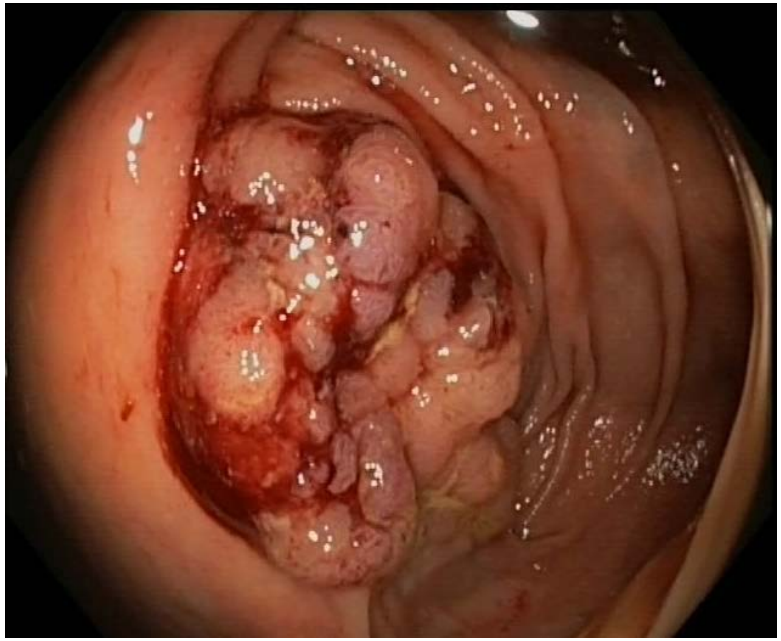
Pathologie digestive et imagerie

Master 1

Année **2020-2021**

Radiologie digestive , Master 1

- Quels organes ?
  - Tube digestif: de la bouche à l'anus
  - Foie, voies biliaires, pancréas
- Quelle technique ?
  - RX
  - Echographie
  - CT
  - IRM
  - Angiographie

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Marie-José Del Volgo

La douleur du malade

actualité de la psychanalyse

érès

http://missfrottis.blog.lemonde.fr/2011/07/

Tube digestif

- Pharynx – Oesophage - Estomac
  - Pathologie fonctionnelle
  - Pathologie organique
- Intestin Grêle-Colon-Rectum
  - Affections aiguës
    - Appendicite
    - Diverticulite
  - Occlusion
    - Grêle
    - Colique
  - **Ischémie**
    - **infarctus mésentérique**
    - **colite ischémique**
  - Maladies Inflammatoires
  - Tumeurs

Cours à option RX & Clinique
Abdomen Aigu

Pharynx – œsophage - Estomac

- Pathologie fonctionnelle & organique
- Symptôme : Dysphagie
  - Haute
  - Basse

Difficulté de déglutition

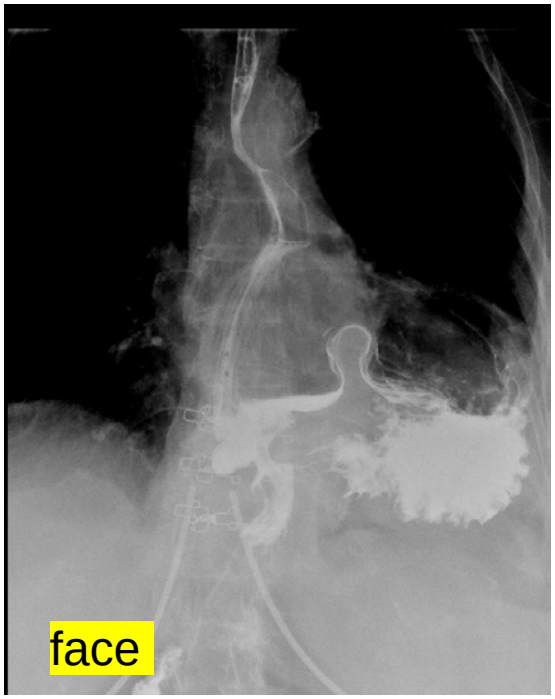
ou

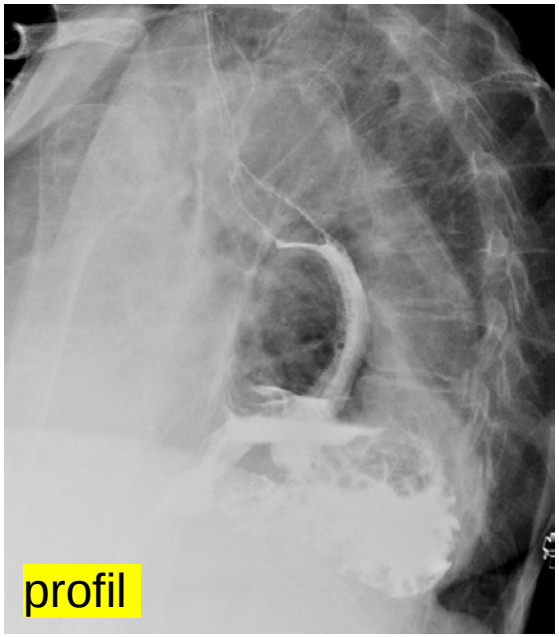
sensation de blocage pendant la déglutition

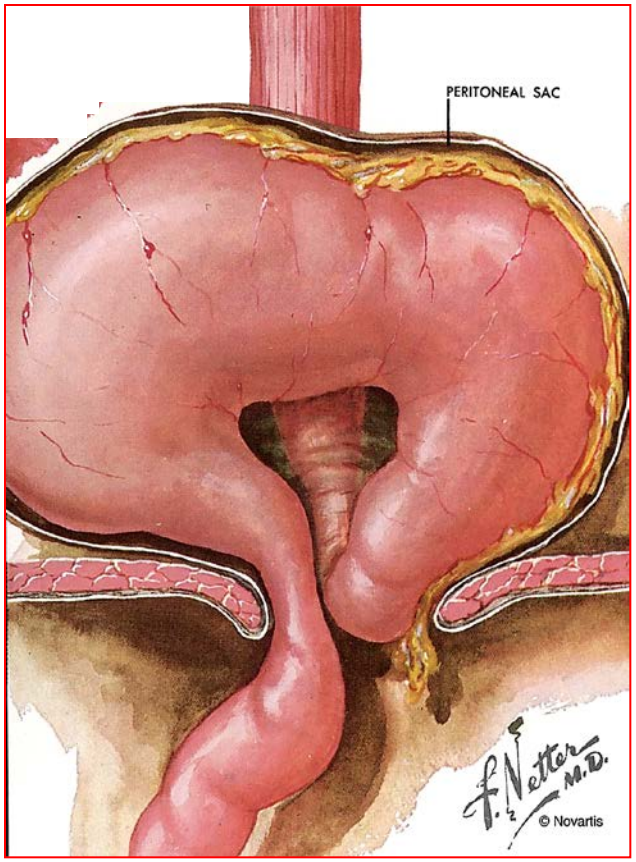
Dysphagie Haute


Actuel
[21/09/2020 13:07:13]


Profil, déglutition

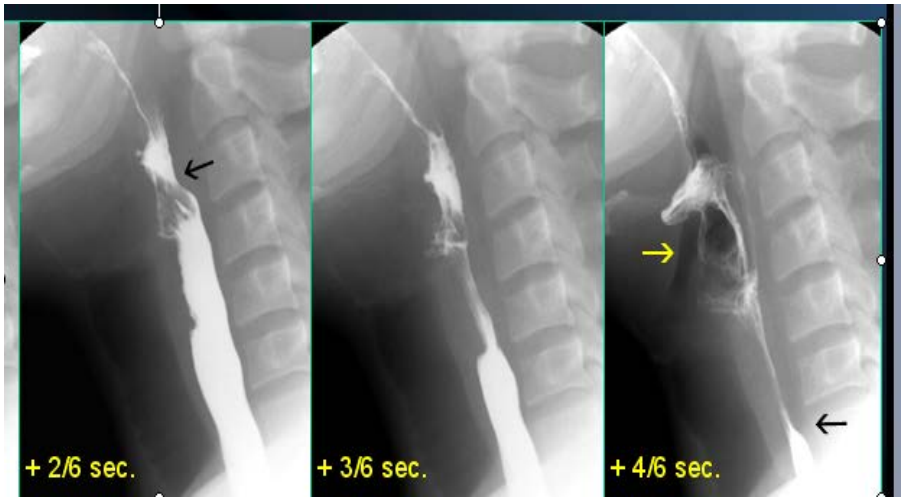

face


profil


PERITONEAL SAC
F. Netter M.D.
© Novartis

MALADIES NEUROMUSCULAIRES AFFECTANT LA PHASE PHARYNGEE DE LA DEGLUTITION

- Du système nerveux central
  - accidents vasculaires (20-40 %)
  - tumeurs , traumatisme
  - poliomyélite , SEP , SLA
  - …
- Musculaires
  - polymyosite , dermatomyosite
  - myopathie oculo-pharyngée
  - maladie de Steinert
  - ...
- De la jonction myoneurale
  - myasthénie grave (thymome)
  - syndrome de Lambert-Eaton
- Des nerfs périphériques
  - traumatisme , compression
  - névrite : diabète , éthylisme médicaments (corticoïdes, immunosuppresseurs, antidépresseurs…)
- Idiopathique
  - achalasie du crico-pharyngien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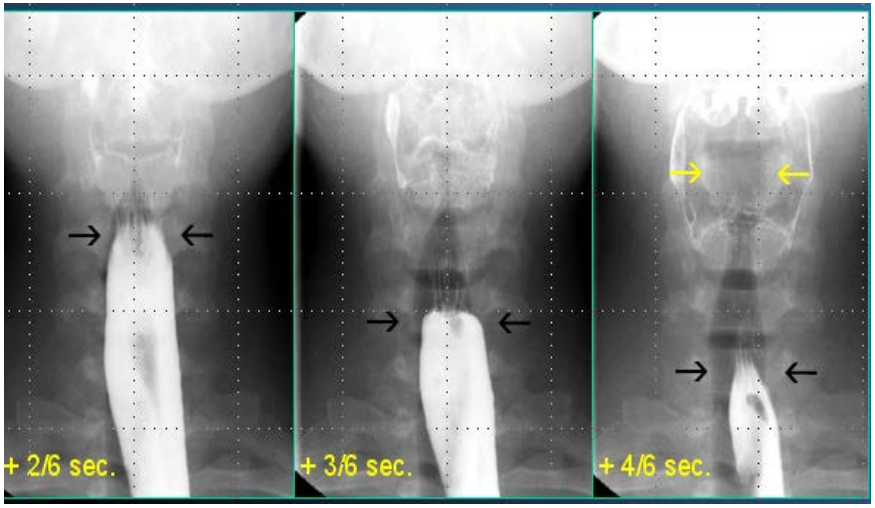
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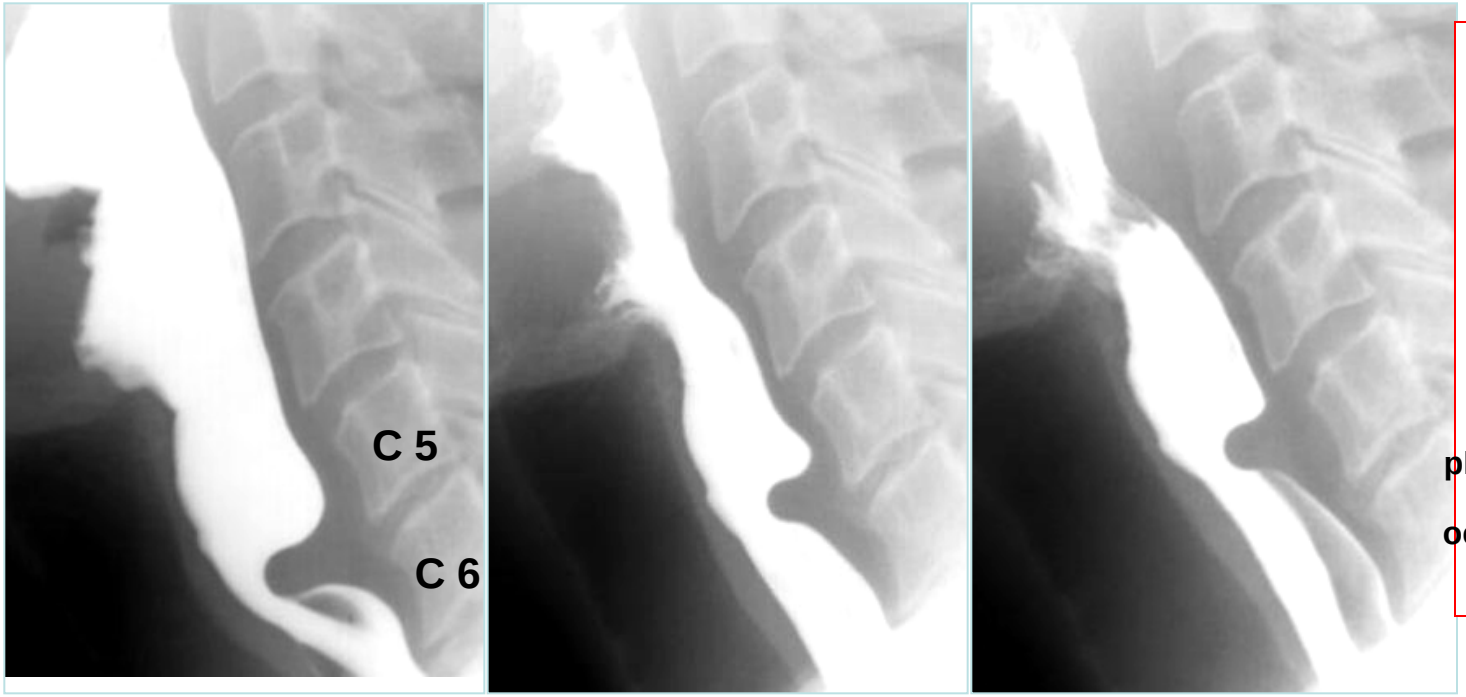
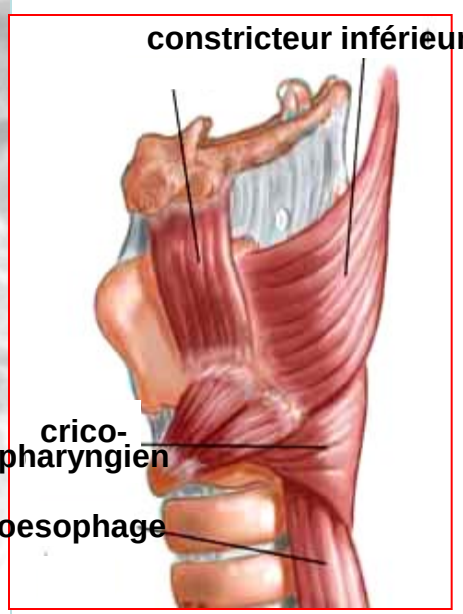
Penetration/Aspiration Scale

No Penetration or Aspiration	1	Contrast Does Not Enter the Airway
PENETRATION	2	Contrast Enters the Airway, Remains Above Voca Folds, No Residue
	3	Contrast Remains Above Vocal Folds, Visible Residue Remains
	4	Contrast Contacts vocal Folds, No Residue
	5	Contrast Contacts Vocal Folds, Visible Residue Remains
ASPIRATION	6	Contrast Passes Glottis, No Sub-Glottic Residue Visible
	7	Contrast Passes Glottis, Visible Sub-Glottic Residu Despite Patient's Response
	8	Contrast Passes Glottis, Visible Sub-Glottic Residu Absent Patient Response

(Rosenbek et al, *Dysphagia*, 1996; Robbins et al, *Dysphagia*, 1999)

In Netter, Atlas d'anatomie humaine, Masson, 2007





ACHALASIE DU MUSCLE CRICO-PHARYNGIEN

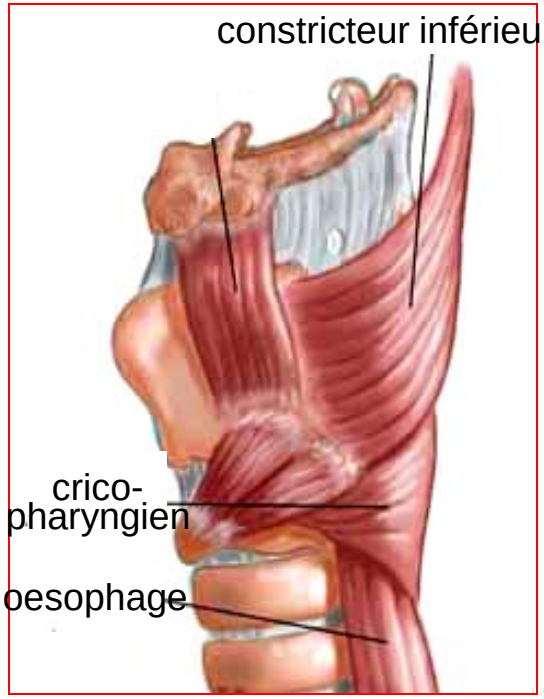
OU DEFAUT DE RELAXATION DU SPHINCTER OESOPHAGIEN SUPERIEUR (SOS)

OU " BARRE " DU SOS

encoche postérieure persistante (C5-C6)
phénomène du jet

ACHALASIE DU SPHINCTER OESOPHAGIEN SUPERIEUR (SOS)

(défaut de relaxation du muscle crico-pharyngien)



causes

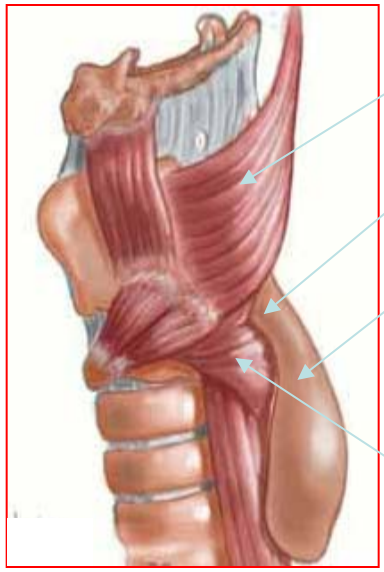
- hypocontractibilité des constricteurs
- AVC
- idiopathique
- " réactionnelle "
  - reflux gastro-oesophagien (RGO)
  - obstructions oesophagiennes organiques ou fonctionnelles

➔ " proéminence " du SOS

In Netter, Atlas d'anatomie humaine, Masson, 2007

PROEMINENCE DU CRICOPHARYGIEN
DYSPHAGIE REFEREE AU COU
(30 % = LESIONS OBSTRUCTIVES
OESOPHAGIENNES INFERIEURES OU RGO)

exploration de la totalité de l'oesophage



In Netter, Atlas d'anatomie humaine, Masson, 2007

Dysphagie basse

CAUSES DE DYSPHAGIE BASSE

- TROUBLES FONCTIONNELS 11%
- LESIONS ORGANIQUES 89%
  - hernie hiatale, oesophagite et sténose peptiques 53%
  - anneau de Schatzki 15%
  - sténose néoplasique 12%
  - autres (compression, tumeurs bénignes, sténose caustique …) 9%

Ott DJ , et al ; Gastointest Radiol 6 :109 , 1981

TROUBLES FONCTIONNELS DE L'OESOPHAGE

- PRIMAIRES
  - achalasie
  - spasmes diffus
  - presbyoesophage

- SECONDAIRES
  - Sclérodermie
  - Oesophagite
    - peptique ,caustique, infectieuse
  - Pseudo-achalasies :
    - Sténoses bénignes,malignes,iatrogènes
  - Maladie de Chagas
  - Diabète , éthylisme …
  - Médicaments
    - Parasympathicolytiques
  - Myopathies

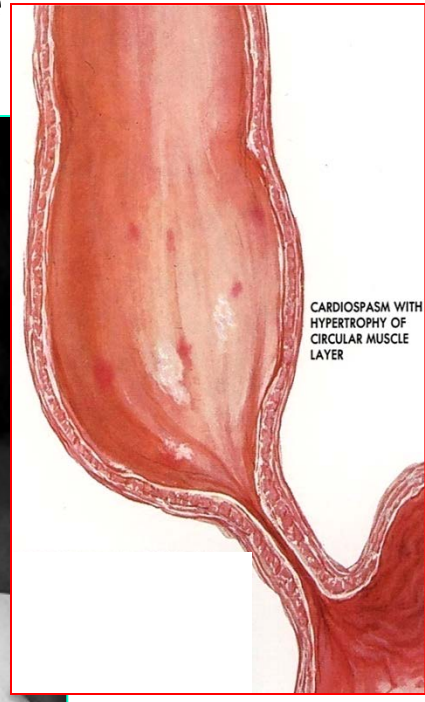
= tout ce qui modifie la motilité oesophagienne

PERISTALTIQUE PRIMAIRE

(1- 4 cm / sec.)

