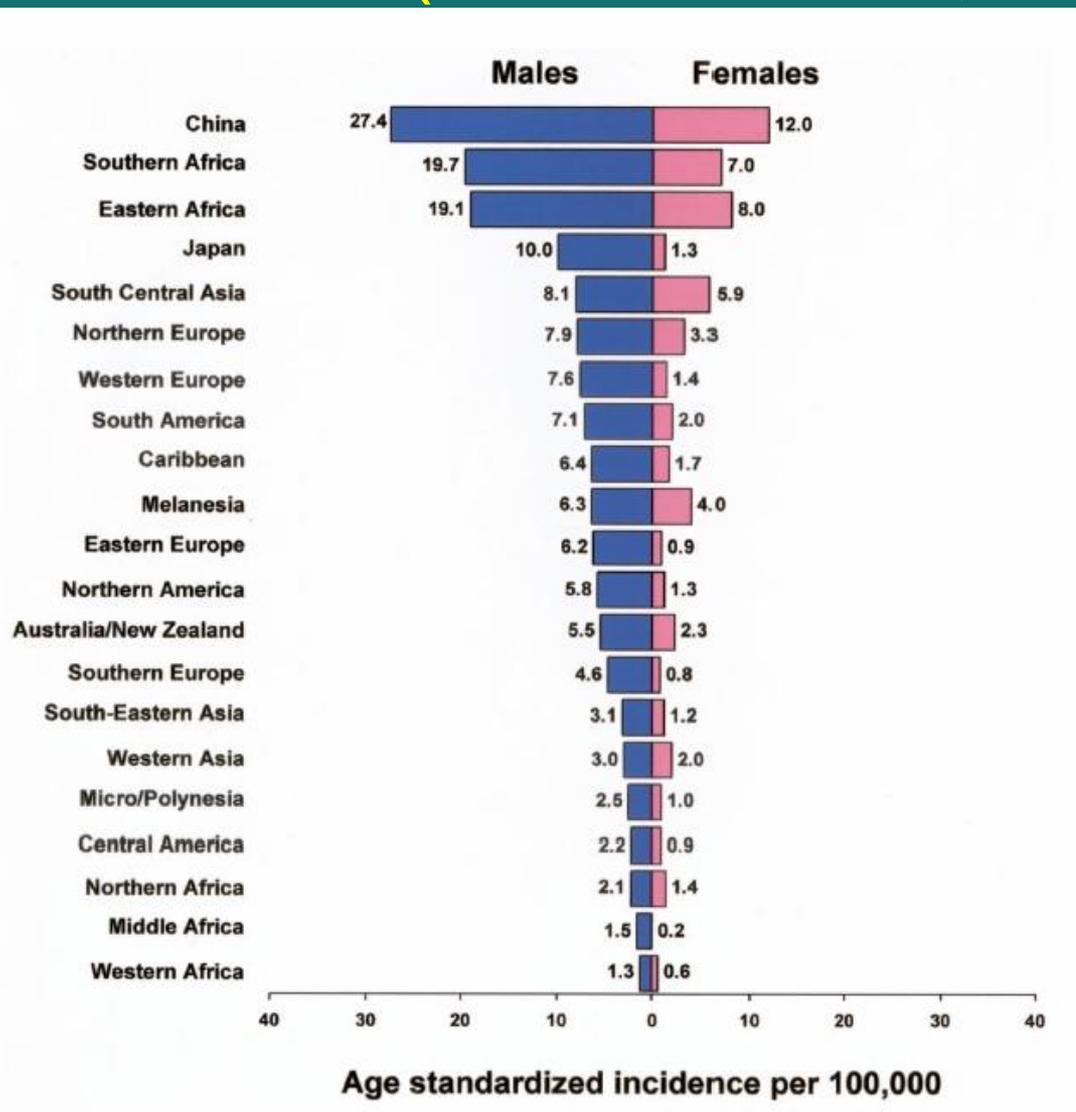
# Epidemiology

TABLE 1 Incidence and Mortality by Sex and Cancer Site Worldwide, 2002

	INCIDENCE						MORTALITY					
	MALES			FEMALES			MALES			FEMALES		
	Cases	ASR	Cumulative	Cases	ASR	Cumulative	Deaths	ASR	Cumulative	Deaths	ASR	Cumulative
		(World)	risk		(World)	risk		(World)	risk			
		(age 0–64)			(age 0–64)			(age 0–64)			(age 0–64)	
Oral cavity	175,916	6.3	0.4	98,373	3.2	0.2	80,736	2.9	0.2	46,723	1.5	0.1
Nasopharynx	55,796	1.9	0.1	24,247	0.8	0.1	34,913	1.2	0.1	15,419	0.5	0.0
Other pharynx	106,219	3.8	0.3	24,077	0.8	0.1	67,964	2.5	0.2	16,029	0.5	0.0
Esophagus	315,394	11.5	0.6	146,723	4.7	0.3	261,162	9.6	0.5	124,730	3.9	0.2
Stomach	603,419	22	1.2	330,518	10.3	0.5	446,052	16.3	0.8	254,297	7.9	0.4
Colon/rectum	550,465	20.1	0.9	472,687	14.6	0.7	278,446	10.2	0.4	250,532	7.6	0.3
Liver	442,119	15.7	1.0	184,043	5.8	0.3	416,882	14.9	0.9	181,439	5.7	0.3
Pancreas	124,841	4.6	0.2	107,465	3.3	0.1	119,544	4.4	0.2	107,479	3.3	0.1
Larynx	139,230	5.1	0.3	20,011	0.6	0	78,629	2.9	0.2	11,327	0.4	0.0
Lung	965,241	35.5	1.7	386,891	12.1	0.6	848,132	31.2	1.4	330,786	10.3	0.5
Melanoma of skin	79,043	2.8	0.2	81,134	2.6	0.2	21,952	0.8	0.0	18,829	0.6	0.0
Kaposi sarcoma*												
Breast				1,151,298	37.4	2.6				410,712	13.2	0.9
Cervix uteri				493,243	16.2	1.3				273,505	9.0	0.7
Corpus uteri				198,783	6.5	0.4				50,327	1.6	0.1
Ovary				204,499	6.6	0.5				124,860	4.0	0.2
Prostate	679,023	25.3	0.8				221,002	8.2	0.1			
Testis	48,613	1.5	0.1				8,878	0.3	0.0			
Kidney	129,223	4.7	0.3	79,257	2.5	0.1	62,696	2.3	0.1	39,199	1.2	0.1
Bladder	273,858	10.1	0.4	82,699	2.5	0.1	108,310	4.0	0.1	36,699	1.1	0.0
Brain, nervous system	108,221	3.7	0.2	81,264	2.6	0.2	80,034	2.8	0.2	61,616	2.0	0.1
Thyroid	37,424	1.3	0.1	103,589	3.3	0.2	11,297	0.4	0.0	24,078	0.8	0.0
Non-Hodgkin lymphoma	175,123	6.1	0.3	125,448	3.9	0.2	98,865	3.5	0.2	72,955	2.3	0.1
Hodgkin disease	38,218	1.2	0.1	24,111	0.8	0.1	14,460	0.5	0.0	8,352	0.3	0.0
Multiple myeloma	46,512	1.7	0.1	39,192	1.2	0.1	32,696	1.2	0.1	29,839	0.9	0.0
Leukemia	171,037	5.9	0.3	129,485	4.1	0.2	125,142	4.3	0.2	97,364	3.1	0.2
All sites but skin	5,801,839	209.6	10.3	5,060,657	161.5	9.5	3,795,991	137.7	6.4	2,927,896	92.1	4.9

\*Africa only.

