

# A Modified CT Severity Index for Evaluating **Acute Pancreatitis**: Improved Correlation with Patient Outcome

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**OBJECTIVE.** This study was conducted to assess the correlation with patient outcome and interobserver variability of a modified CT severity index in the evaluation of patients with **acute pancreatitis** compared with the currently accepted CT severity index.

**MATERIALS AND METHODS.** Of 266 consecutive patients diagnosed with **acute pancreatitis** during a 1-year period, 66 underwent contrast-enhanced MDCT within 1 week of the onset of symptoms. Three radiologists who were blinded to patient outcome independently scored the severity of the **pancreatitis** using both the currently accepted and modified CT severity indexes. The modified index included a simplified assessment of pancreatic inflammation and necrosis as well as an assessment of extrapancreatic complications.

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•Le " nouveau score " se veut plus simple et de meilleure valeur pronostique

ce nouveau score est la somme de 2 constituants :

-une évaluation simplifiée de la présence et du nombre de collections péri pancréatiques et de l'extension de la nécrose pancréatique

-et différents éléments de pondération

selon la présence d'anomalies extra- pancréatiques ( infarctus, hémorragies et collections sous capsulaires spléniques et/ou hépatiques )

de complications vasculaires (thrombose veineuse , hémorragies artérielles , pseudo anévrysmes)

d'atteintes du tractus gastro-intestinal ( inflammation, perforations, ou collections intra pariétales )

**TABLE 2 Modified CT Severity Index**

| Prognostic Indicator                                                                                                                                                      | Points |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Pancreatic inflammation</b>                                                                                                                                            |        |
| Normal pancreas                                                                                                                                                           | 0      |
| Intrinsic pancreatic abnormalities with or without inflammatory changes in peripancreatic fat                                                                             | 2      |
| Pancreatic or peripancreatic fluid collection or peripancreatic fat necrosis                                                                                              | 4      |
| <b>Pancreatic necrosis</b>                                                                                                                                                |        |
| None                                                                                                                                                                      | 0      |
| ≤ 30%                                                                                                                                                                     | 2      |
| > 30%                                                                                                                                                                     | 4      |
| <b>Extrapancreatic complications</b> (one or more of pleural effusion, ascites, vascular complications, parenchymal complications, or gastrointestinal tract involvement) | 2      |

**pancréatitis mild: 0 à 2 pts ; moderate : 4 à 6 pts ; severe : 8 à 10 pts**

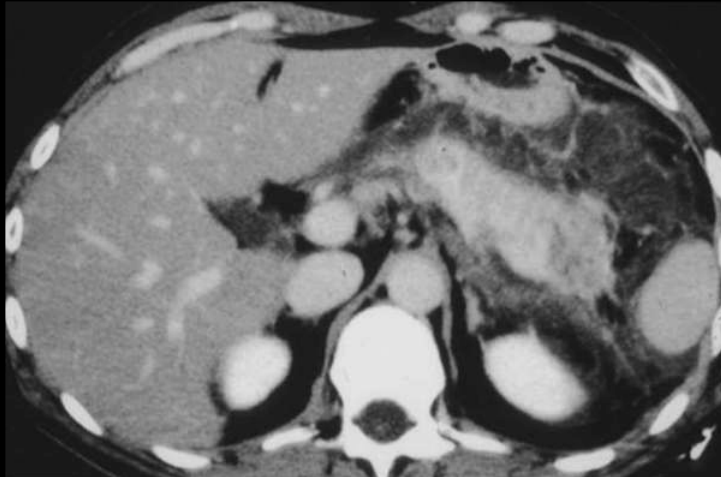
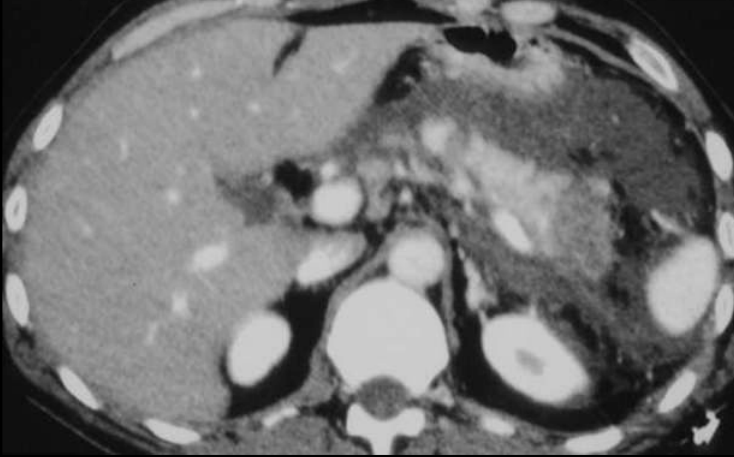
**TABLE 1** CT Severity Index [9]

| Prognostic Indicator                                                                     | Points |
|------------------------------------------------------------------------------------------|--------|
| Pancreatic inflammation                                                                  |        |
| Normal pancreas                                                                          | 0      |
| Focal or diffuse enlargement of the pancreas                                             | 1      |
| Intrinsic pancreatic abnormalities with inflammatory changes in peripancreatic fat       | 2      |
| Single, ill-defined fluid collection or phlegmon                                         | 3      |
| Two or more poorly defined collections or presence of gas in or adjacent to the pancreas | 4      |
| Pancreatic necrosis                                                                      |        |
| None                                                                                     | 0      |
| ≤ 30%                                                                                    | 2      |
| > 30–50%                                                                                 | 4      |
| > 50%                                                                                    | 6      |