ACHALASIE

absence
- de péristaltique
- de relaxation du SOI
- d’ air gastrique



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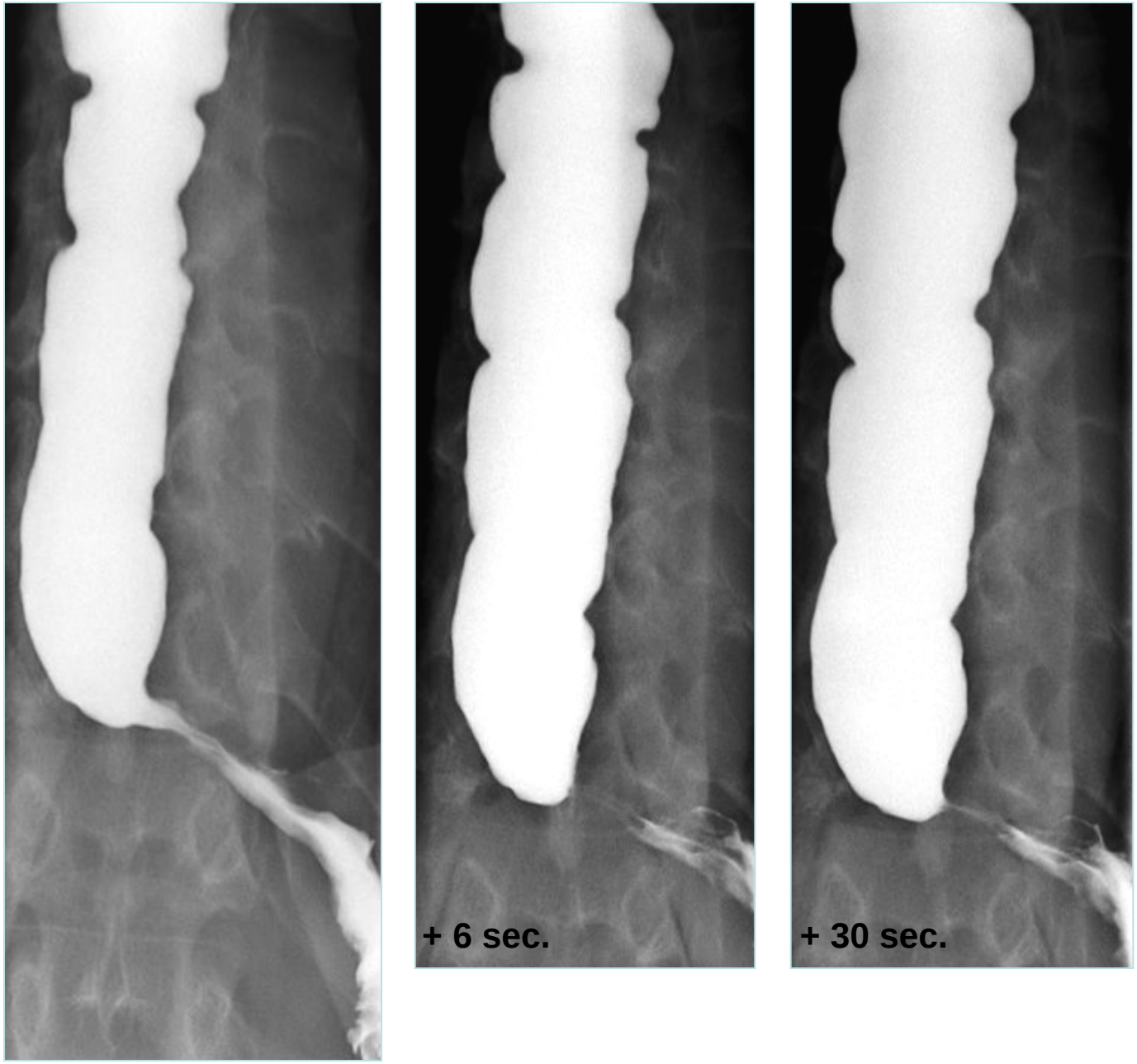
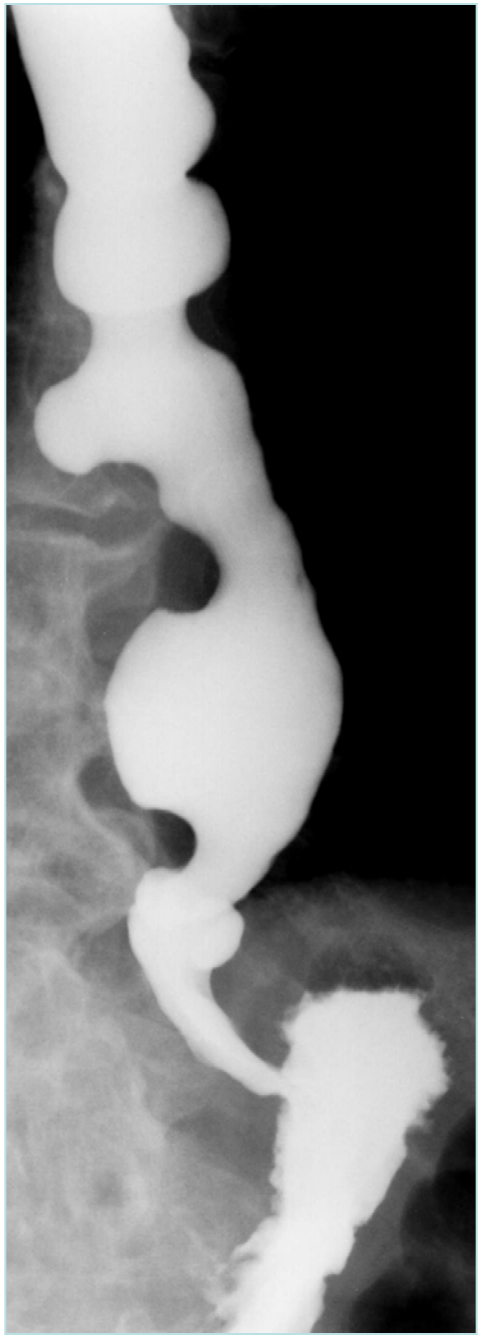


ACHALASIE VIGOUREUSE

(+ contractions tertiaires répétitives)

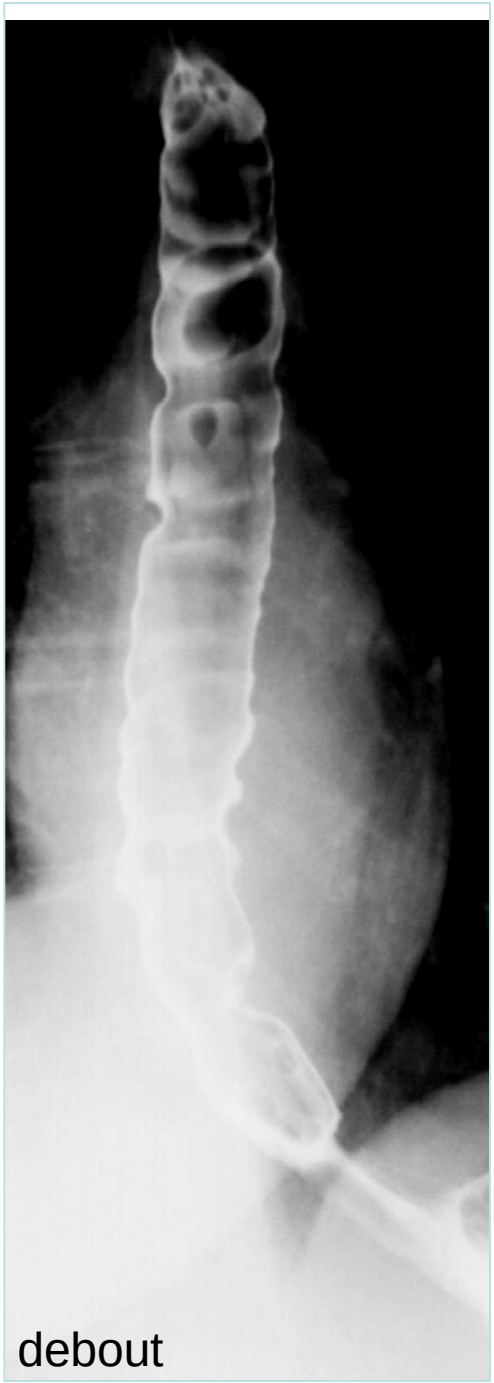


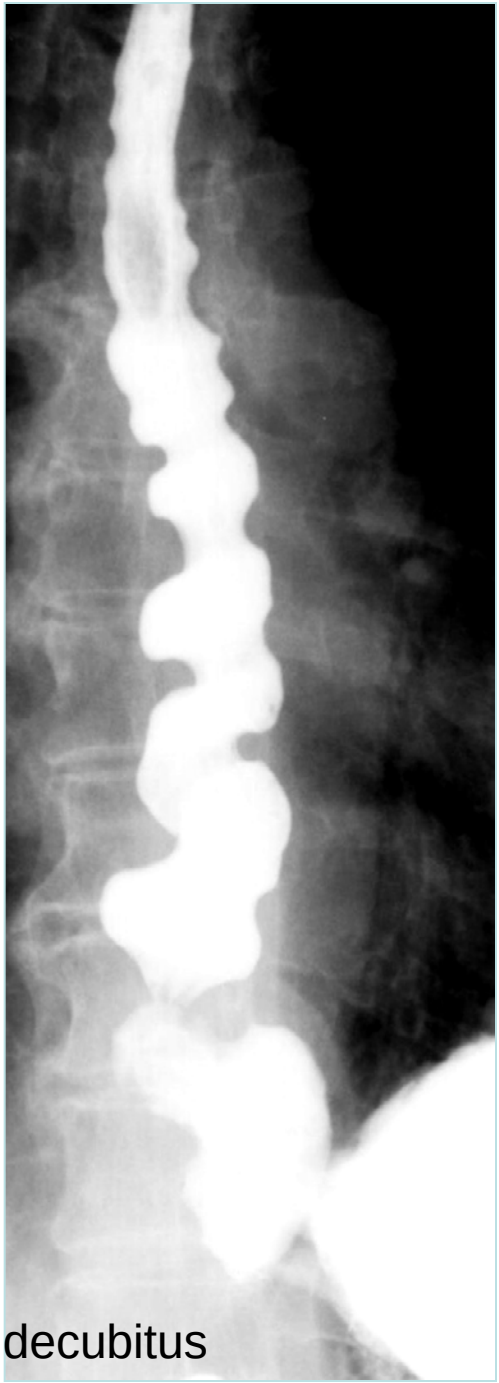
SPASMES DIFFUS

contractions
tertiaires
profondes

" curling " esophagus

Syndrome de Barsony-Teschendorf





PRESBYOESOPHAGE

contractions
tertiaires
prolongées

" corkscrew " esophagus

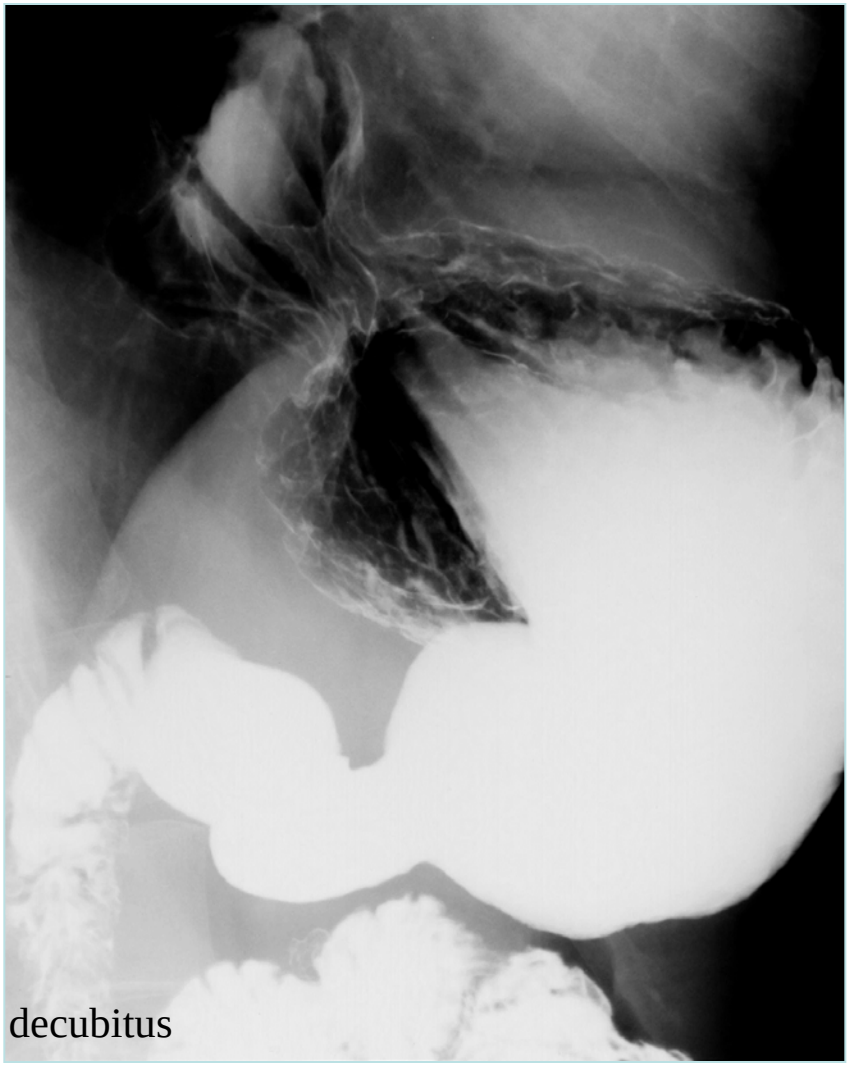
20 à 50 % des pts ont > 70 ans

CAUSES DE DYSPHAGIE BASSE

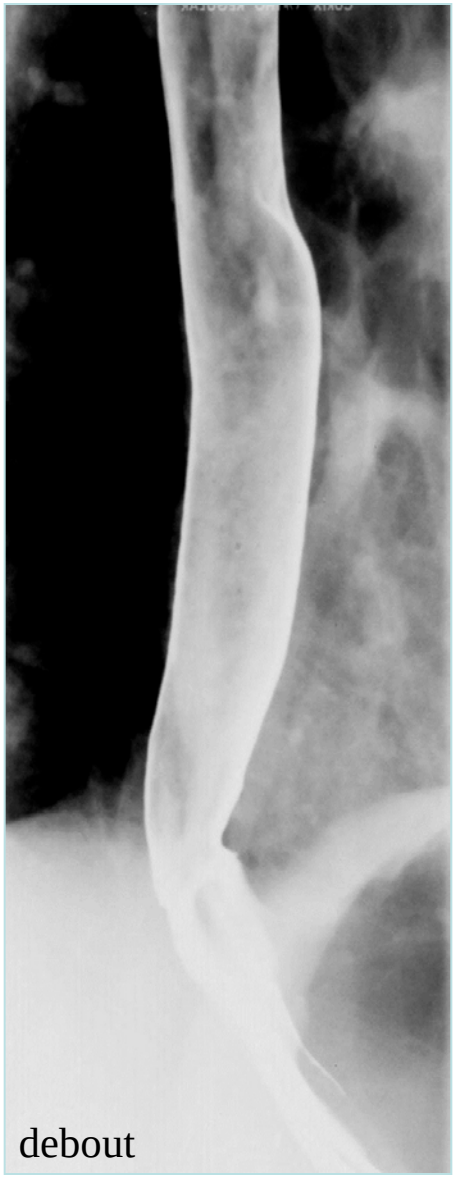
- TROUBLES FONCTIONNELS 11%
- LESIONS ORGANIQUES 89%
  - hernie hiatale, oesophagite et sténose peptiques 53%
  - anneau de Schatzki 15%
  - sténose néoplasique 12%
  - autres (compression, tumeurs bénignes, sténose caustique …) 9%