# INCIDENCE OF THE ESOPHAGEAL CANCER (ALL COUNTRIES, 2002)

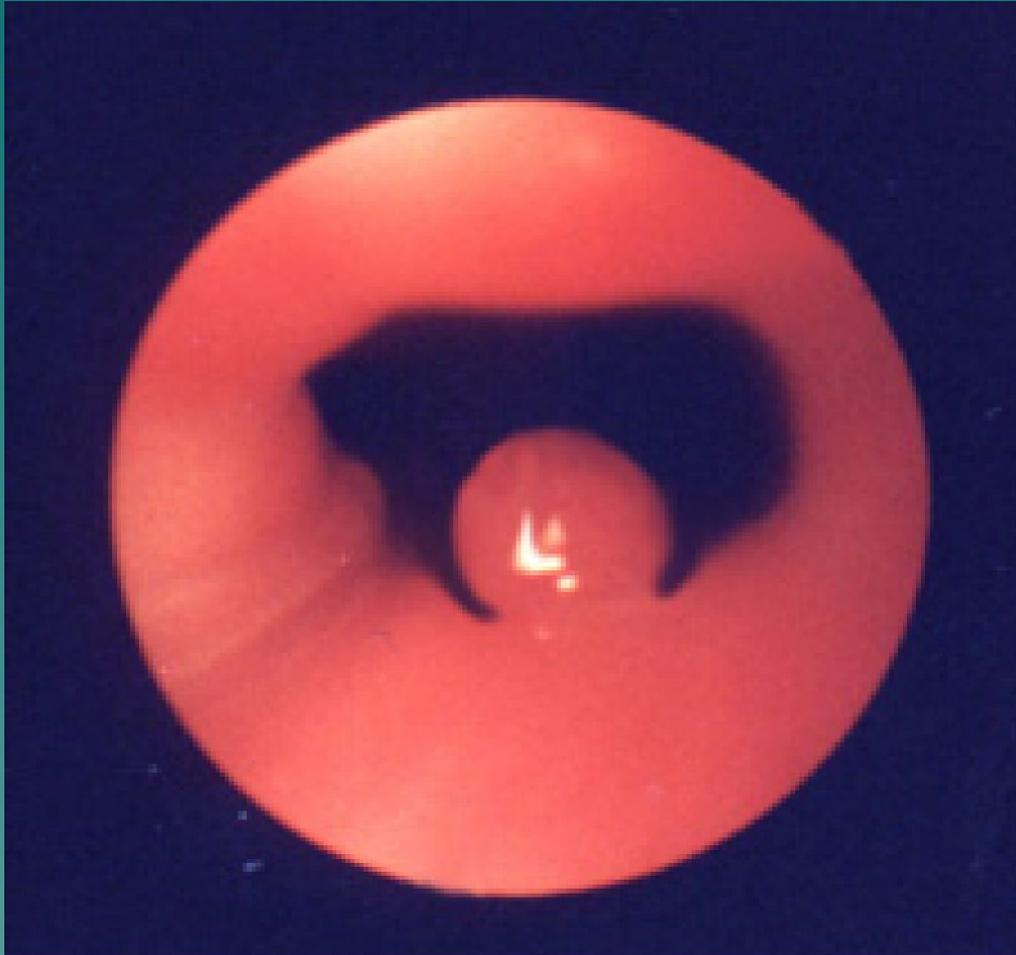


# Cancer statistic

TABLE 2 Estimated Age-adjusted Survival (%) from 11 Cancer Types, by Country/Area

	DEVELOPED AREAS					DEVELOPING AREAS				
	United States	Eastern Europe	Western Europe	Japan	All developed areas	South America	India	Thailand	Sub-Saharan Africa	All developing areas
Esophagus (male)	14	6	18	25	15	7	13	13	4	17
Esophagus (female)	8	2	14	15	8	5	14	10	5	16
Stomach (male)	44	15	30	54	35	25	14	12	7	21
Stomach (female)	33	16	24	51	31	24	14	14	5	20
Colon/rectum (male)	66	35	56	65	56	50	28	37	13	39
Colon/rectum (female)	65	36	53	58	54	50	31	37	14	39
Liver (male)	20	≈0	≈0	9	6	≈0	4	3	2	5
Liver (female)	0	≈0	≈0	12	0	≈0	9	3	1	3
Lung (male)	21	9	9	15	13	8	12	5	4	12
Lung (female)	26	10	14	22	20	1	11	5	5	12
Kaposi sarcoma (male)									11	
Kaposi sarcoma (female)									12	
Breast	81	58	74	75	73	67	46	62	32	57
Cervix uteri	70	51	66	65	61	55	42	58	21	41
Corpus uteri	89	69	83	79	82	70	59	67	61	67
Prostate	87	44	72	55	76	62	35	36	21	45
Leukemia (male)	43	29	43	25	40	24	19	15	14	19
Leukemia (female)	45	29	45	29	39	24	19	15	17	19

# PREDISPOSING FACTORS



**POLIP OF  
ESOPHAGUS**



# BARRETT'S OESOPHAGUS



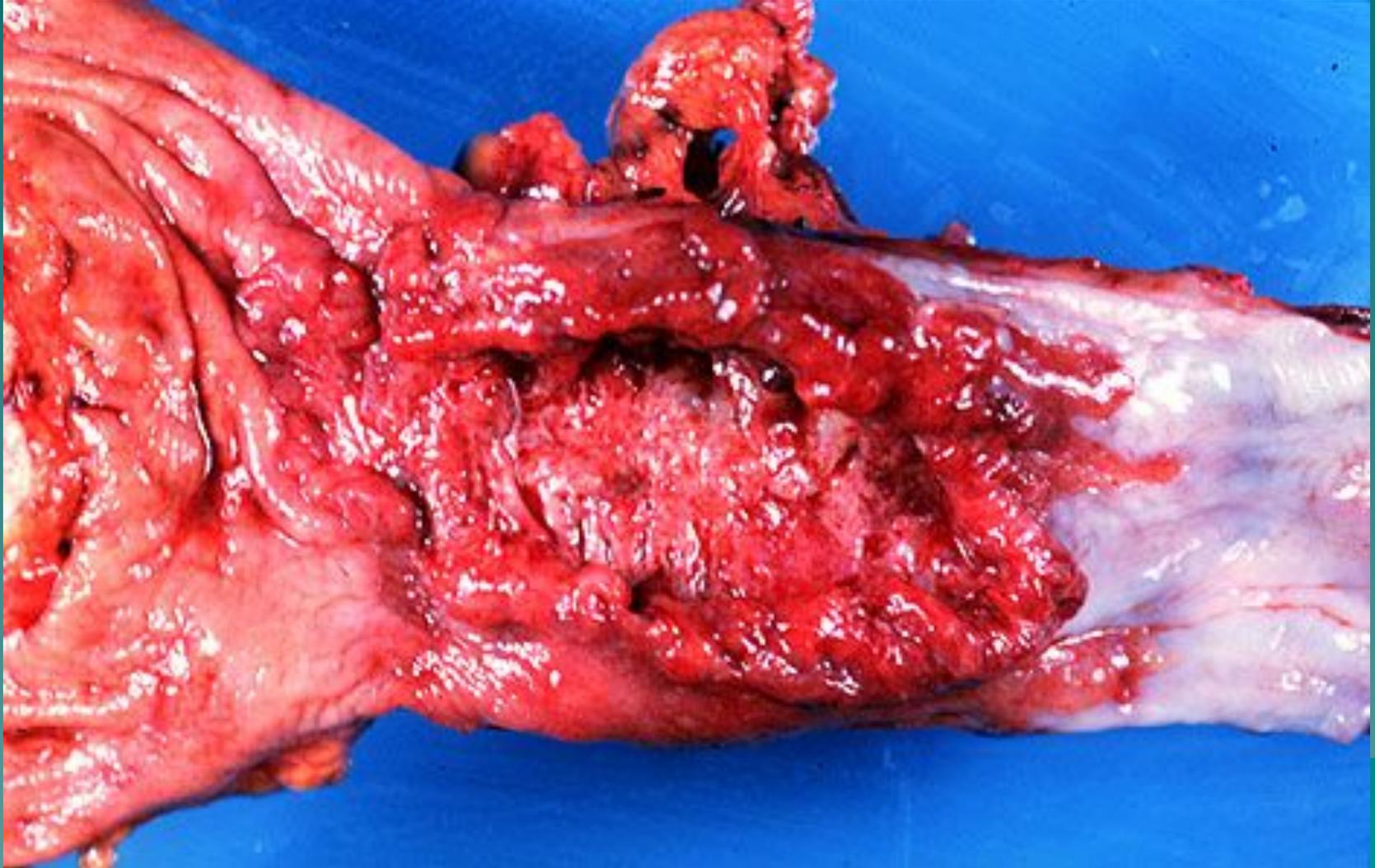
- ◆ Due to a chronic gastroesophageal reflux metaplastic changes are seen in the part of the oesophagus in 5-10% of the patients (BE). These changes are premalignant, and consequently there is a higher risk for the development of a cancer.