**TABLE 2** Modified CT Severity Index

| Prognostic Indicator                                                                                                                                               | Points |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Pancreatic inflammation                                                                                                                                            |        |
| Normal pancreas                                                                                                                                                    | 0      |
| Intrinsic pancreatic abnormalities with or without inflammatory changes in peripancreatic fat                                                                      | 2      |
| Pancreatic or peripancreatic fluid collection or peripancreatic fat necrosis                                                                                       | 4      |
| Pancreatic necrosis                                                                                                                                                |        |
| None                                                                                                                                                               | 0      |
| ≤ 30%                                                                                                                                                              | 2      |
| > 30%                                                                                                                                                              | 4      |
| Extrapancreatic complications (one or more of pleural effusion, ascites, vascular complications, parenchymal complications, or gastrointestinal tract involvement) | 2      |

## scanner et formes étiologiques des pancréatites aiguës



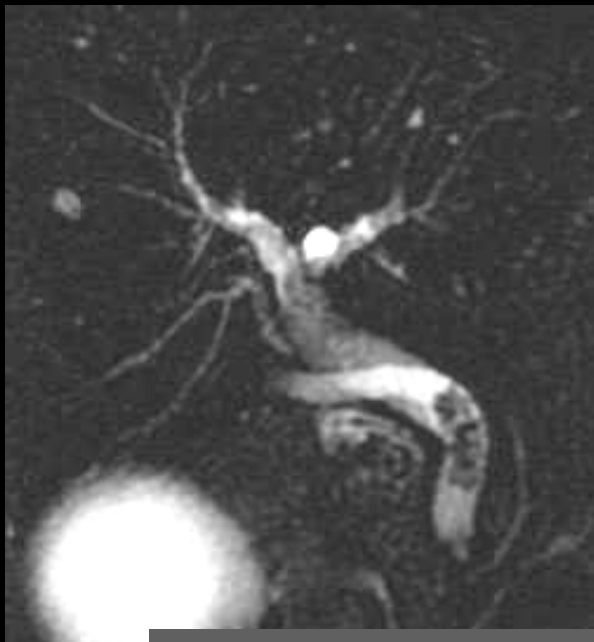
poussée aiguë sur pancréatite alcoolique

homme jeune ,maigre , alcoolo-tabagique  
prédominance des lésions sur le segment corporeo-caudal  
pas de dilatation de la VBP , ni de prise de contraste de la paroi  
pas de calculs évidents dans la vésicule biliaire (échographie +++)



PA biliaire

femme d'âge moyen , en surpoids ou obèse  
 prédominance céphalique des lésions  
 VBP légèrement dilatée avec parois épaissies se rehaussant après  
 injection de PCI  
 présence de petits calculs mobiles dans la vésicule biliaire  
 (échographie +++)