Ott DJ , et al ; Gastointest Radiol 6 :109 , 1981

NORMAL


decubitus

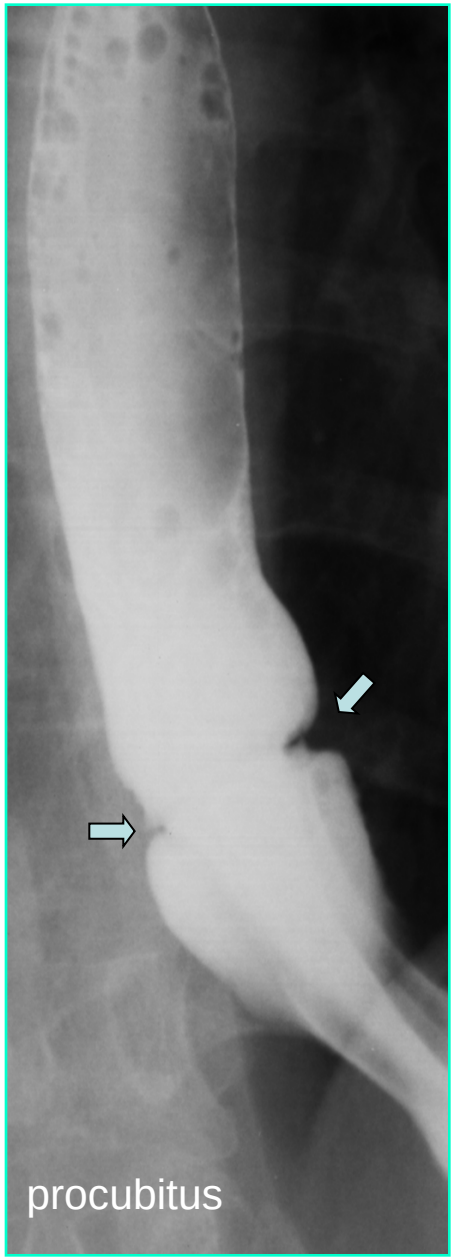

decubitus


debout

hernie hiatale axiale + RGO

réductibilité

NORMAL



HERNIE AXIALE ET Shatzki

STEAK
HOUSE
SYNDROME

↓

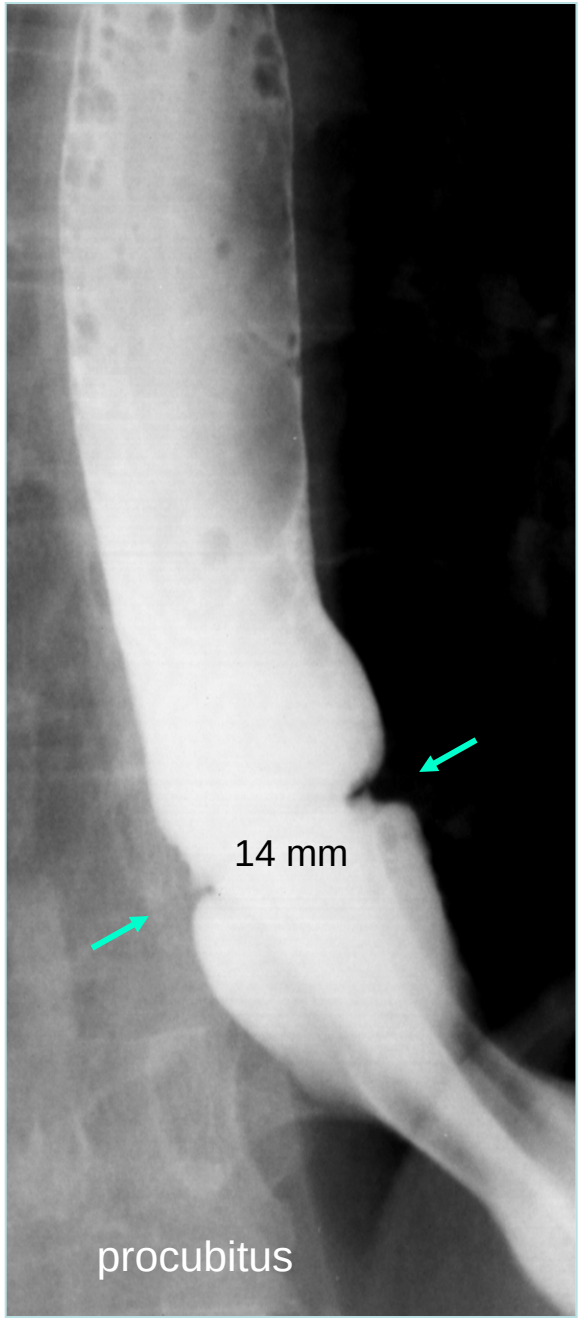
endoscopie
négative

↓

OESOPHAGOGRAPHIE

↓

ANNEAU DE
SCHATZKI

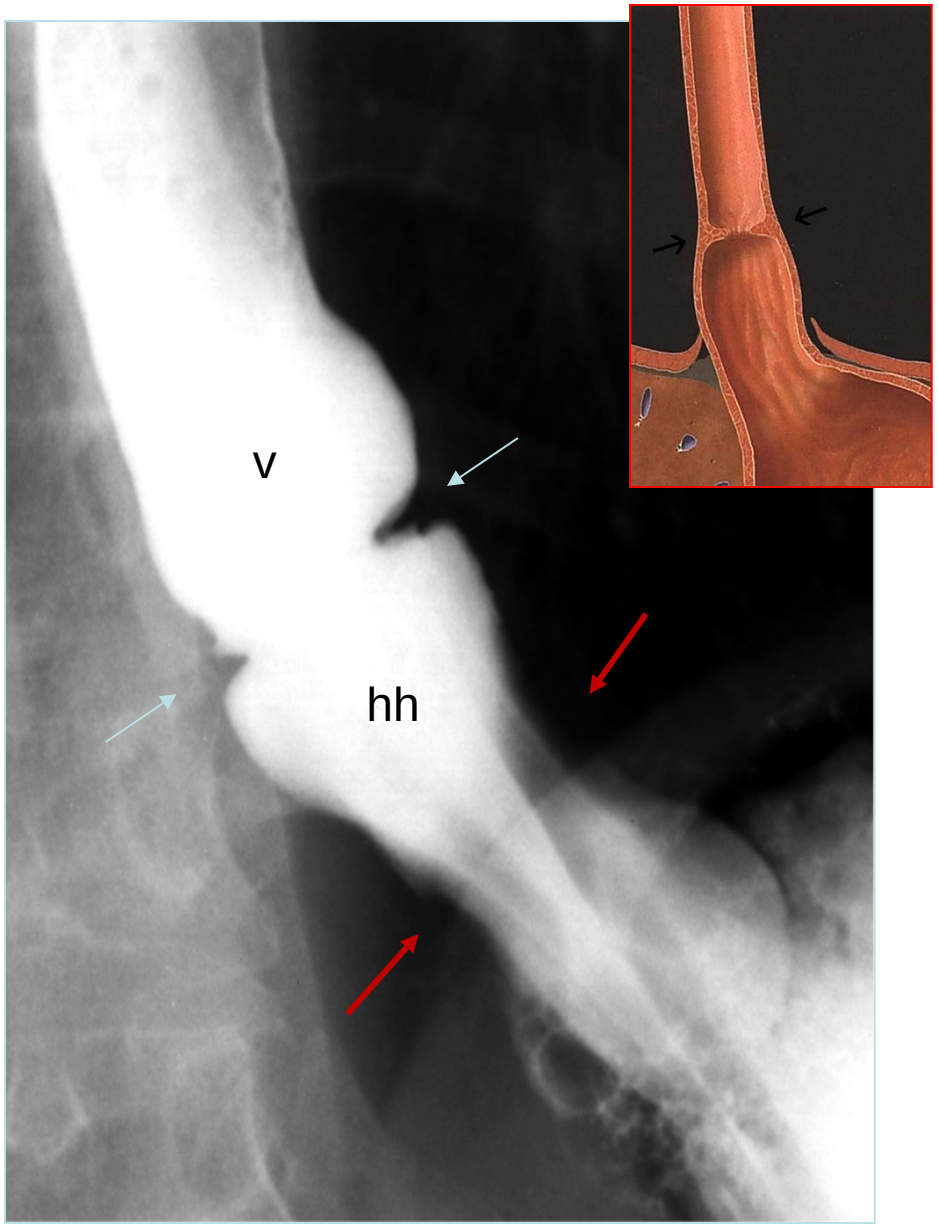


PETITE HERNIE HIATALE
+ ANNEAU DE SCHATZKI

v : vestibule (oesophagien)

→ ← anneau de Schatzki

- hh : hernie hiatale (gastrique)
- → ← hiatus diaphragmatique



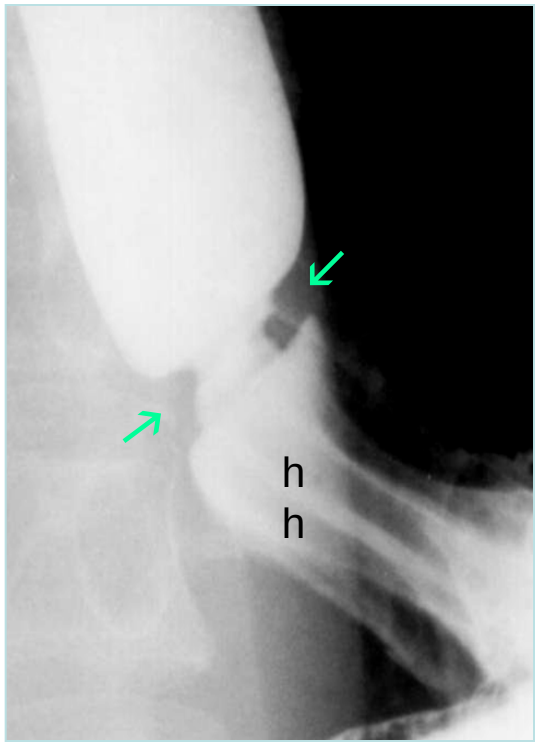
Schatzki R , et al ; AJR 70 : 911 , 1953

In Netter, Atlas d'anatomie humaine, Masson, 2007

RING DE SCHATZKY

symptomatique

< 13 mm

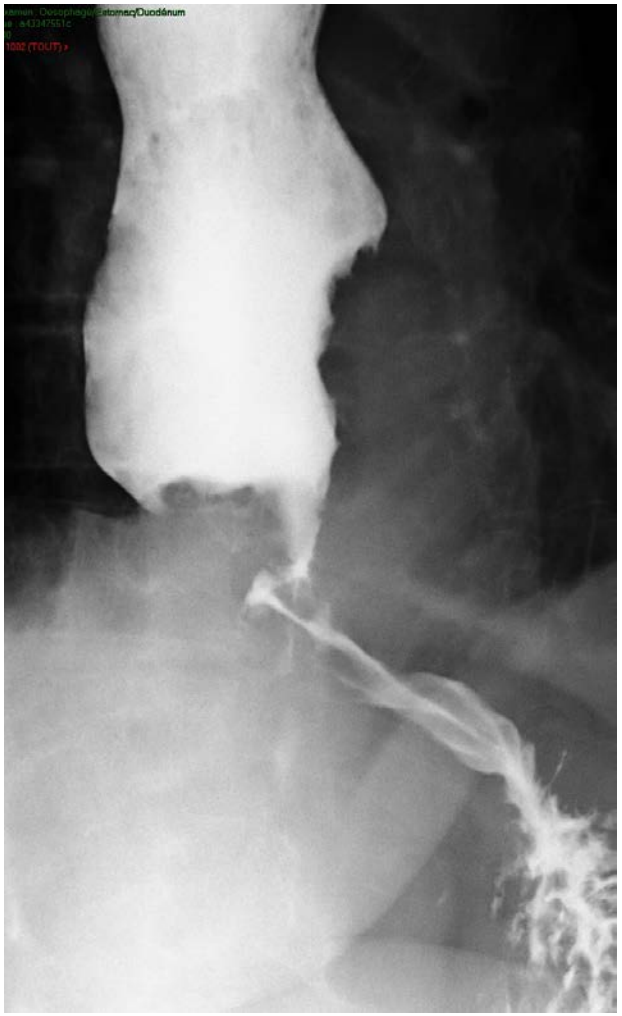


Œsophage et lésions organiques

- Cancer
- Ruptures

Épaisseur de la paroi de l'œsophage:
= 5 mm en contraction,
= 3 mm si distendu
= jamais > 5,5 mm
= 1 mm de plus chez l'homme

Situation normale



Néoplasie du bas oesophage

TNM Staging System for Colorectal Cancer

Table 2. TNM Staging System for Colorectal Cancer. *

Stage	TNM Classification	Five-Year Survival
		%
I	T1–2, N0, M0	>90
IIA	T3, N0, M0	60–85
IIB	T4, N0, M0	
IIIA	T1–2, N1, M0	25–65
IIIB	T3–4, N1, M0	
IIIC	T (any), N2, M0	
IV	T (any), N (any), M1	5–7

Primary tumor (T)

- TX: Primary tumor cannot be assessed
- Tis: Carcinoma in situ
- T1: Tumor invades submucosa
- T2: Tumor invades muscularis propria
- T3: Tumor penetrates muscularis propria and invades subserosa
- T4: Tumor directly invades other organs or structures or perforates visceral peritoneum

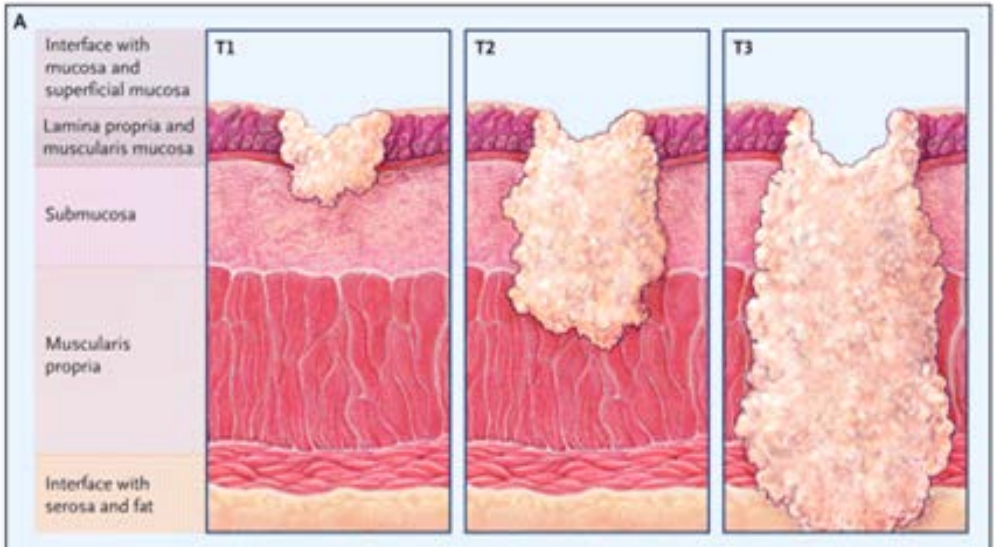
Nodal status (N)

- NX: Regional lymph nodes cannot be assessed
- N0: No metastases in regional lymph nodes
- N1: Metastases in one to three regional lymph nodes
- N2: Metastases in four or more regional lymph nodes

Distant metastases (M)

- MX: Presence or absence of distant metastases cannot be determined
- M0: No distant metastases detected
- M1: Distant metastases detected

* The information is from Greene et al.[7]

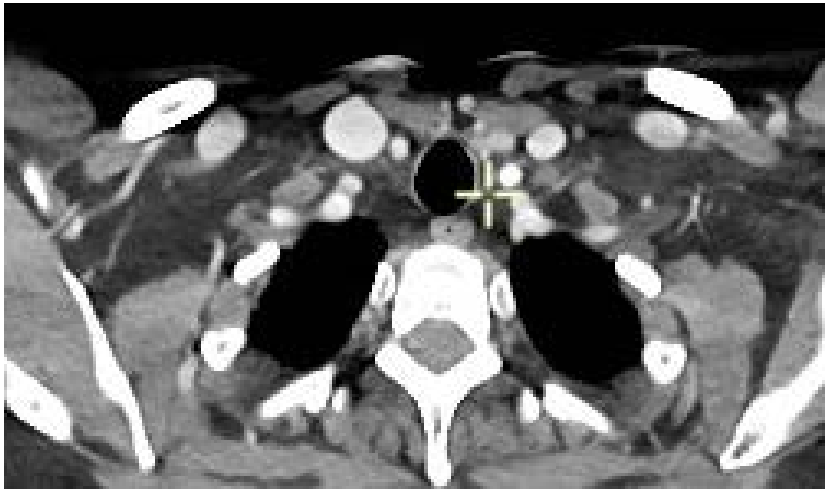


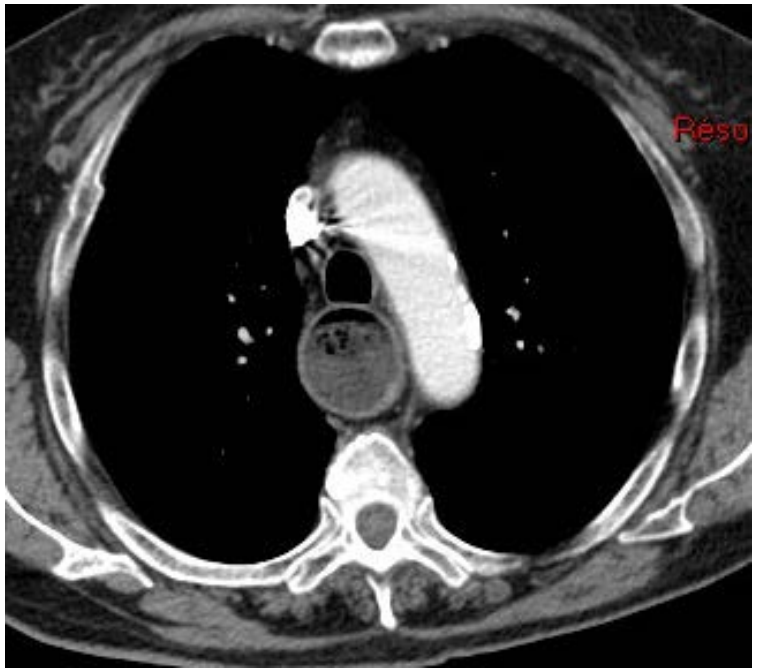
	Endoscopie US ENDO	RX	CT	Pet CT
Détection	+			
Stadification	+		T4, N, M	+
Suivi	+	+/- post op	+	+

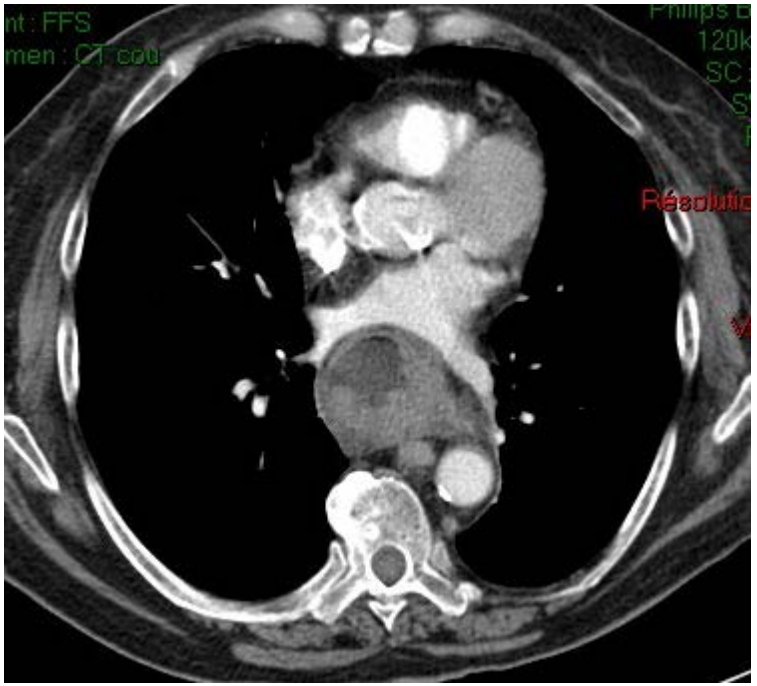
Meyerhardt, J. A. et al. N Engl J Med 2005;352:476-487