# BARRETT'S OESOPHAGUS



Low part of the esophageus and cardiac area of the stomach after Garlok's operation because of Barrett's esophageus.

# BARRETT'S CARCINOMA



# PATHOLOGY

- ◆ **Frequency of tumor sites in the esophagus:**
  - upper third :  $\pm 10\%$
  - middle third :  $\pm 40\%$
  - lower third :  $\pm 50\%$

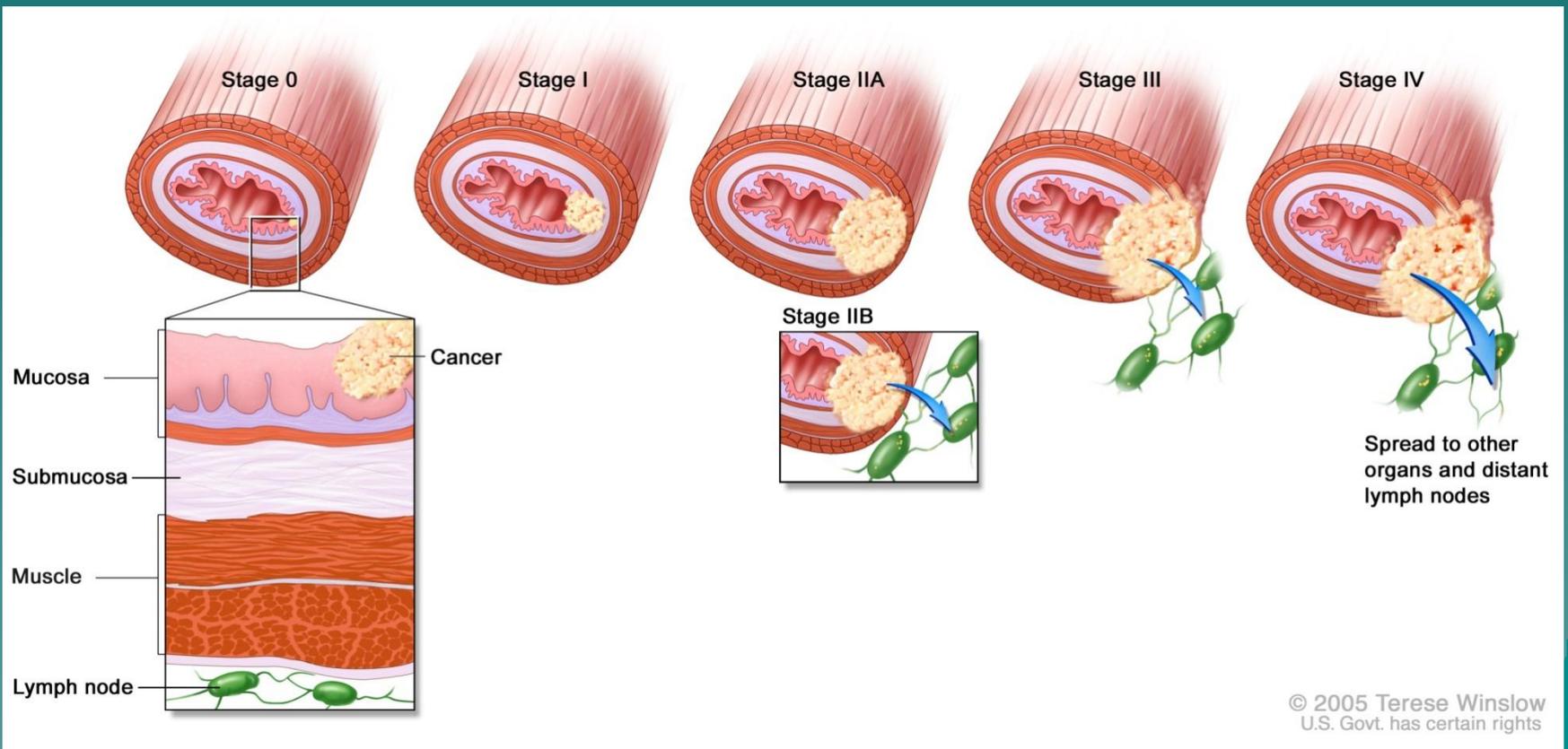
# PATTERN OF LOCAL GROWTH

An esophageal cancer not only frequently grows as an exophytic mass into the esophageal lumen leading to obstruction, but it frequently also infiltrates the submucosa over a distance of 5 to 10 cm.