The NEW ENGLAND JOURNAL of MEDICINE

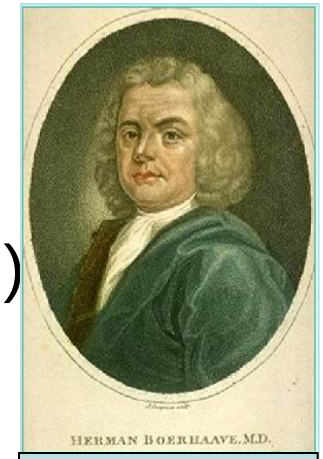
Œsophage et processus tumoral



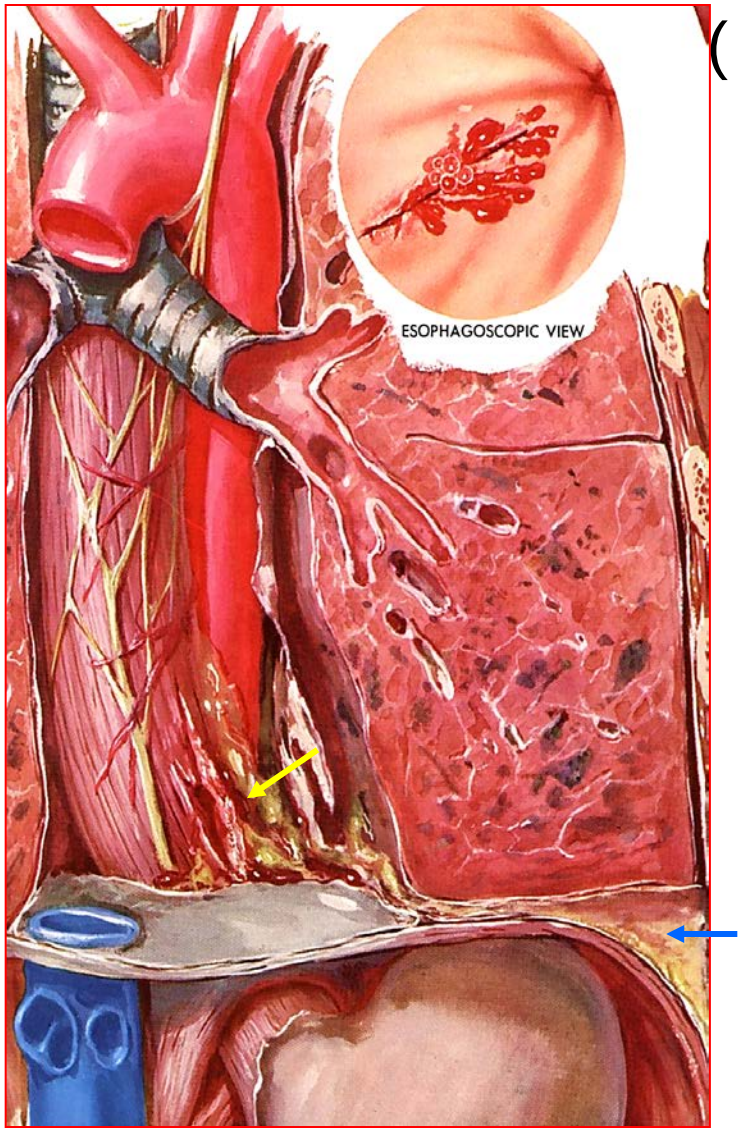




rupture spontanée de l'œsophage (syndrome de Boerhaave)



1668-1738 (1724)



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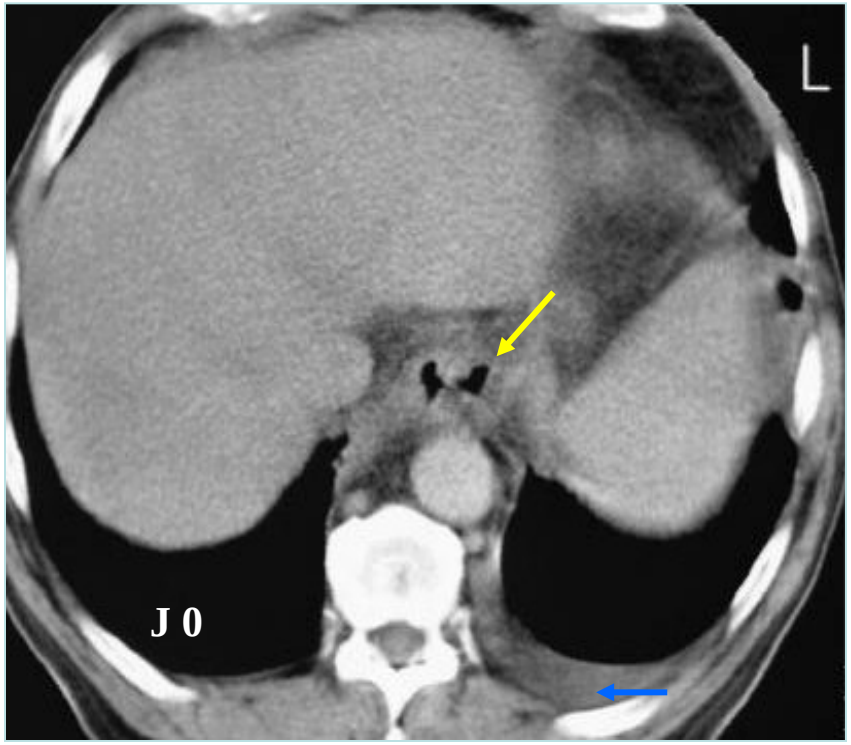
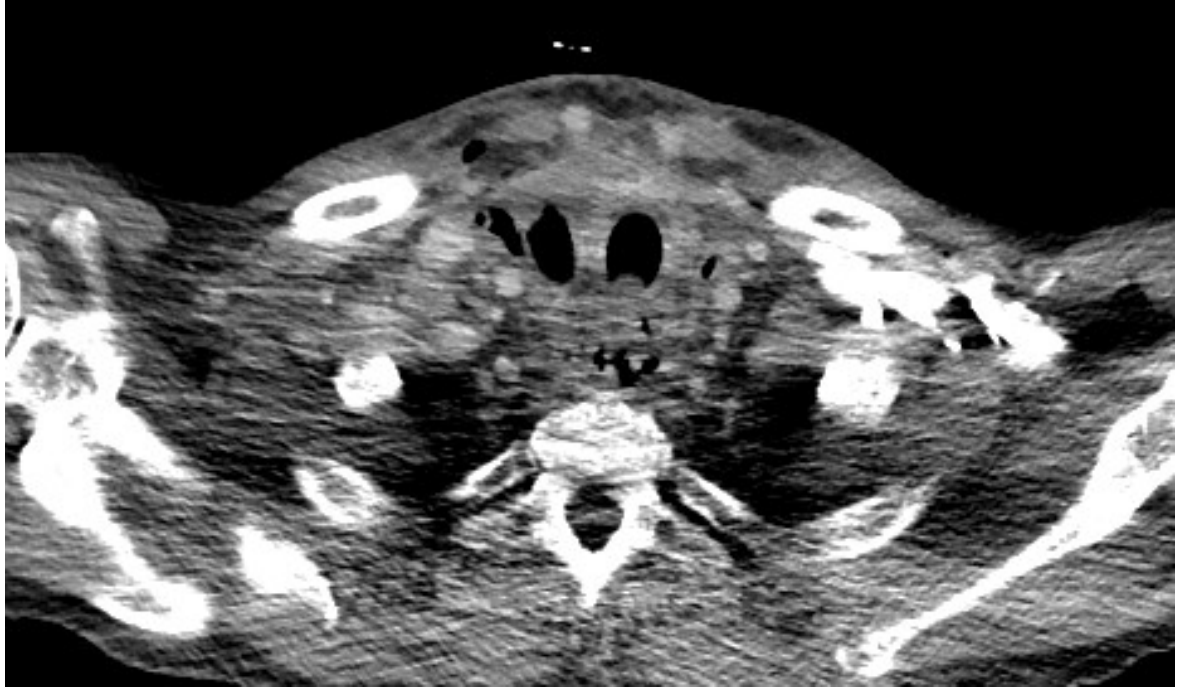


collection aérique para-oesophagienne
épanchement pleural gauche

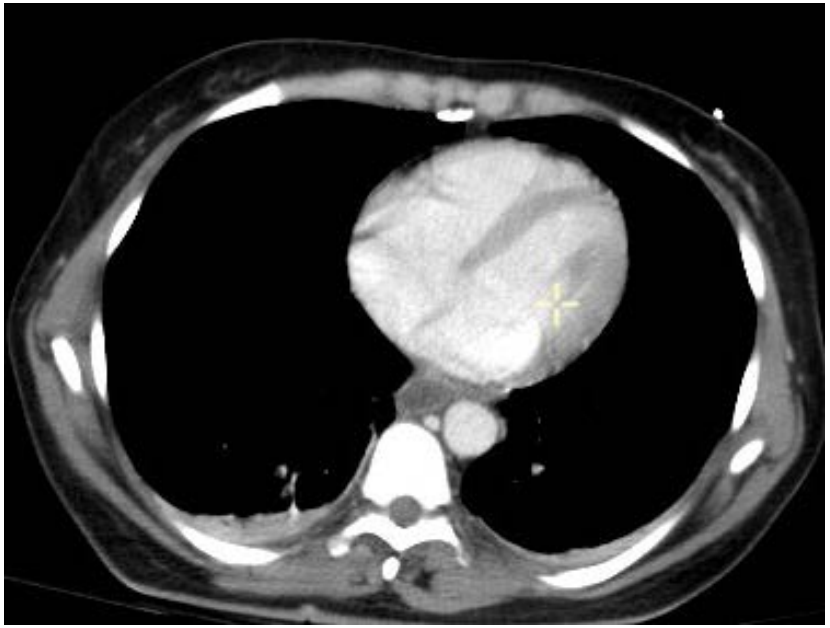
1668-1738 (1724)

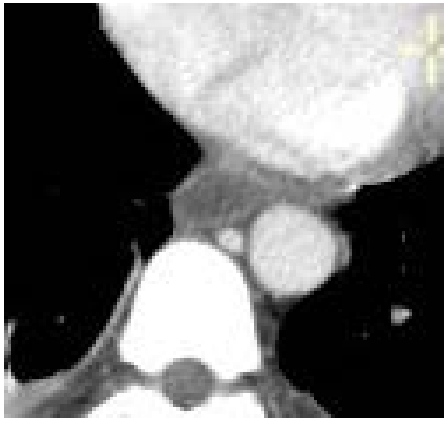


Varias

- Varices oesophagiennes
  - Les voir
  - Les complications possibles
- Oesophagite
  - Mycotique
  - Caustique
  - Radique

Ingestion de caustique





Radiologie et estomac

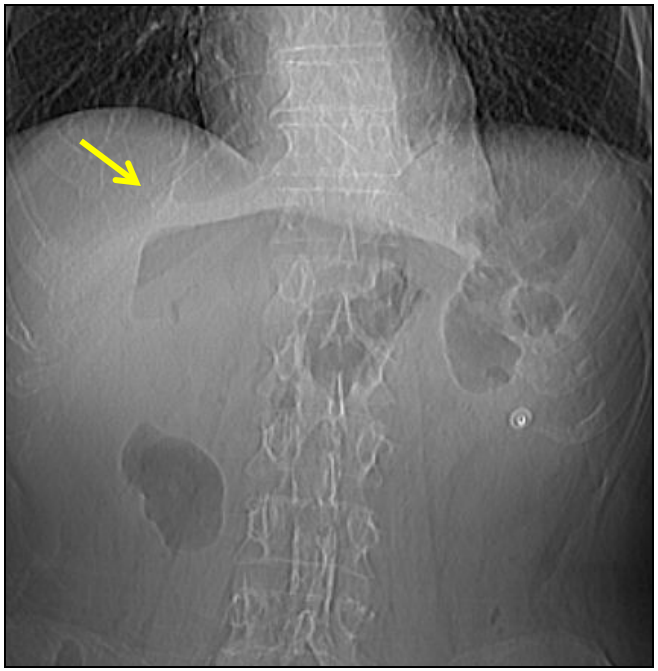
- Inflammation
  - Ulcère
  - Perforation
- Hémorragies
- Occlusions
  - Volvulus
  - Bouveret
- Post-op
  - Chirurgie de l’obésité
  - Chirurgie oncologique
- Tumeur

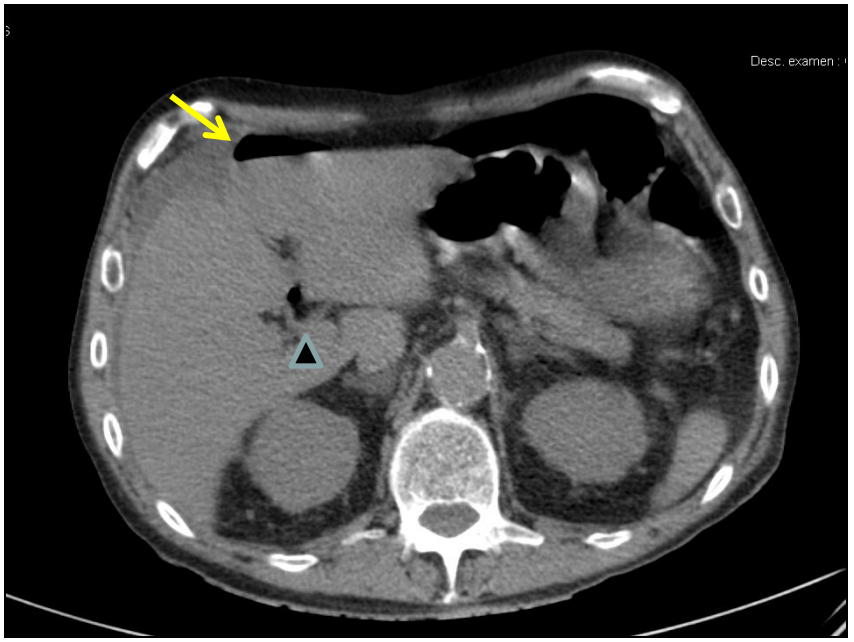
Estomac, Inflammation et Imagerie

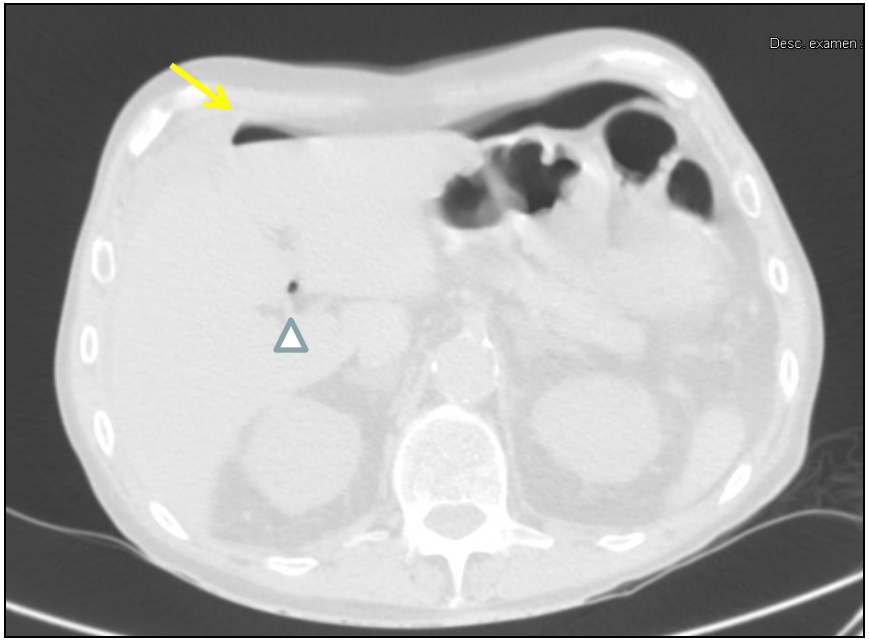
- Gastrites, Ulcères : endoscopie

Estomac, Inflammation et Imagerie

- Gastrites, Ulcères : endoscopie
- Perforation: Imagerie



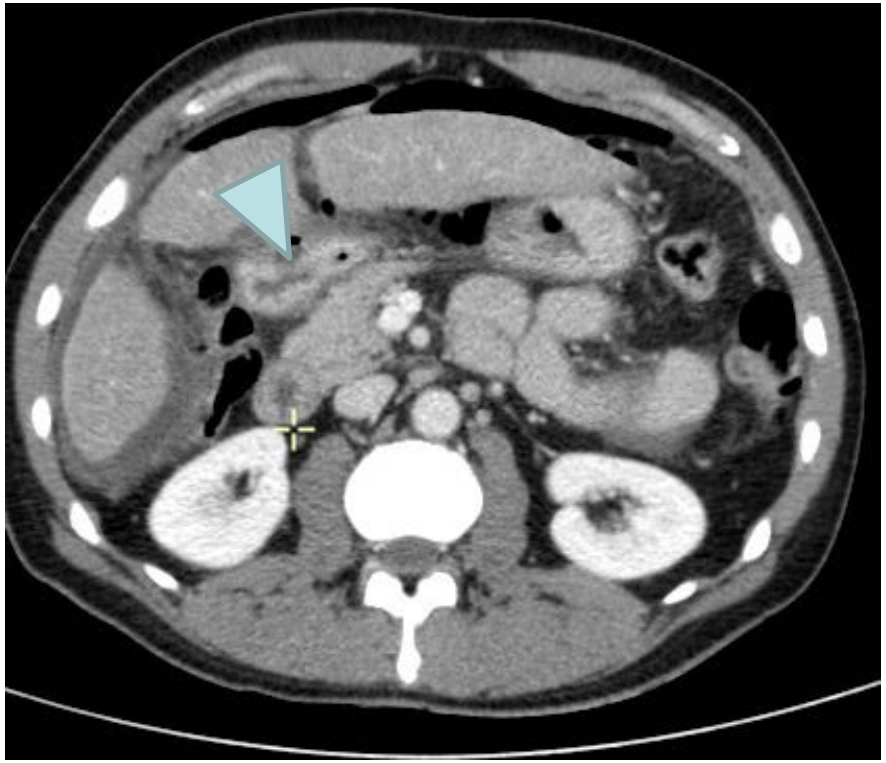


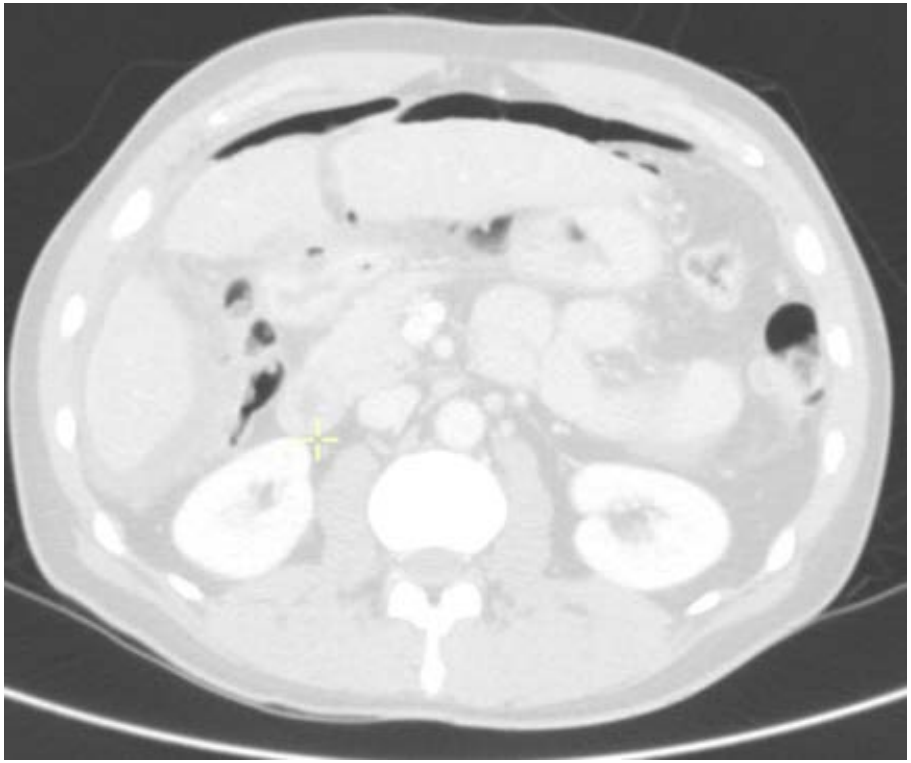


Ligament falciforme

Site & Cause de la perforation: CT

- CT et perforation gastro-duodénale:
  - Liquide localisé entre le duodénum et la tête du Pancréas
  - Paroi épaissie à > 12 mm
  - Interruption focale de la paroi (si IV)
  - Infiltration de la graisse de voisinage
  - Air libre
    - dans la scissure hépatique
    - Dans l'ACE
  - Si post-endoscopie haute
    - Rétropneumopéritoine périduodénal





Estomac, Inflammation et Imagerie

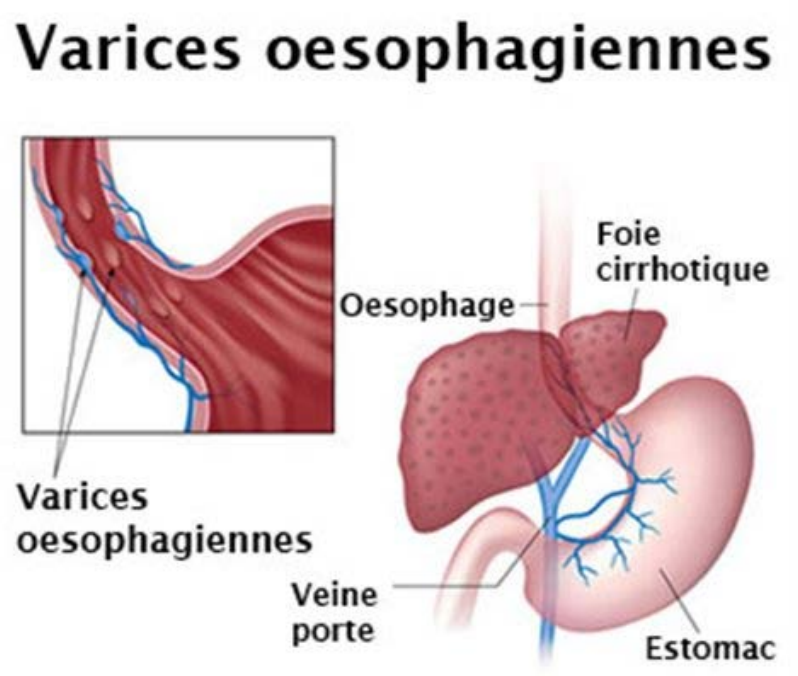
- Gastrites, Ulcères : endoscopie
- Perforation: Imagerie
- Hémorragies :

⇒ Endoscopie

⇒ RX interventionnelle

⇒ CT post procédure

Varices oeso-gastriques



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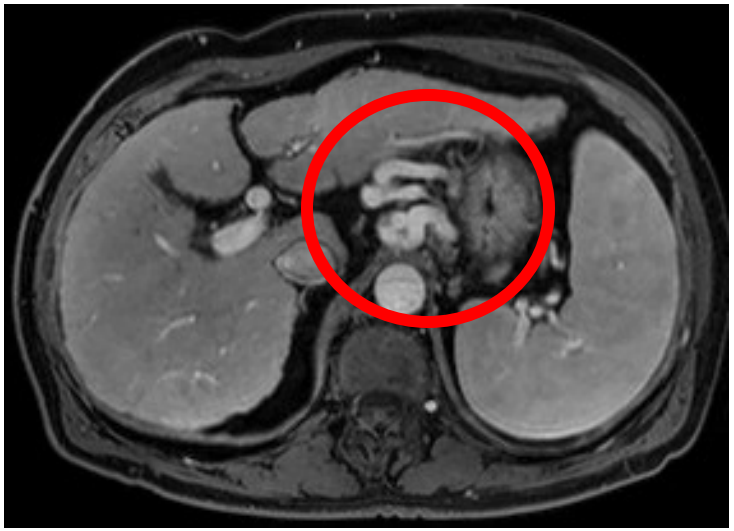
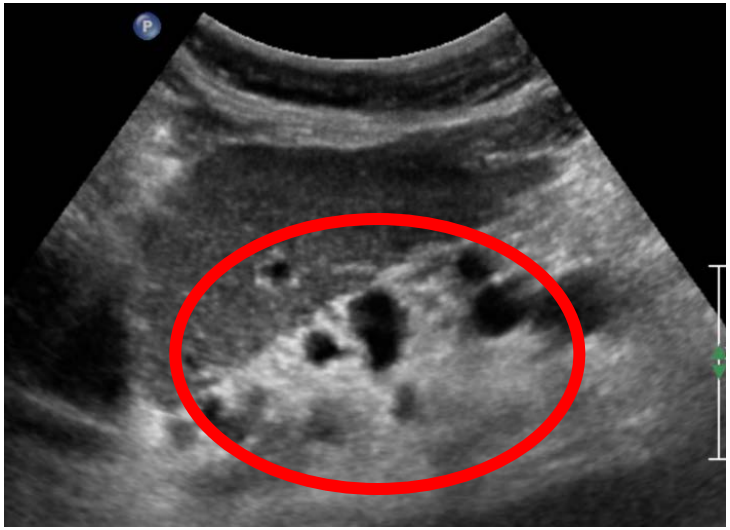




Case Report

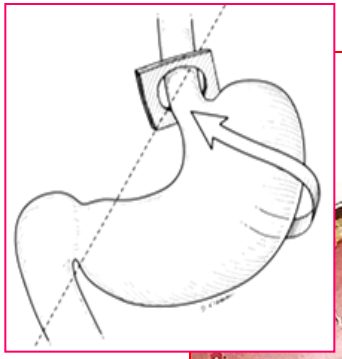
Singapore Med J 2015; 56(1): e14-e16
doi: 10.11622/smedj.2015016

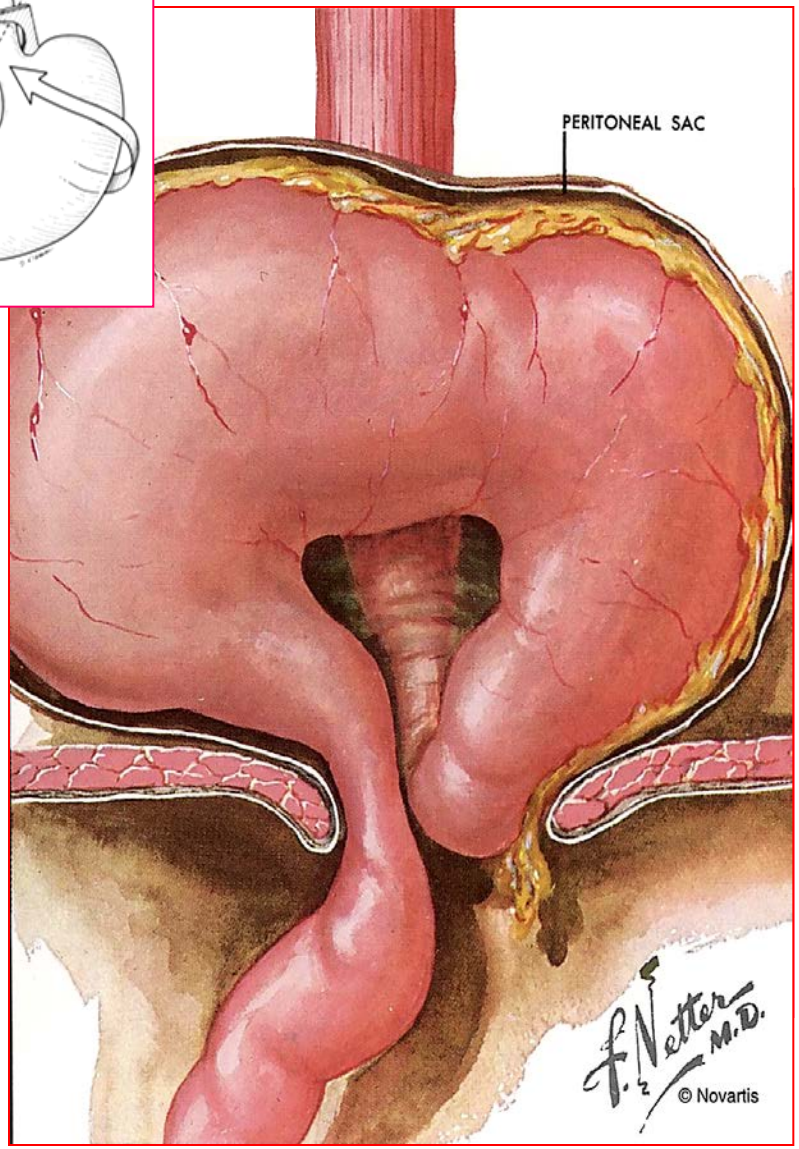
Anticoagulation in the treatment of portovenous emboli after cyanoacrylate injection for a bleeding gastric varix

Charlene Xian Wen Kwa[1], MBBS, *Veronique Kiak Mien Tan*[2], MBBS, MRCS, *Hock Soo Ong*[1], MBBS, FRCS

Estomac, Inflammation et Imagerie

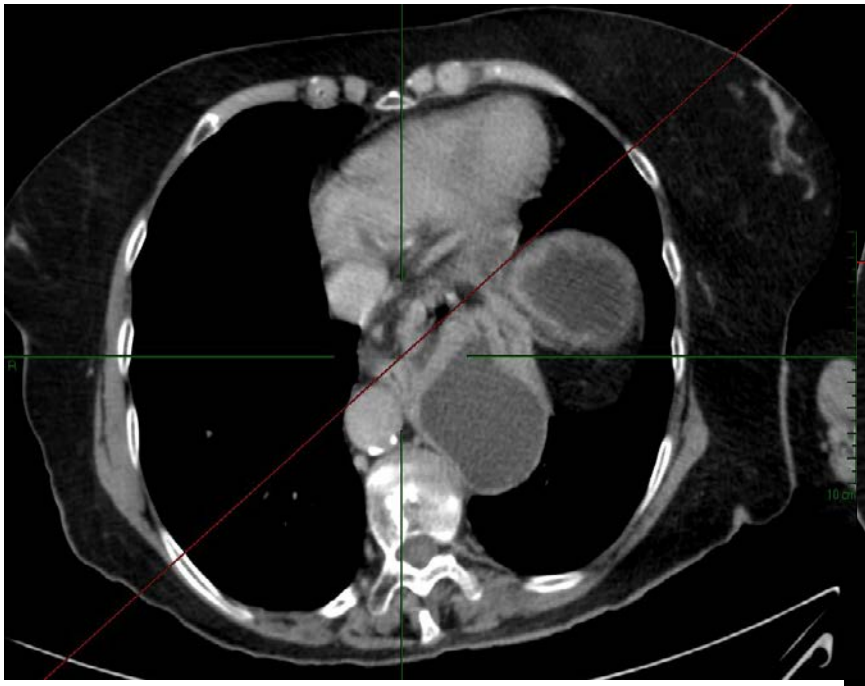
- Gastrites, Ulcères : endoscopie
- Perforation: Imagerie
- Hémorragies : endoscopie et RX Interv
- Occlusion: Imagerie

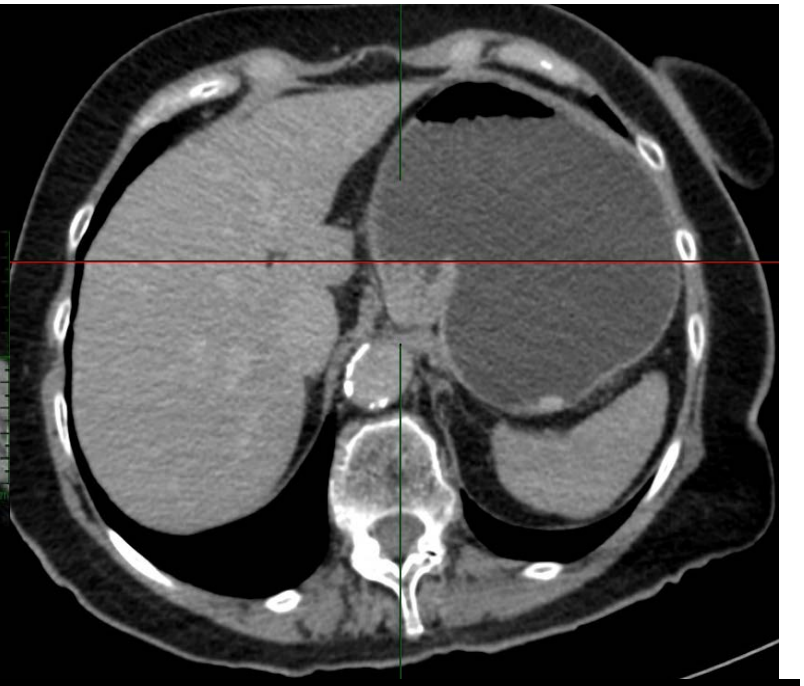




hernie hiatale et volvulus gastrique (organo-axial)
estomac intrathoracique "en miroir"

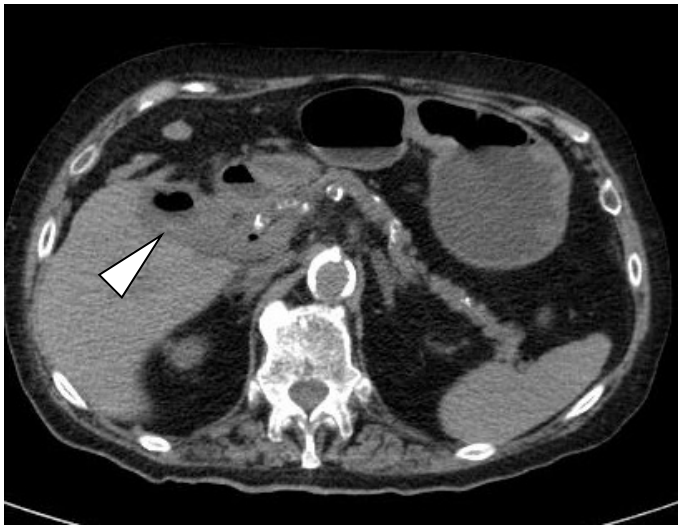
In Netter, Atlas d’anatomie humaine, Masson, 2007

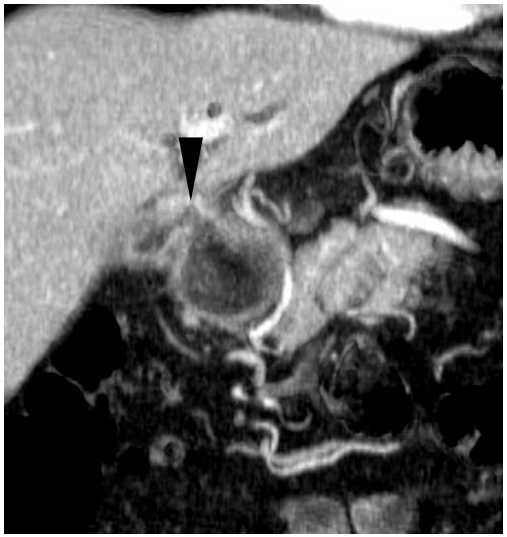


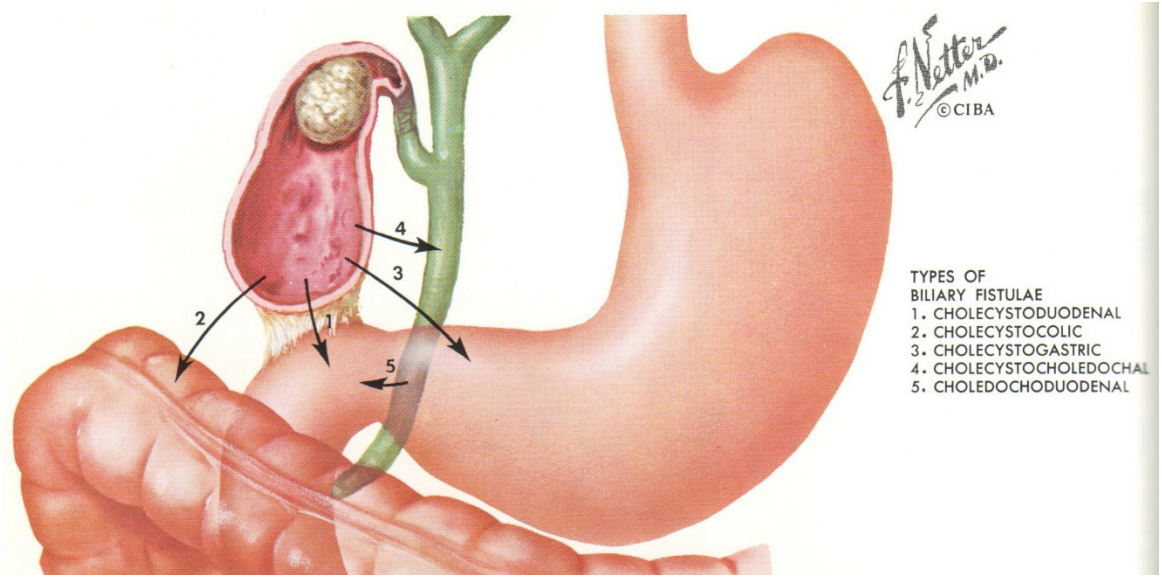


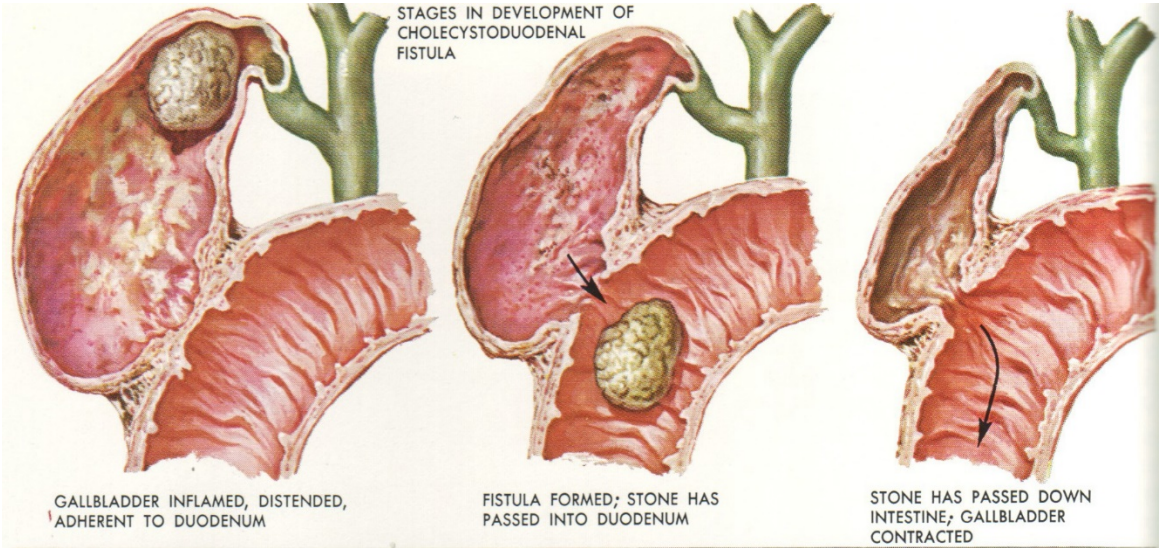
CT-scan et iléus biliaire (syndrome de Bouveret)