## Pathomorphologic classification



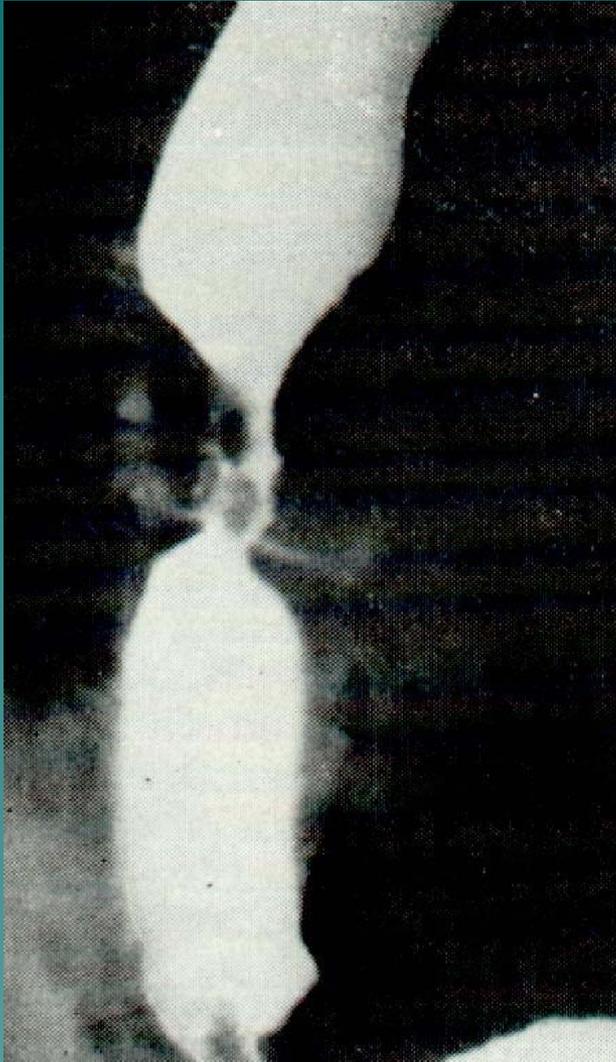
# Staging of esophageal cancer



# **MORE FREQUENCY COMPLAINTS OF PATIENT WITH ESOPHAGEAL CANCER**

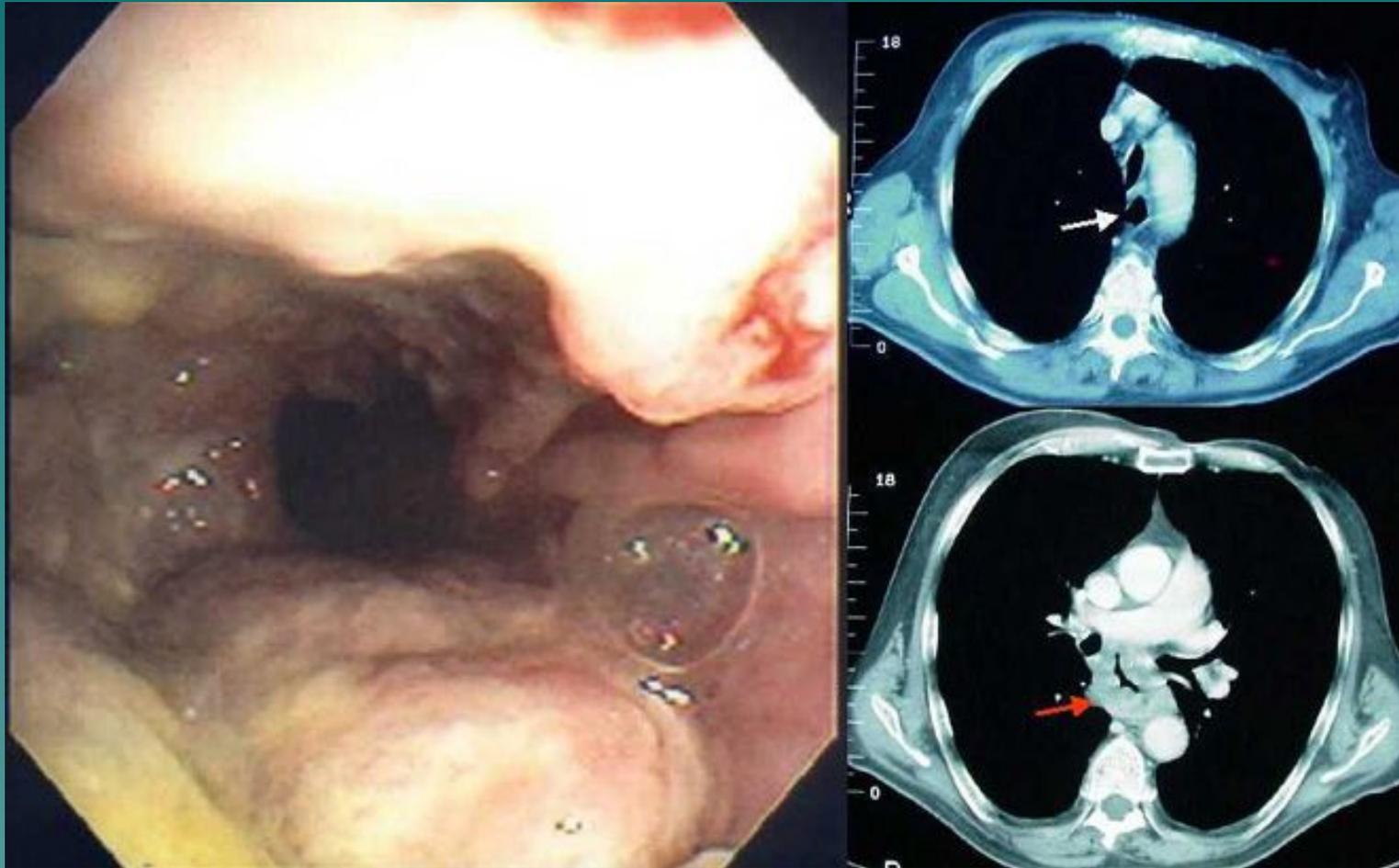
- ◆ **Progressive dysphagia**
- ◆ **Anorexia**
- ◆ **Weight loss**
- ◆ **Weakness**
- ◆ **Anemia**
- ◆ **Inanition**
- ◆ **Pain on swallowing**
- ◆ **Regurgitation**
- ◆ **Aspiration**
- ◆ **Hoarseness**
- ◆ **Cushing's syndrome**

# BARIUM CONTRAST STUDY OF ESOPHAGEAL CANCER

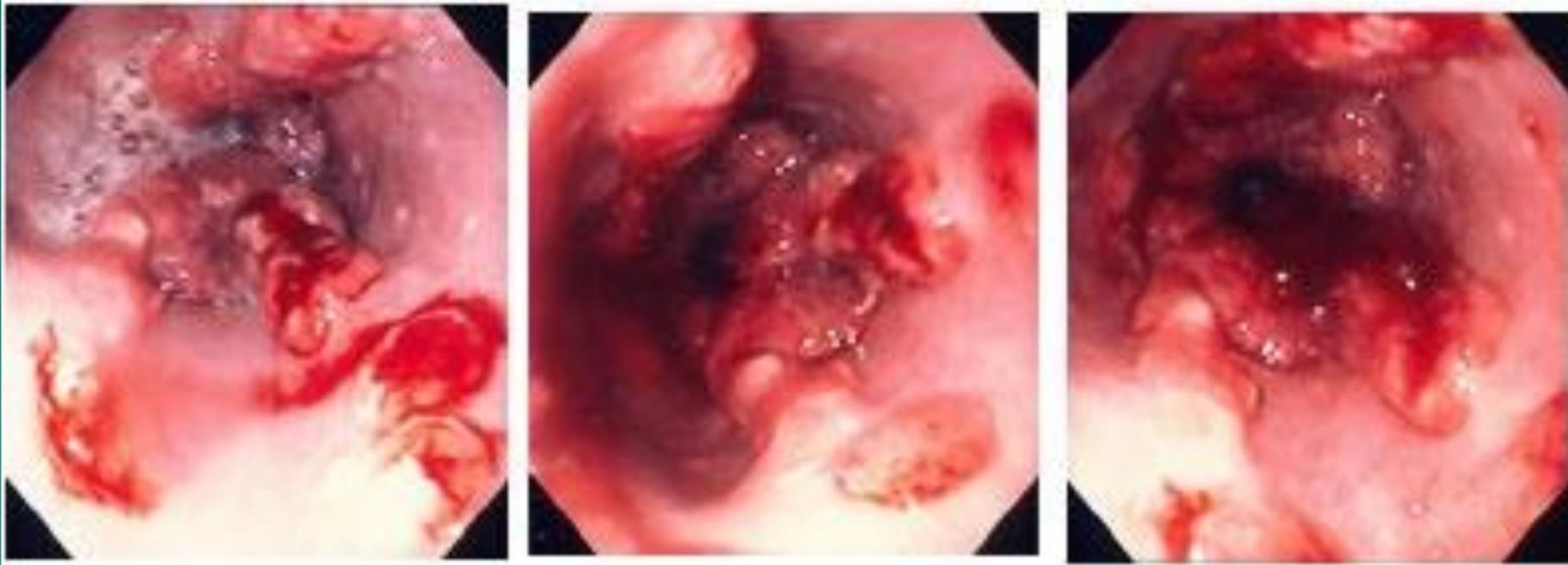


- ◆ Endophytic carcinoma of esophagus middle third. Constriction of esophagus lumen with suprastenotic dilatation, thickening of esophageal wall at the place where tumor's localized (symptom of sand-glass).