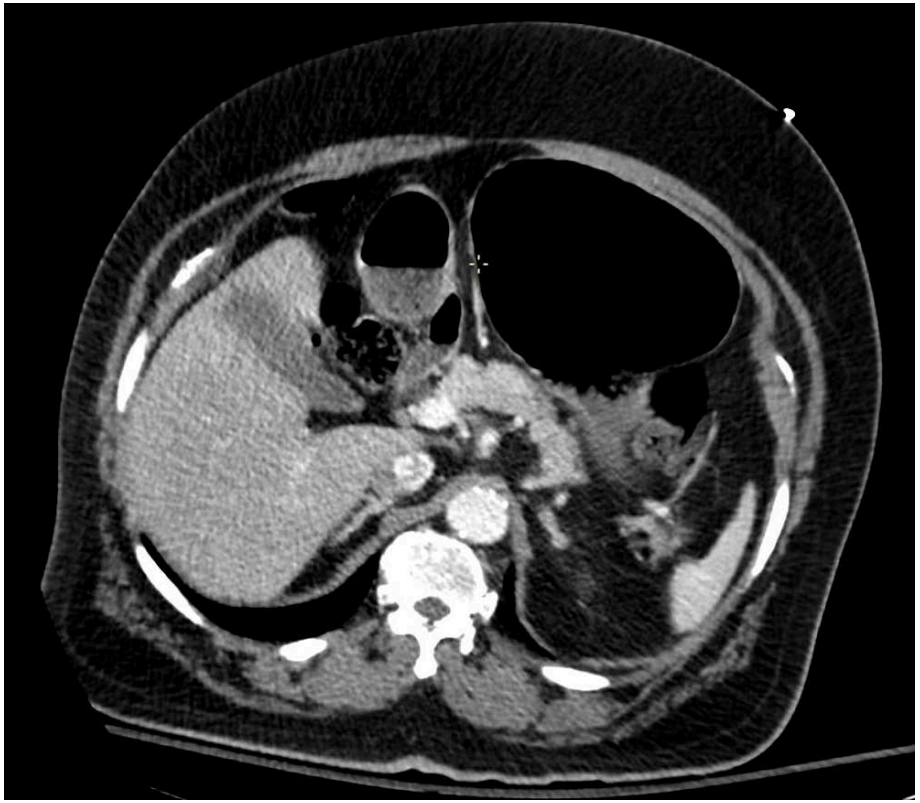
- aérobilie
- gaz dans la vésicule
- fistule bilio-digestive

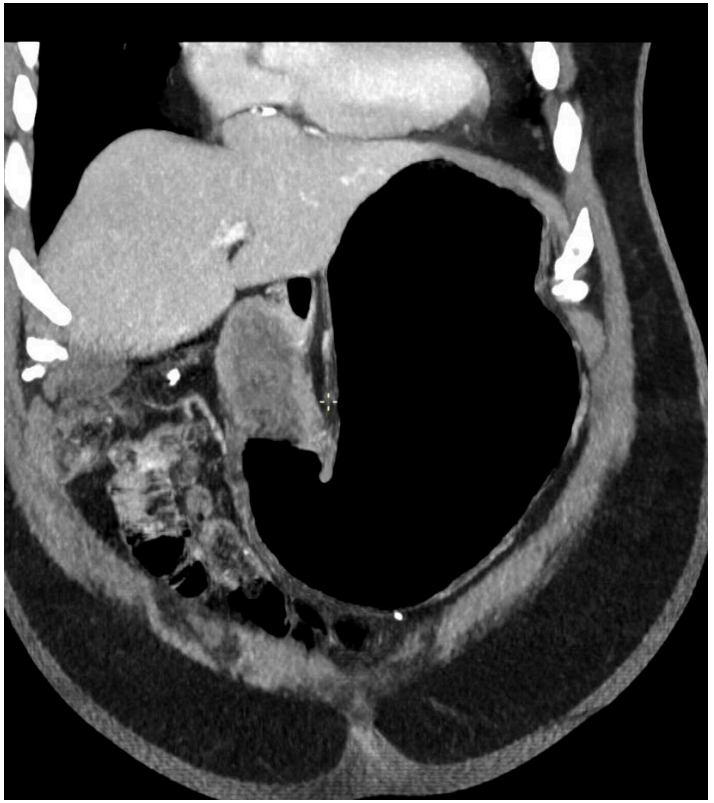


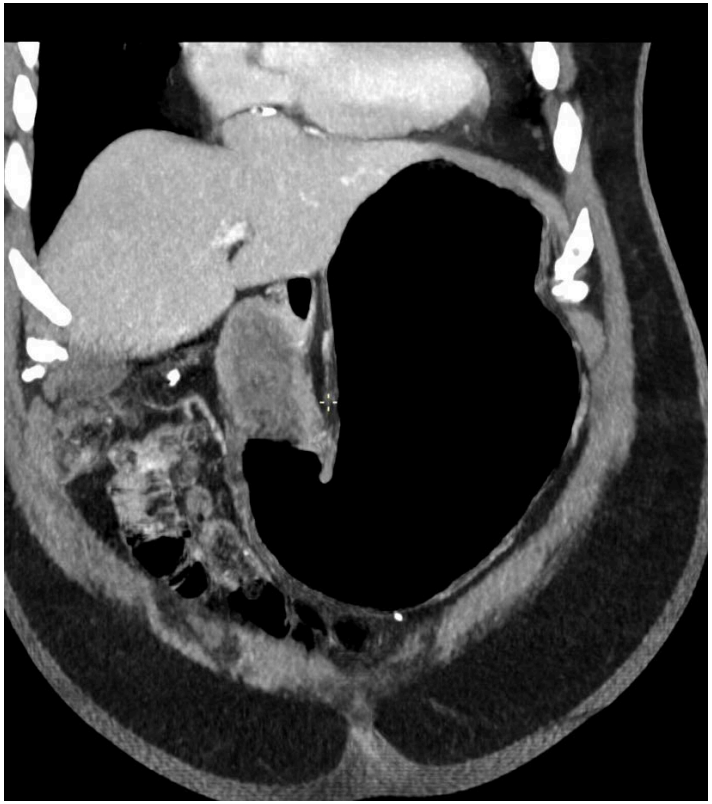



F. H. Netter M.D.
©CIBA
4
3
2
1
5
TYPES OF
BILIARY FISTULAE
1. CHOLECYSTODUODENAL
2. CHOLECYSTOCOLIC
3. CHOLECYSTOGASTRIC
4. CHOLECYSTOCHOLEDOCHAL
5. CHOLEDOCHODUODENAL


STAGES IN DEVELOPMENT OF
CHOLECYSTODUODENAL
FISTULA
GALLBLADDER INFLAMED, DISTENDED,
ADHERENT TO DUODENUM
FISTULA FORMED; STONE HAS
PASSED INTO DUODENUM
STONE HAS PASSED DOWN
INTESTINE; GALLBLADDER
CONTRACTED







CLINICAL IMAGES

Massive gastric dilatation in a patient with type 2 diabetes

Andreas Gunter Bach MD, Alexey Surov MD

Competing interests: None declared.

This article has been peer reviewed.

Affiliation: Department of Radiology, University of Halle, Halle, Germany

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CMAJ 2013. DOI:10.1503/cmaj.121524

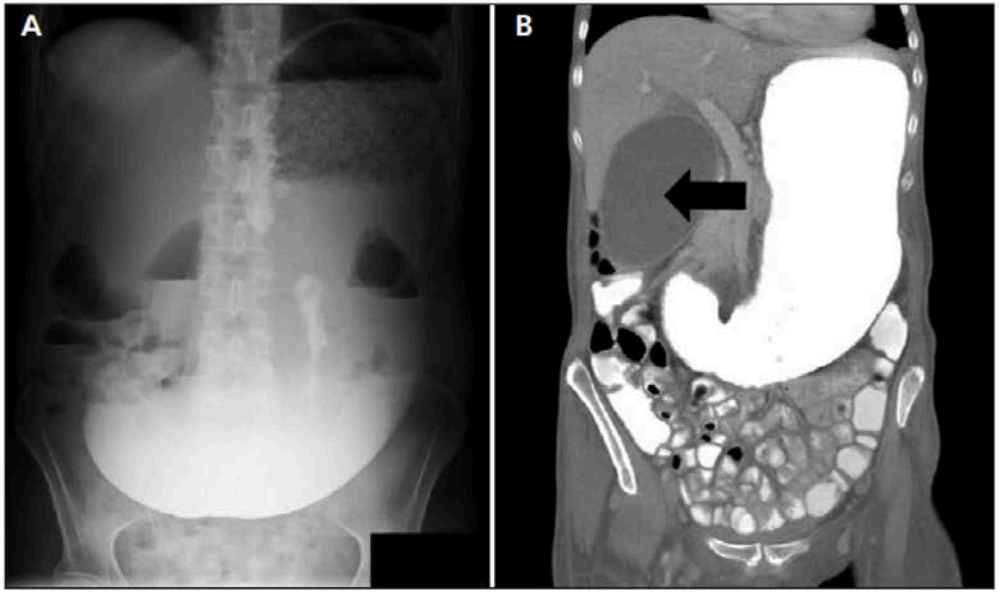


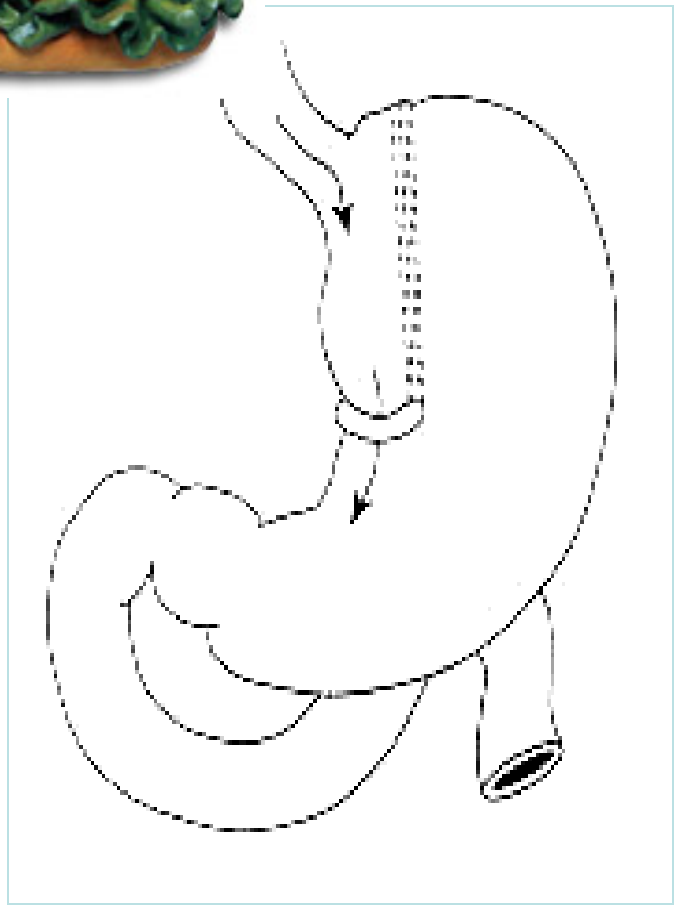
Figure 1: Abdominal radiograph (A) following ingestion of water-soluble contrast media (100 mL), showing pooling in the pelvic region of a 60-year-old woman with poorly controlled diabetes and severe diabetic gastroparesis. The computed tomograph (B) was obtained shortly after ingestion of the contrast media and shows dilatation of the stomach and gallbladder (arrow).

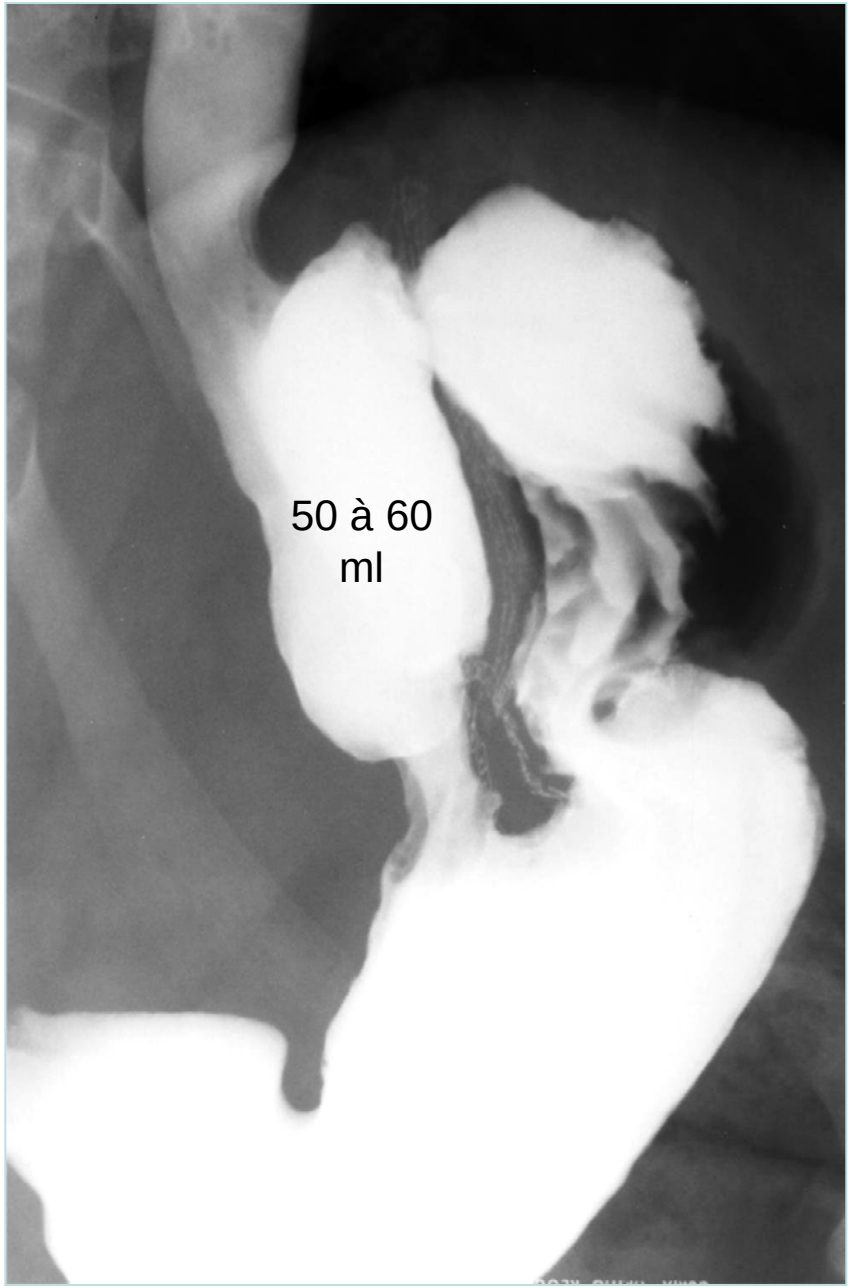
Radiologie et Estomac

- Chirurgie de l’obésité = Chirurgie Bariatrique

254.000 items dans Google le 24/9/2020
127.000 items pour »chirurgie de l’obésité imagerie»

chirurgie bariatrique

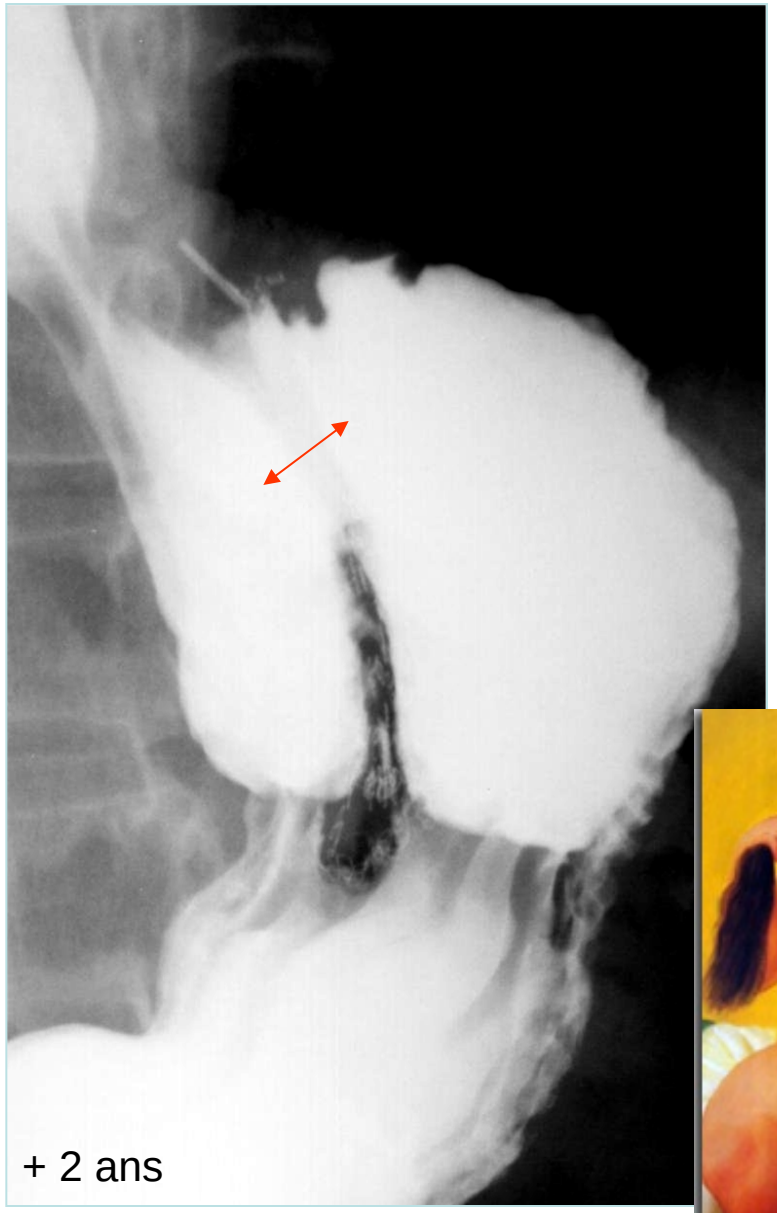




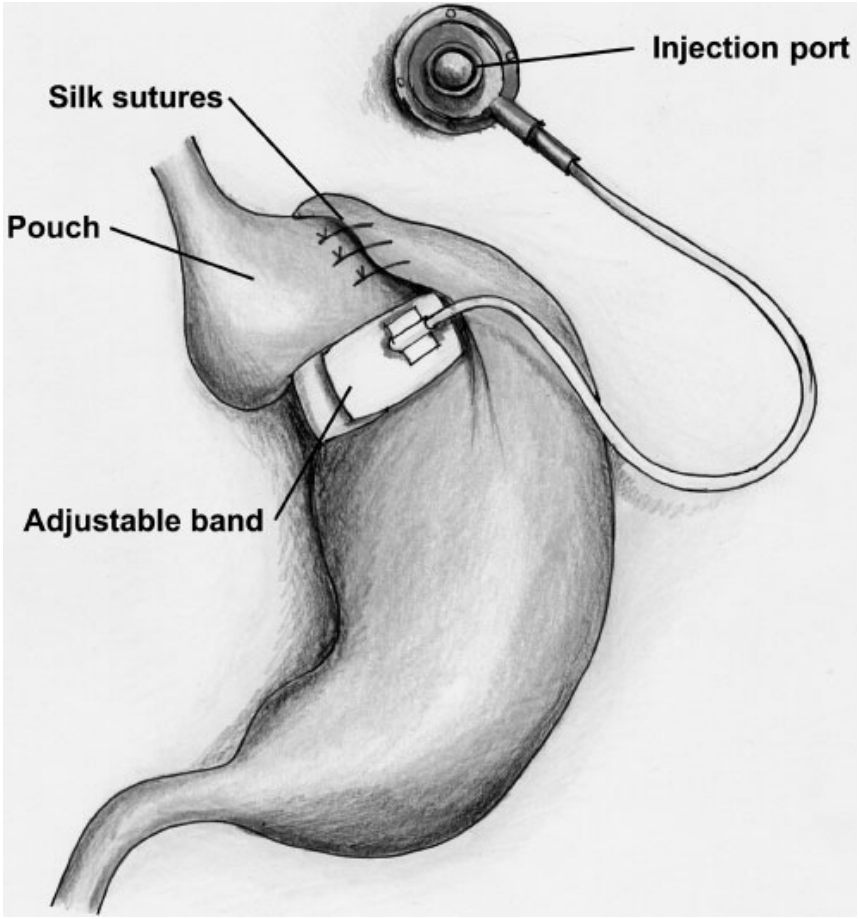
gastroplastie verticale de Mason

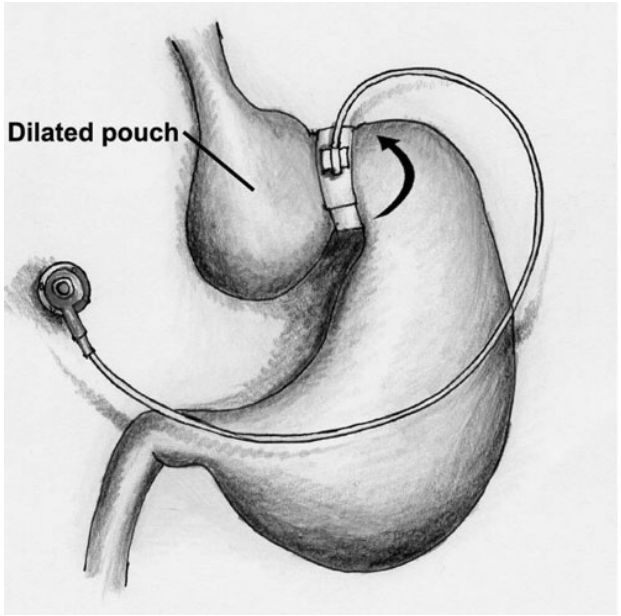
gastroplastie verticale de Mason

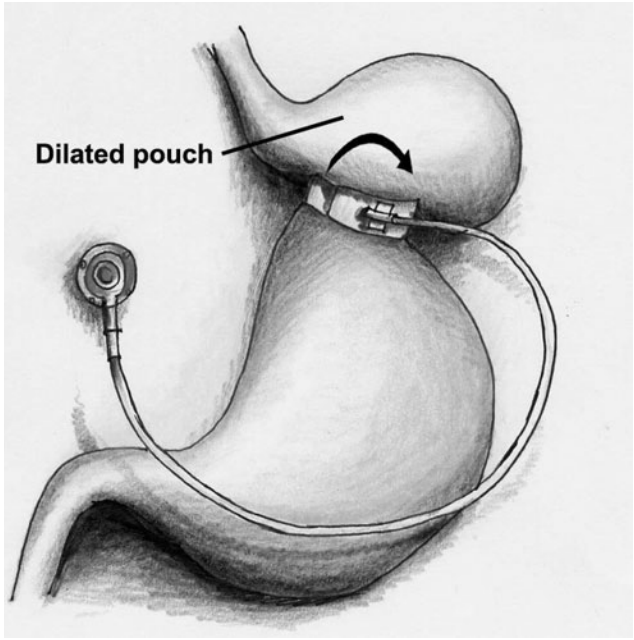
➔



complication : déhiscence partielle de la suture







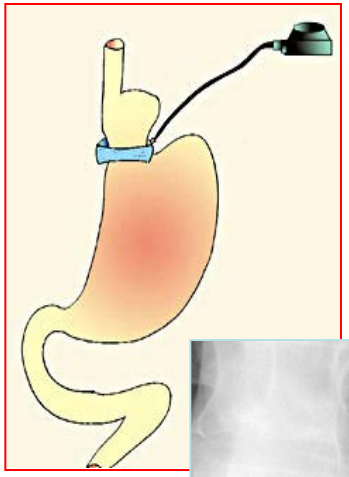
The British Journal of Radiology, 81 (2008), 753–757

PICTORIAL REVIEW

Radiographical imaging of the normal anatomy and complications after gastric banding

[1]H PROSCH, MD, [1]R TSCHERNEY, MD, [2]S KRIWANEK, MD and [1]D TSCHOLAKOFF, MD

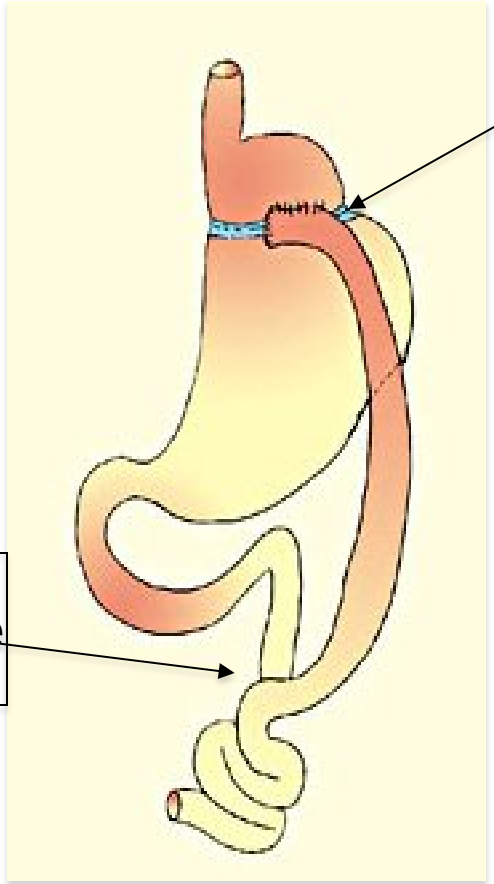
chirurgie
bariatrique



complication :
sténose

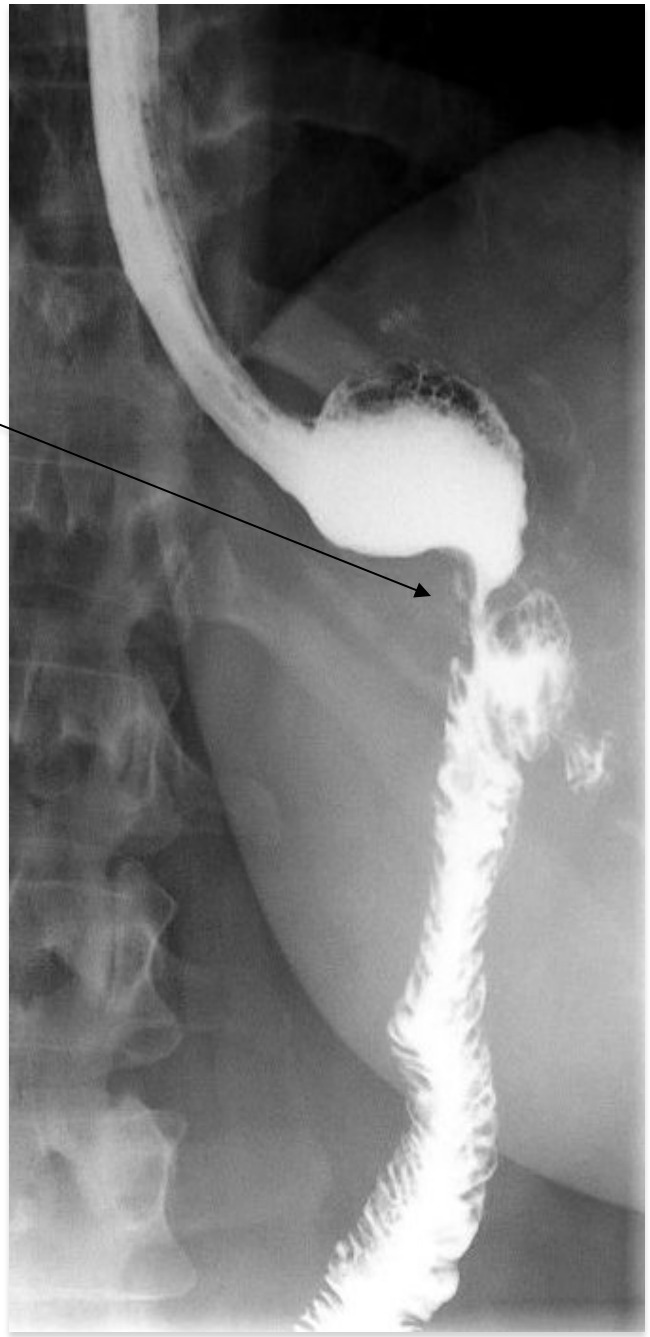
gastroplastie par anneau ajustable
"gastric banding"

chirurgie bariatrique



anastomose gastro-jéjunale

anastomose jéjuno-jéjunale



bypass gastrique

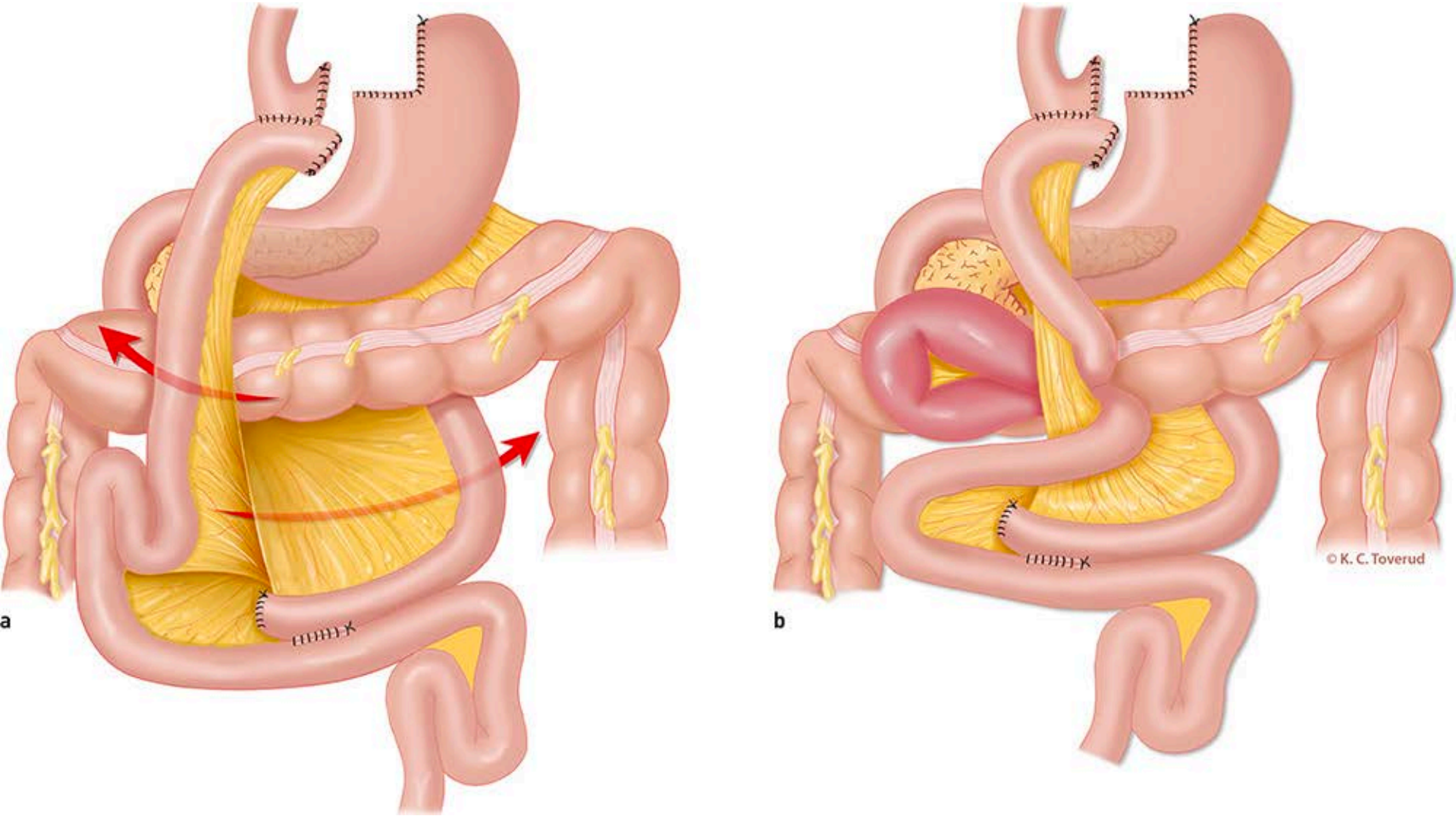
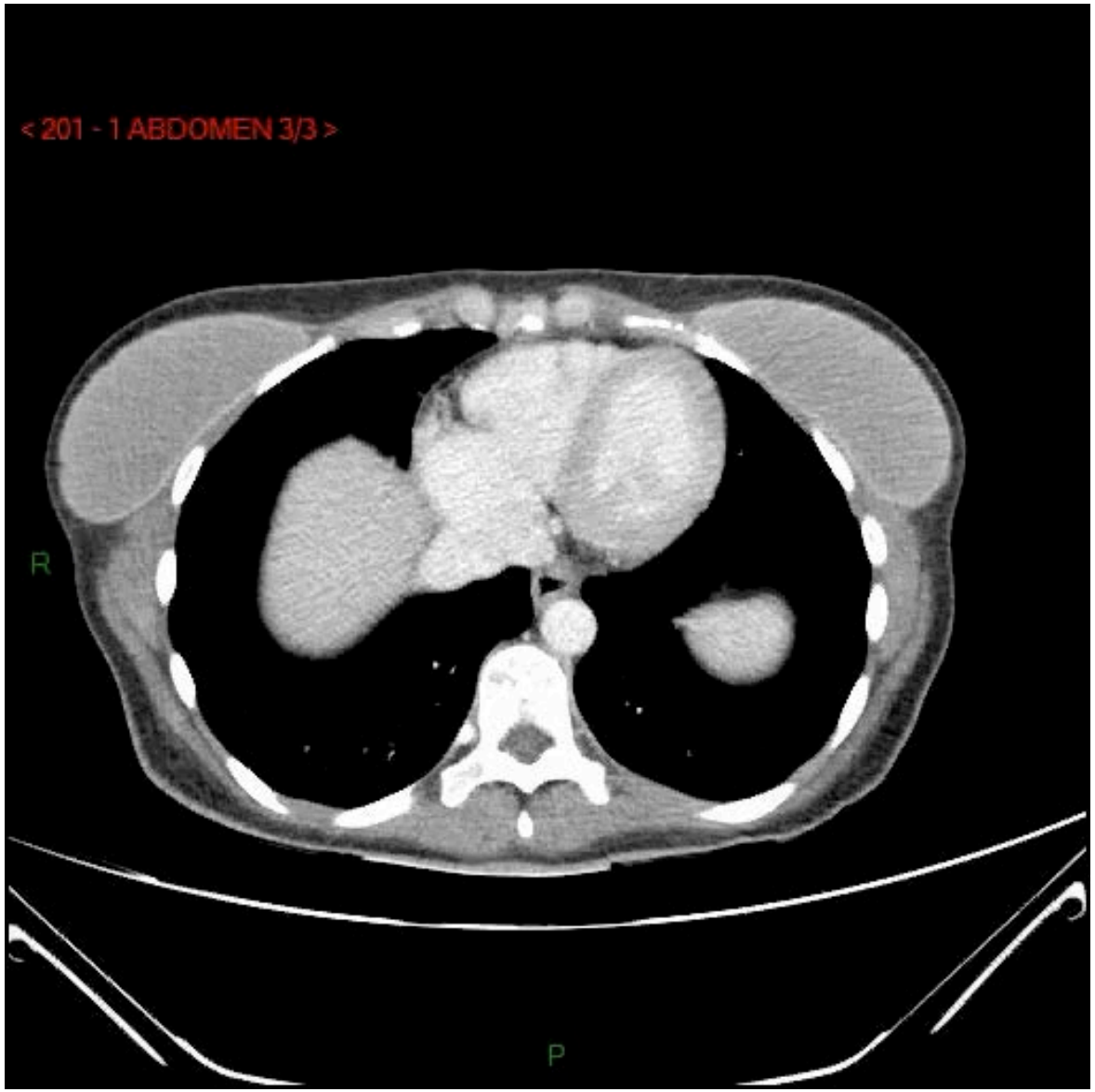

a
b
© K. C. Toverud

Figure 7 Hernie par le trou de Petersen

https://www.google.be/search?q=hernie+de+petersen&espv=2&biw=1280&bih=699&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiO6trQ2qbSAhWDOsAKHcFICVwQ_AUIBigB#imgrc=Sjt1caZdDvWW4M:



Estomac et tumeurs

- Adénocarcinome
- Linite
- GIST
- Autres

Estomac

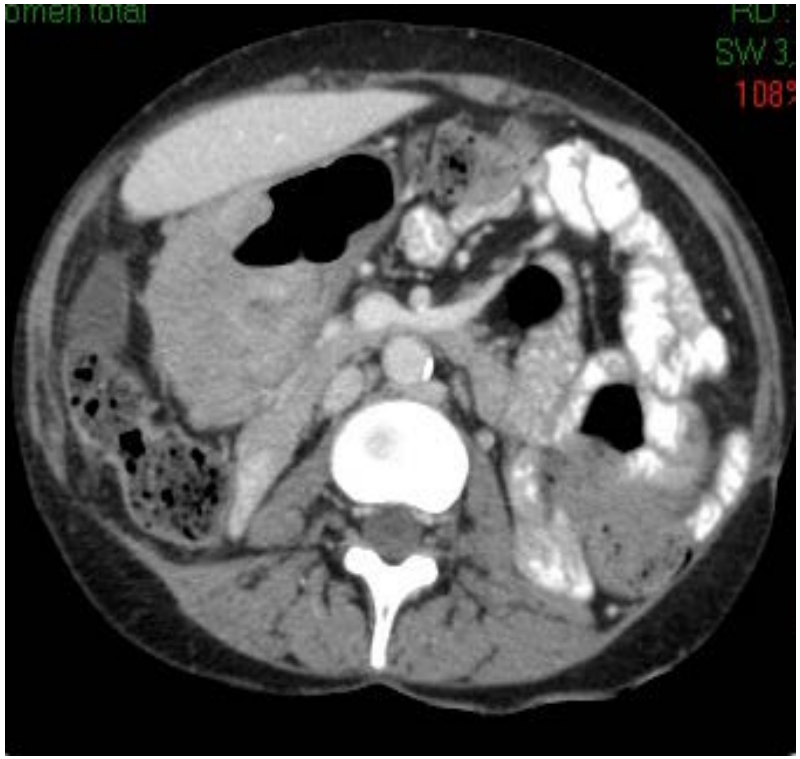
	US endo	RX	CT	Pet CT
Détection	endoscopie			
Stadification	+		+	+
Suivi	+		+	+

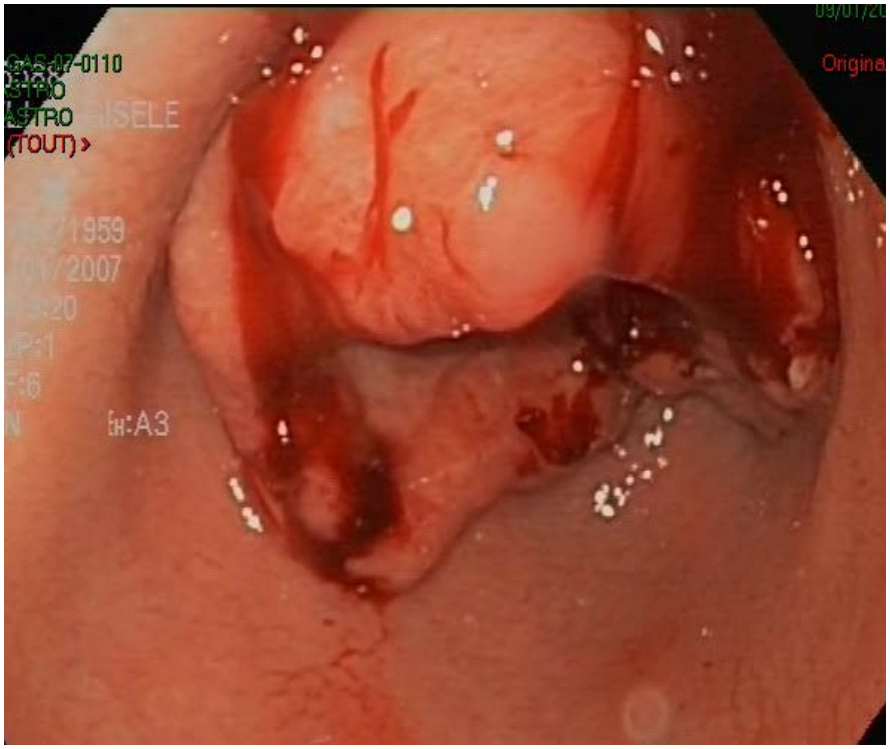
Tumeurs primitives :