# Carcinoma of middle part of esophagus

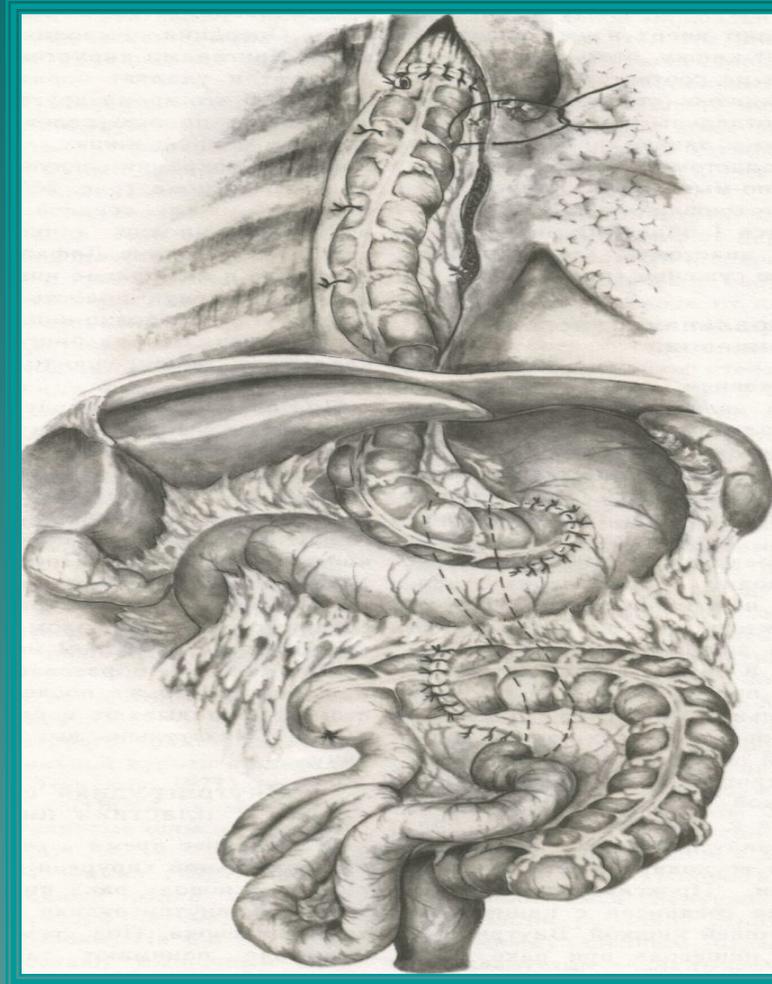


# Carcinoma of middle part of esophagus



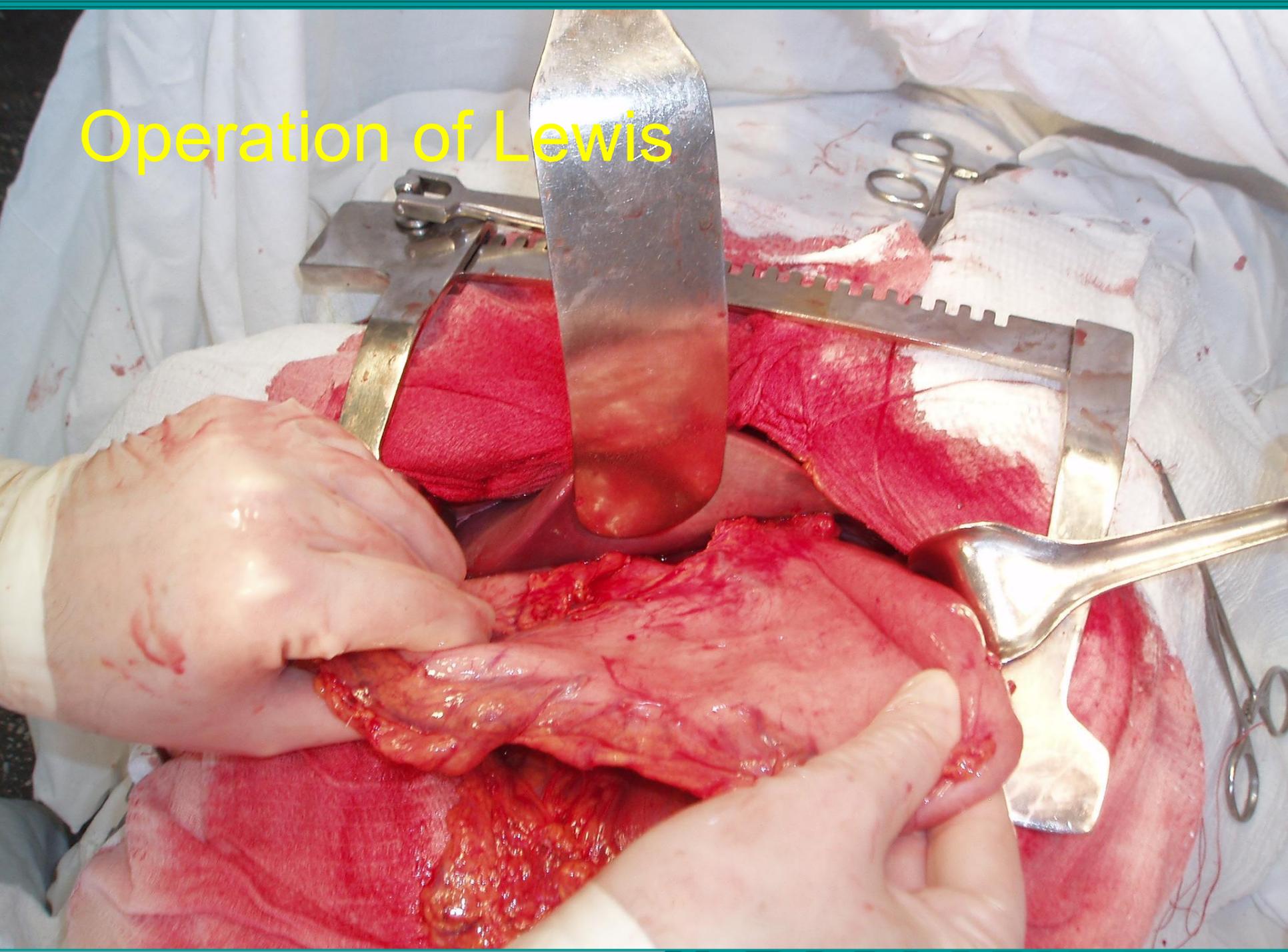
# Reconstructive procedures after

# esophagectomy

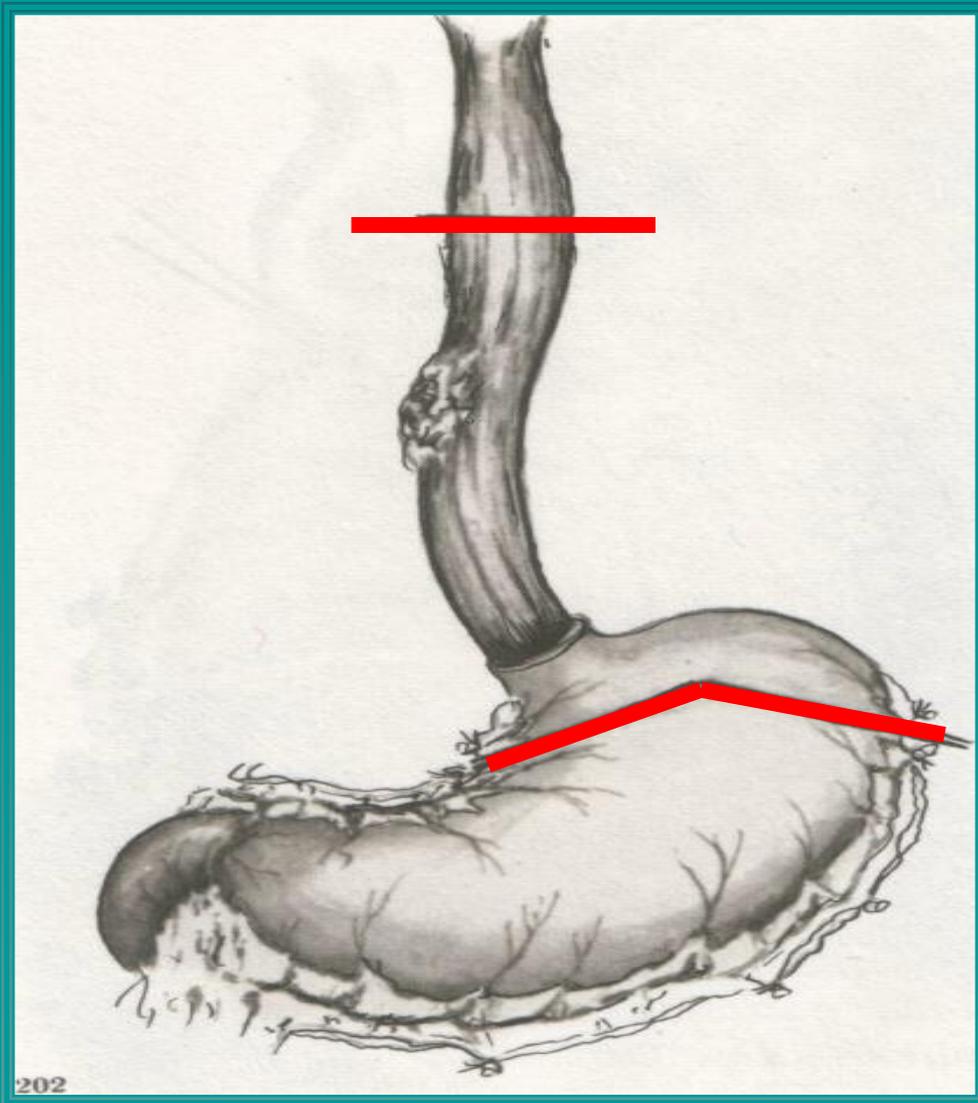


Colon interposition right (isoperistaltic)

# Operation of Lewis

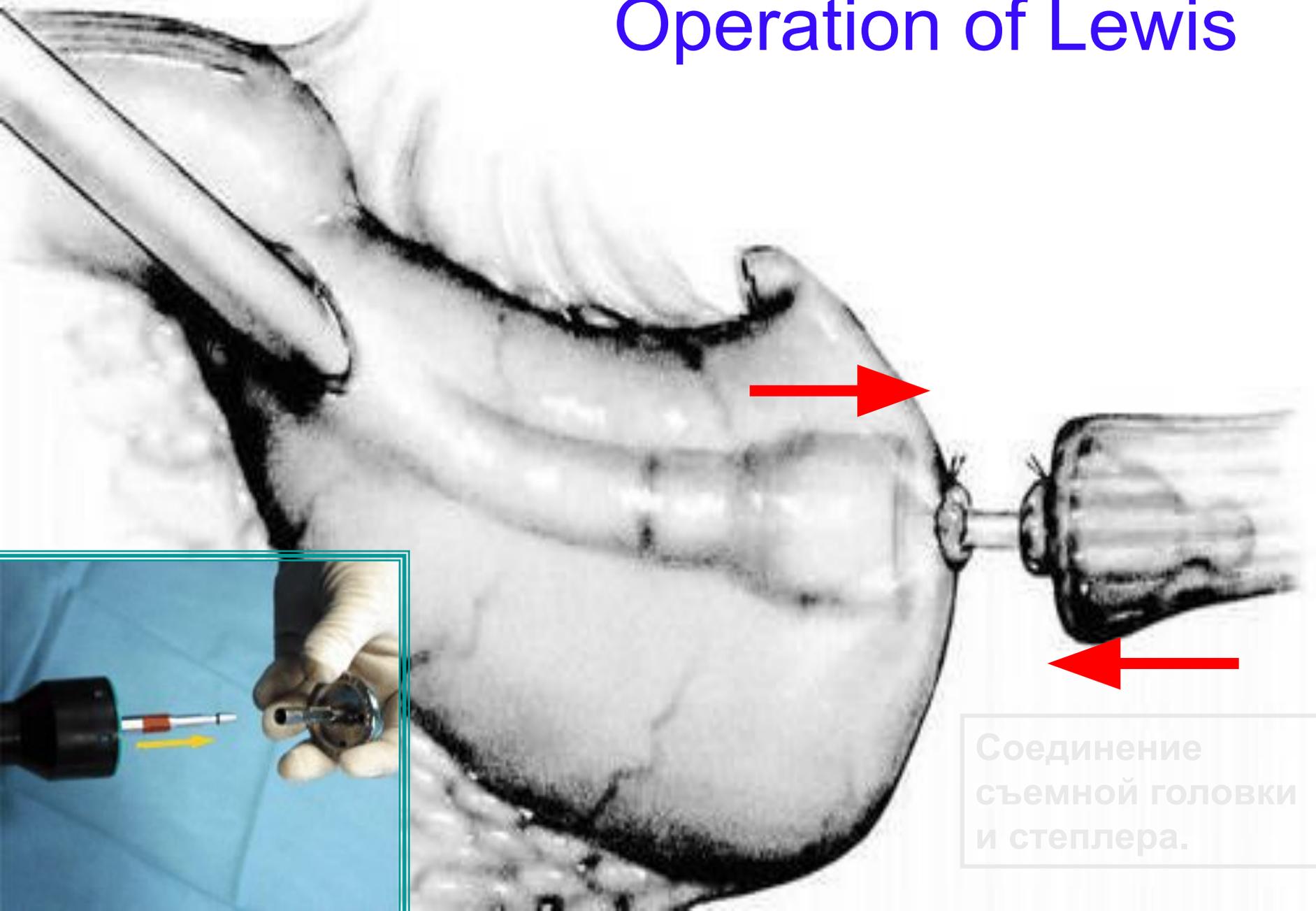


# Operation of Lewis



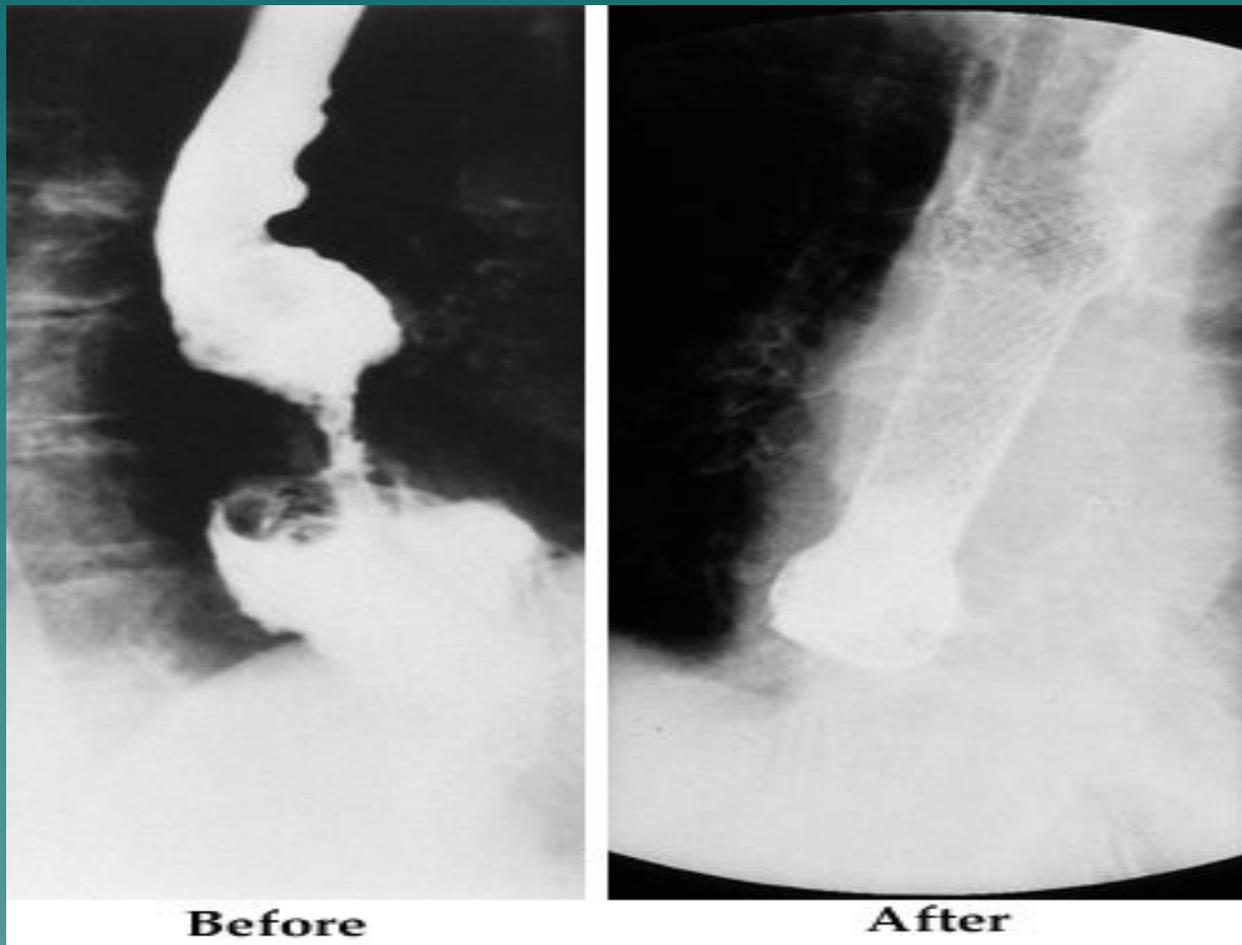
МЕСТО ПЕРЕСЕЧЕНИЯ  
ПИЩЕВОДА.