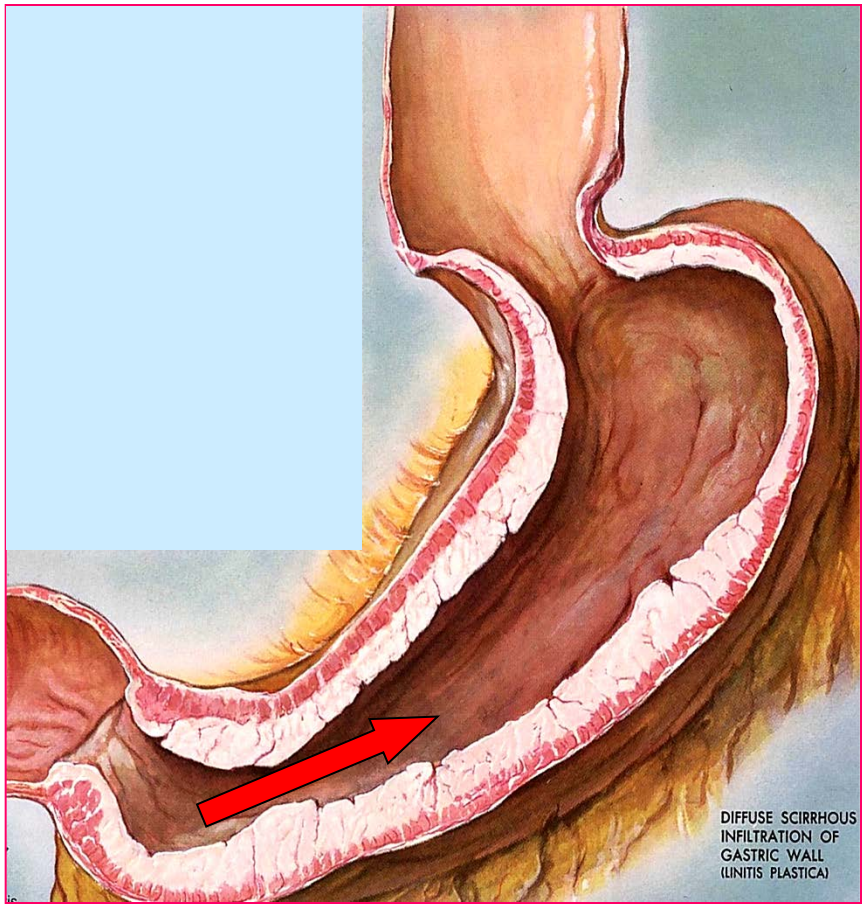
- Carcinomes :75 %
  - Linite : K peu différencié, ou métastase K sein ou Lymphome (7 à15 %)
- Lymphomes : 20 %
- GIST: localisation gastrique préférentielle: 1 à 2 %

Métastases:

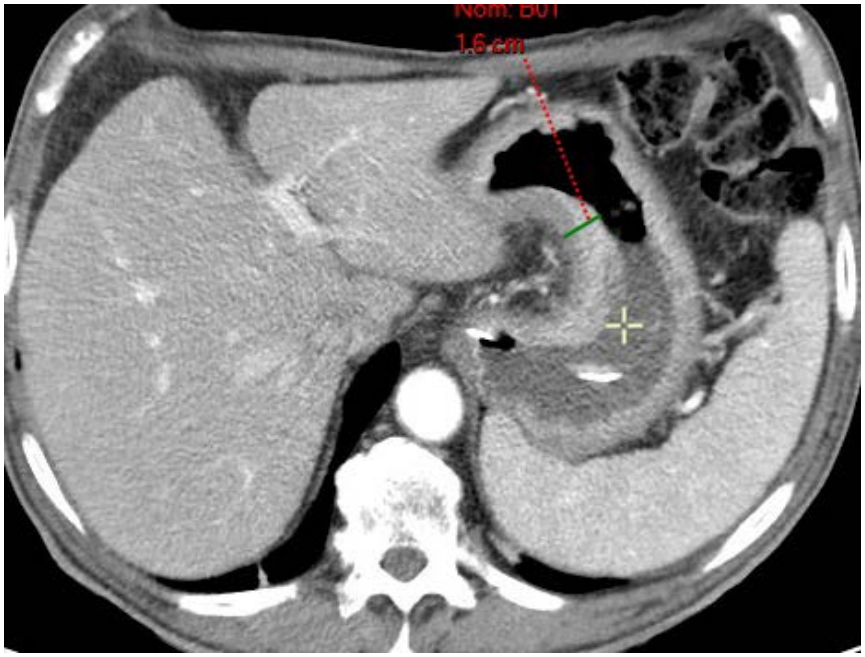
- Sein
- Poumon
- Ovaire
- mélanome

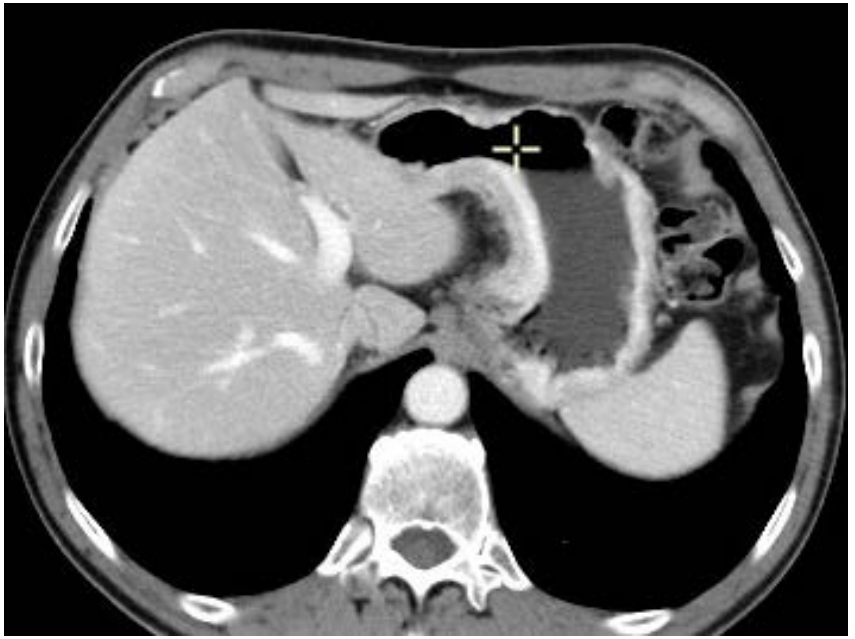






In Netter, Atlas d'anatomie humaine, Masson, 2007

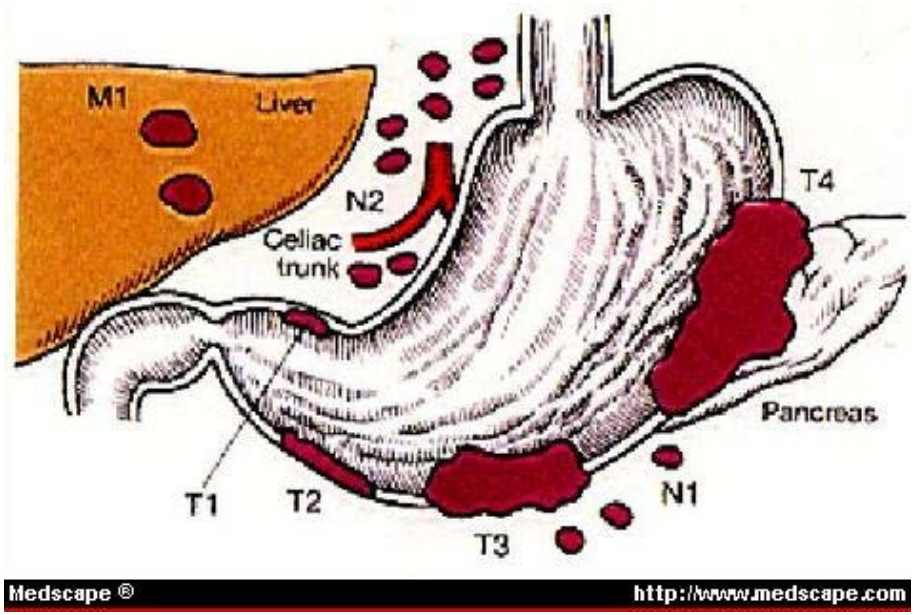




cancer infiltrant (linite plastique)

Néoplasie gastrique et extension

- N: ganglions régionaux



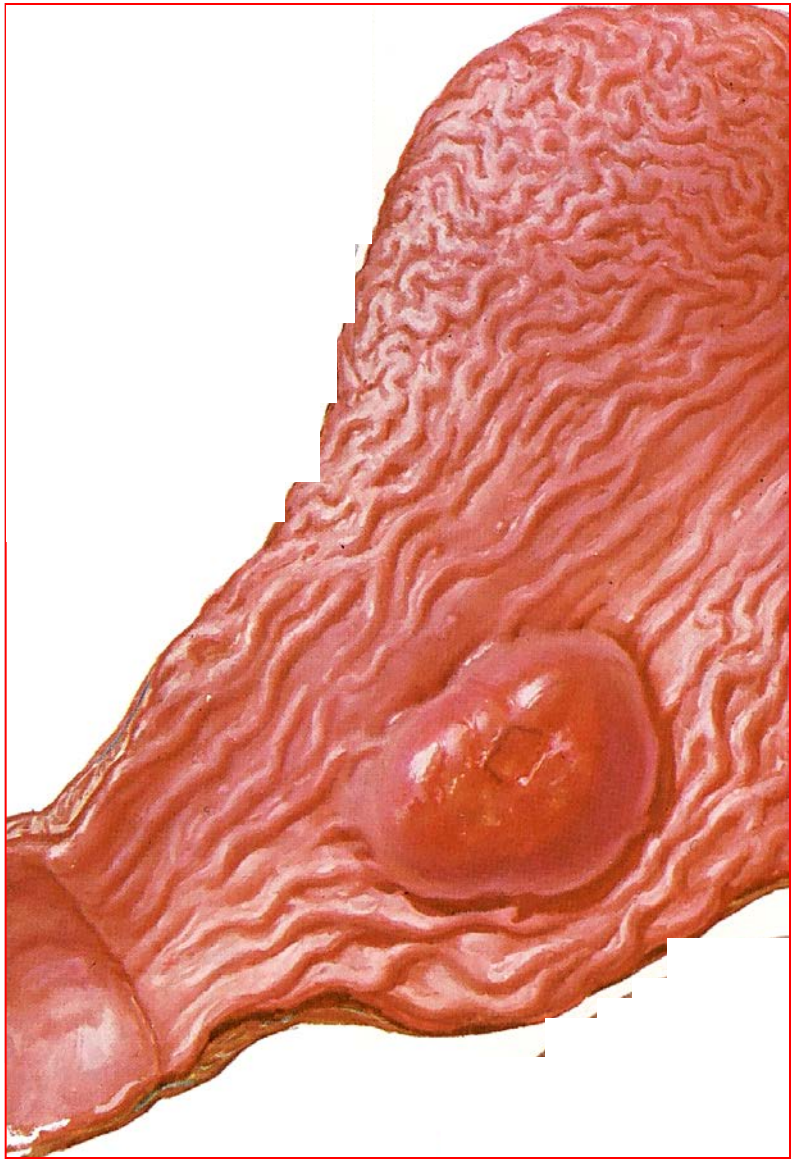
Néoplasie gastrique et extension

- N: ganglions régionaux

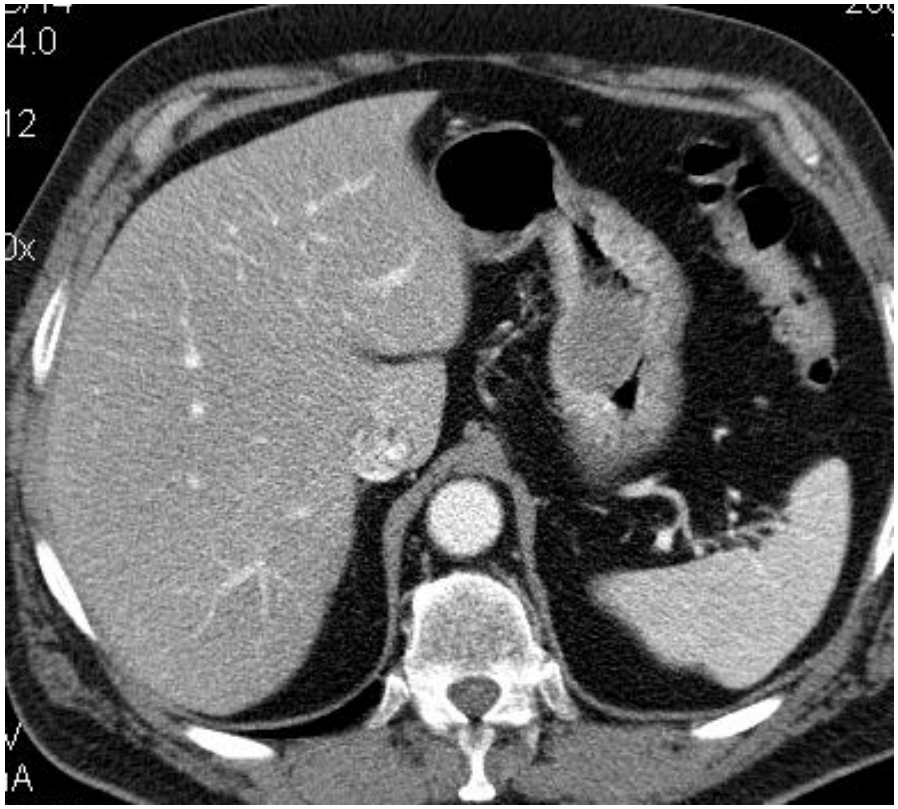
- Extension Péritonéale :
  - Péritoine
  - Ovaires: tumeur de Krukenberg

GIST

- = « gastrointestinal stromal tumors »
- = ensemble des tumeurs conjonctives du tube digestif, à cellules fusiformes et exprimant le CD 117 (« protein C kit »)
  - GIST à différenciation cellulaire musculaire lisse (léiomyome)
  - GIST à différenciation cellulaire nerveuse (plexosarcome)
  - GIST à différenciation nerveuse
  - GIST mixtes
  - GIST indifférenciés
- > cellules de Cajal
- Peuvent se développer dans un contexte particulier
  - Neurofibromatose de type 1 (NF1)
    - GIST avec prédilection grêle, lésions de petite taille (< 2 cm), inactivité mitotique, pas de signes cliniques
  - Triade de Carney:
    - GIST gastrique, paragangliome, chondrome pulmonaire



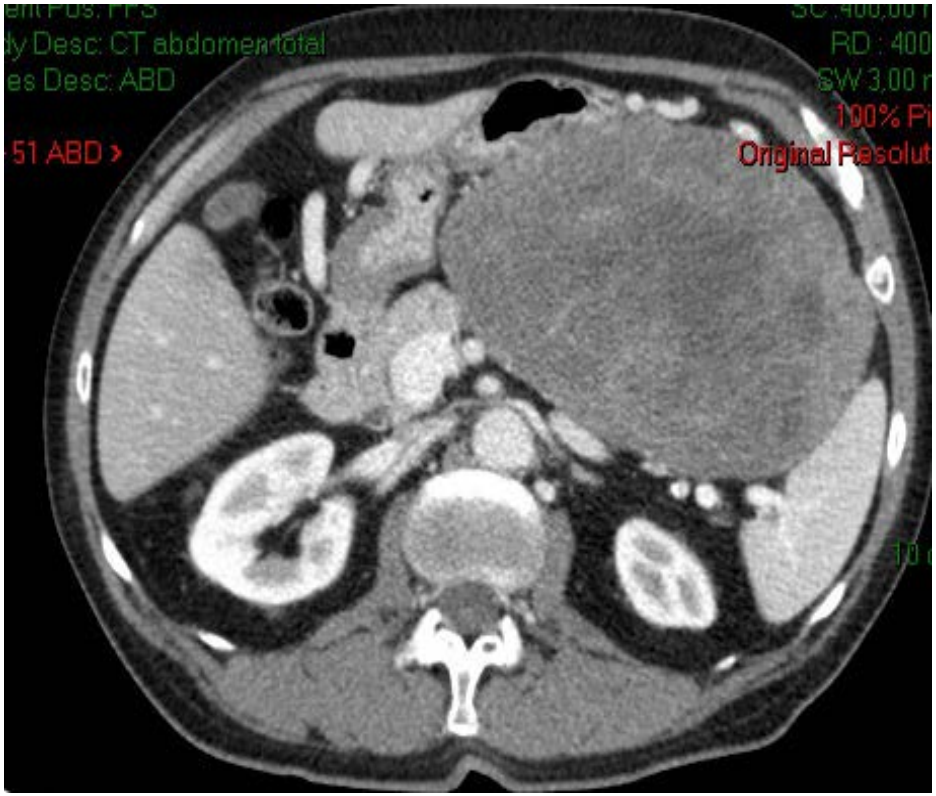
In Netter, Atlas d'anatomie humaine, Masson, 2007



tumeur sous-muqueuse

contour lisse
angles de raccord droits ou (obtus)

léiomyome


y Desc: CT abdomen total
es Desc: ABD
51 ABD ›
Original Resolut


Original
ASE examination running

GIST

	US endo	RX	CT	Pet CT
Détection	Endoscopie		+	
Stadification	+		+	+
Suivi	+	+	+	+

Estomac site le plus fréquent
- les lésions peuvent s'ulcérer et saigner, ou se nécroser et présenter une cavité centrale dans le suivi de la nécrose.

Critère de malignité : > 5 cm
Diagnostic initial
- de la lésion
- des localisations secondaires
Suivi
- De la lésion
- des localisations secondaires
    - critères de Choi

Table 2 **Response criteria and modified CT criteria according to RECIST and Choi**

Response	RECIST 1.1	Choi
PD	Increase of at least 20% and 5 mm in SLD New lesion(s) Unequivocal progression of non-target lesion(s)	Increase of at least 10% in SLD and decrease of less than 15% in MLD[a] New lesion(s) New or increasing nodule(s) within a mass
SD	Decrease of less than 30% and increase of less than 20% in SLD	Decrease of less than 10% and increase of less than 10% in SLD and decrease of less than 15% in MLD[a]
PR	Decrease of at least 30% in SLD	Decrease of at least 10% in SLD and decrease of at least 15% in MLD[a]
CR	Complete remission	Complete remission

PD, progressive disease; SD, stable disease; PR, partial complete response; CR, complete response; SLD, sum of the longest diameter according to RECIST[9]; MLD, mean lesion density according to modified CT criteria[11].

[a]Complementary recommendation of the German GIST Working Group: density changes should account for at least 10 HU.