# Operation of Lewis



Соединение  
съёмной головки  
и степлера.

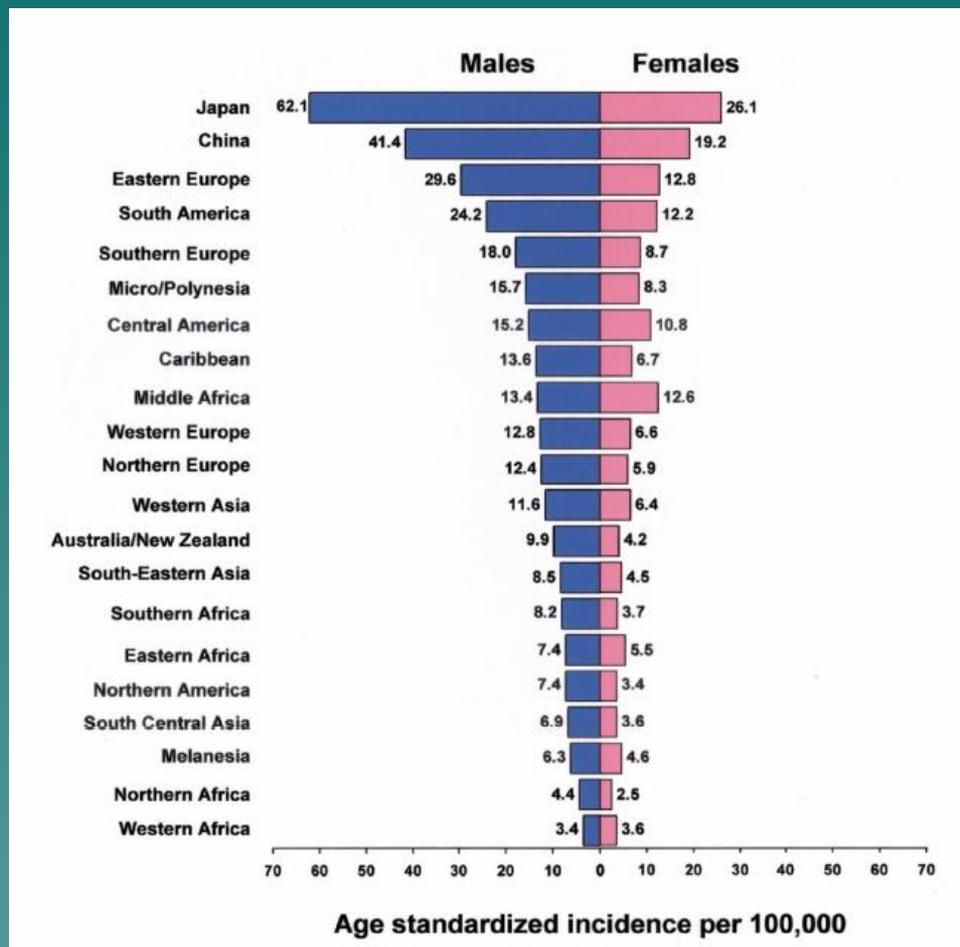
# Stenting of patients with esophageal cancer



# Epidemiology of gastric cancer

- ◆ Since the nineteen-fifties it has become obvious that there has been a gradual decline in the incidence of gastric cancer in the Western industrialized countries. The reason is not clear, but there may be a relation to the introduction of canned food, refrigerators and deep-freezers and the consequent discontinuation of older preservation methods such as salting. However, Japan is a specially known for a high incidence of gastric cancer. Japanese, who emigrated to the USA and who adapted American dietary habits, show a distinct decline in the incidence of gastric cancer (already in the first generation); Whereas American Japanese, keeping to their original dietary habits, demonstrate an incidence as high as in Japan.

# INCIDENCE OF THE STOMACH CANCER (ALL COUNTRIES, 2002)



# Adenocarcinoma of the stomach

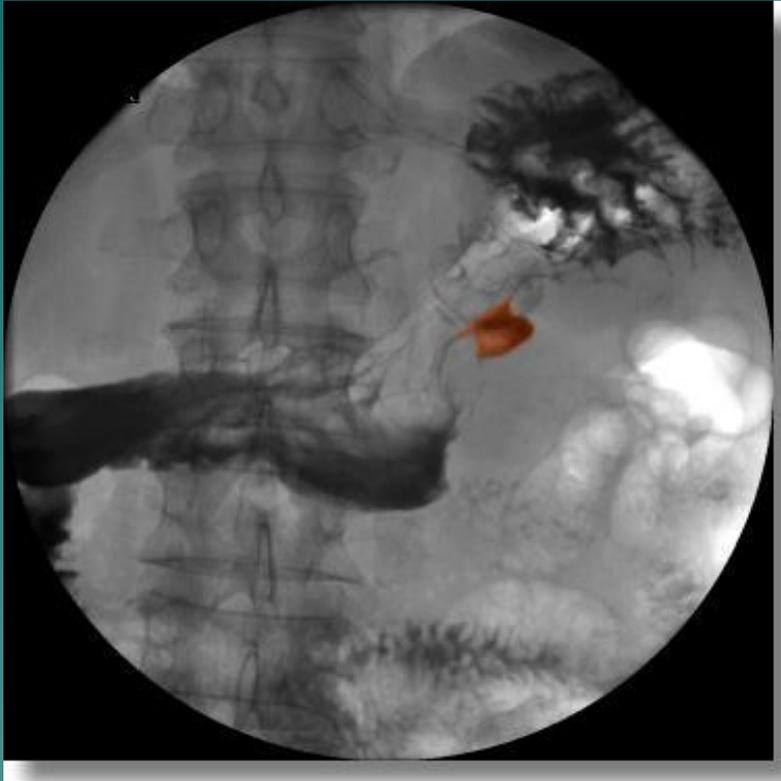
## ◆ Common findings:

- ◆ Anorexia
- ◆ Vomiting
- ◆ Early satiety
- ◆ Weight loss
- ◆ Dysphagia
- ◆ Weakness
- ◆ Epigastric Pain
- ◆ Anemia
- ◆ Occult blood in stools
- ◆ Epigastric mass

## ◆ Rare findings:

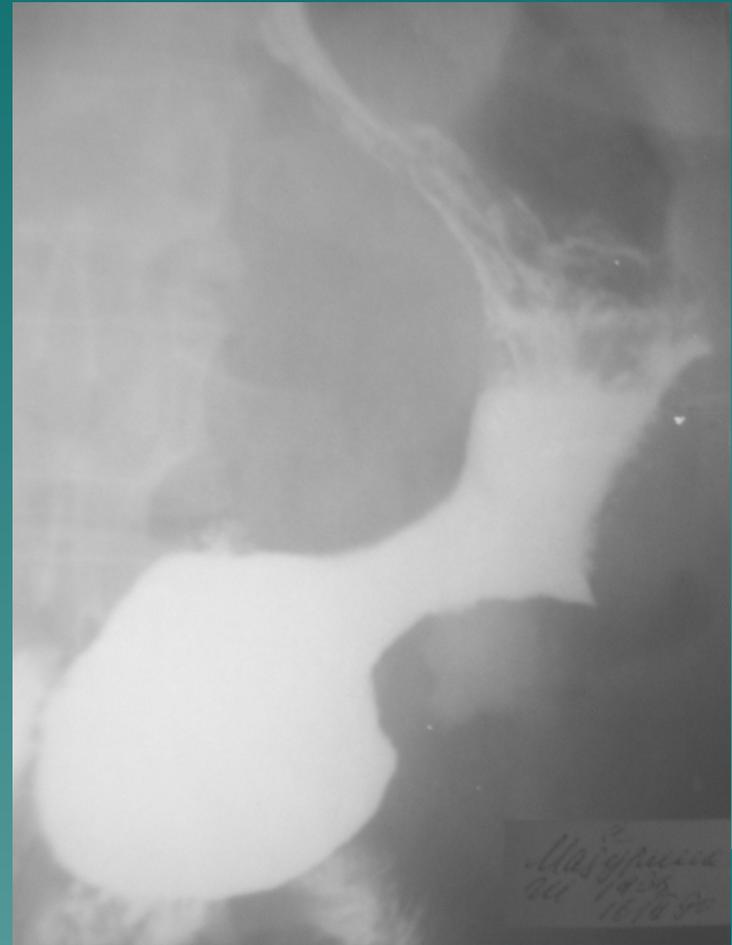
- ◆ Left supraclavicular node (Virchow's node)
- ◆ Acanthosis Nigricans
- ◆ Mass in the perirectal pouch (Blumer's shelf)
- ◆ Thrombophlebitis (Trousseau's syndrome)
- ◆ Dermatomyositis
- ◆ Enlarged ovaries (Krukenberg tumor)

# X Ray of a gastric carcinoma



- ◆ Large key-shaped malignant ulcer at the greater curvature. The tumor is penetrating all mucosal layers.

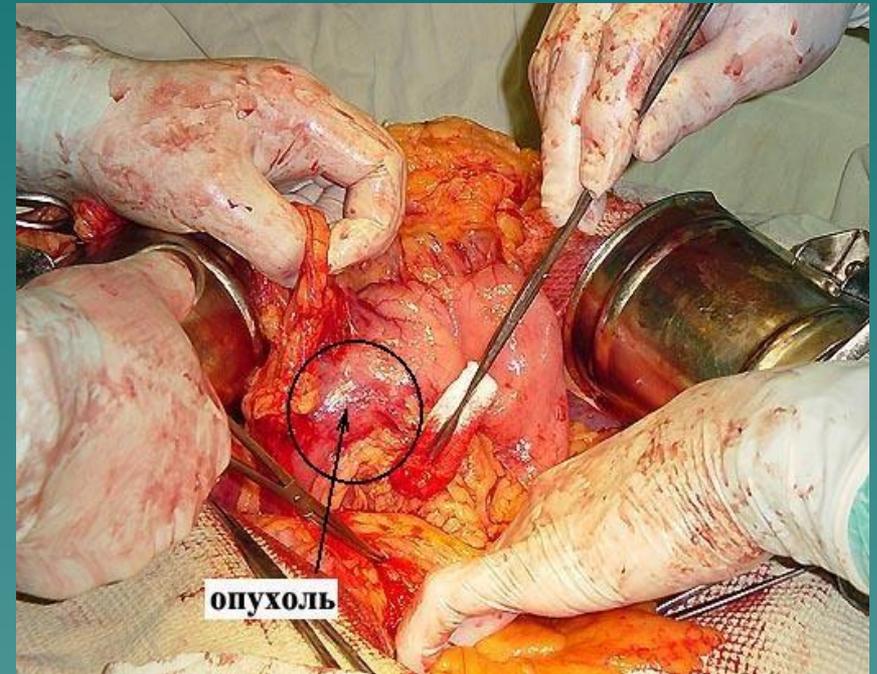
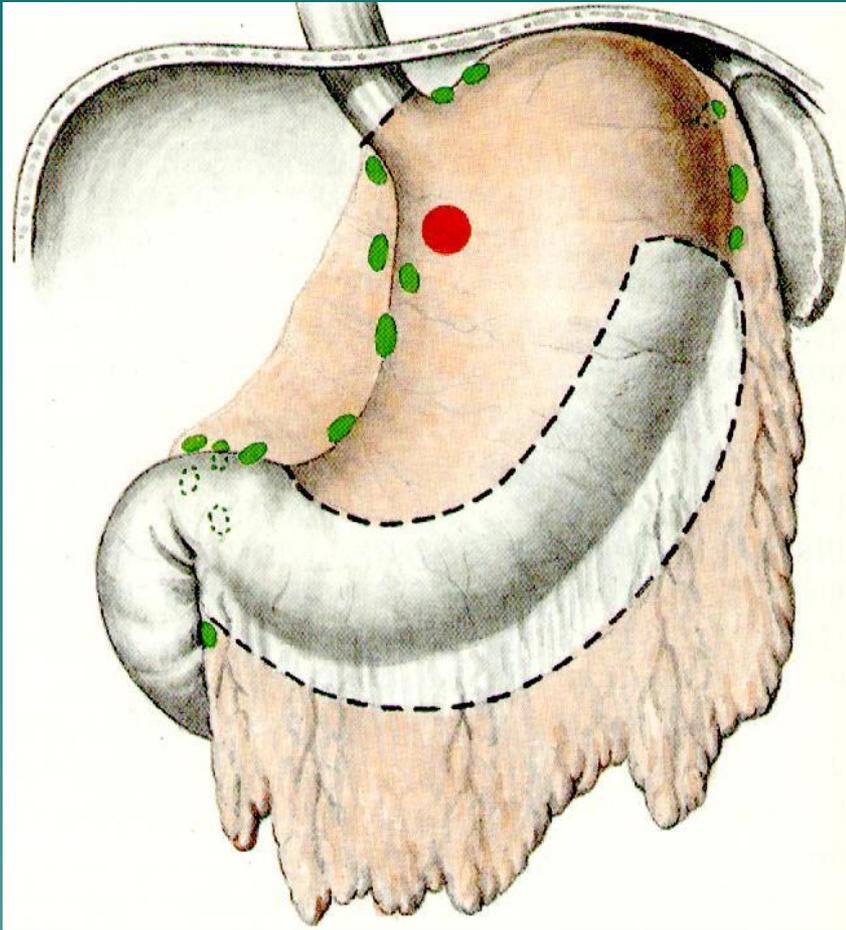
# X Ray of a gastric carcinoma



# Carcinoma of the antrum



# Proximal subtotal gastrectomy



# Subtotal gastric resections