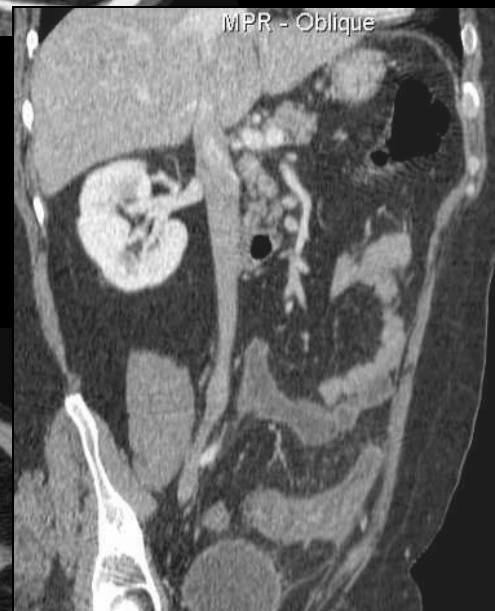
calculs de la VBP



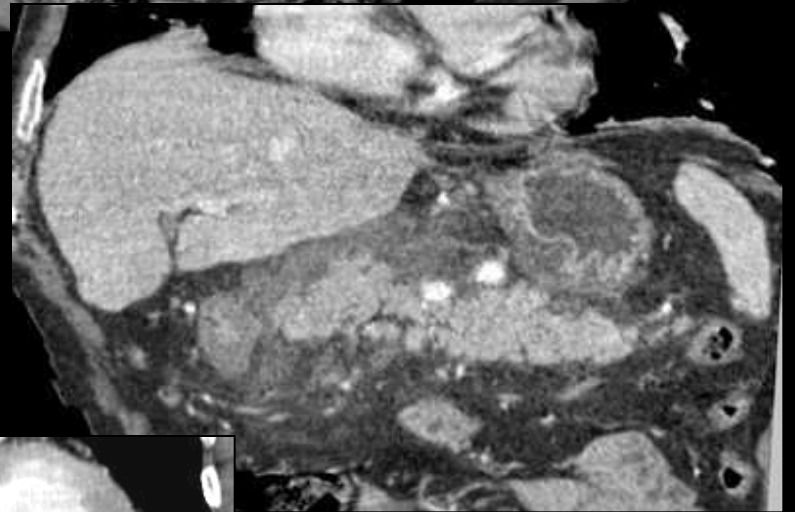
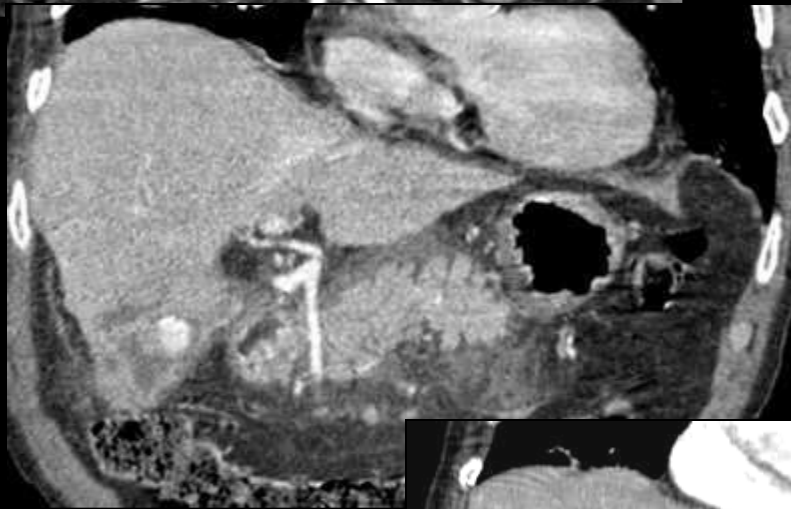
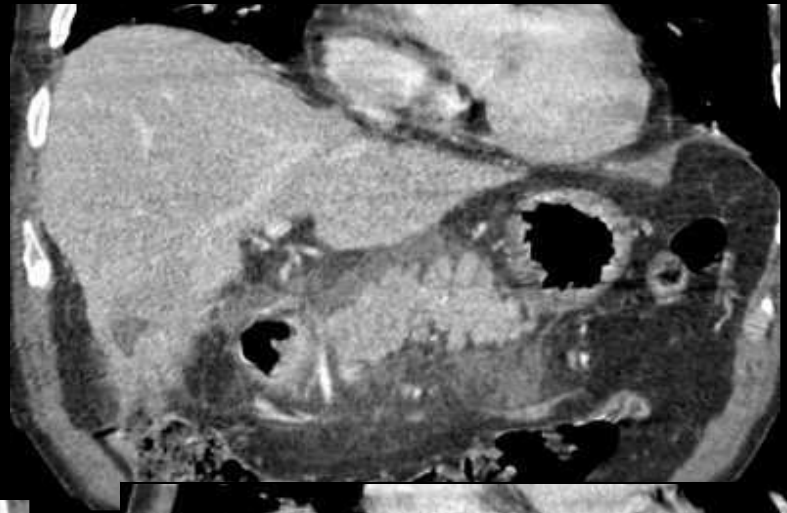
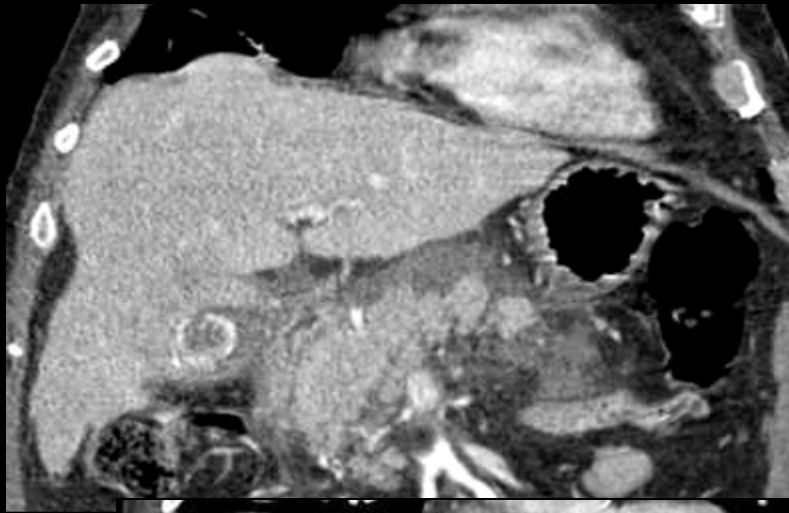
canal pancréatique  
dorsal dominant



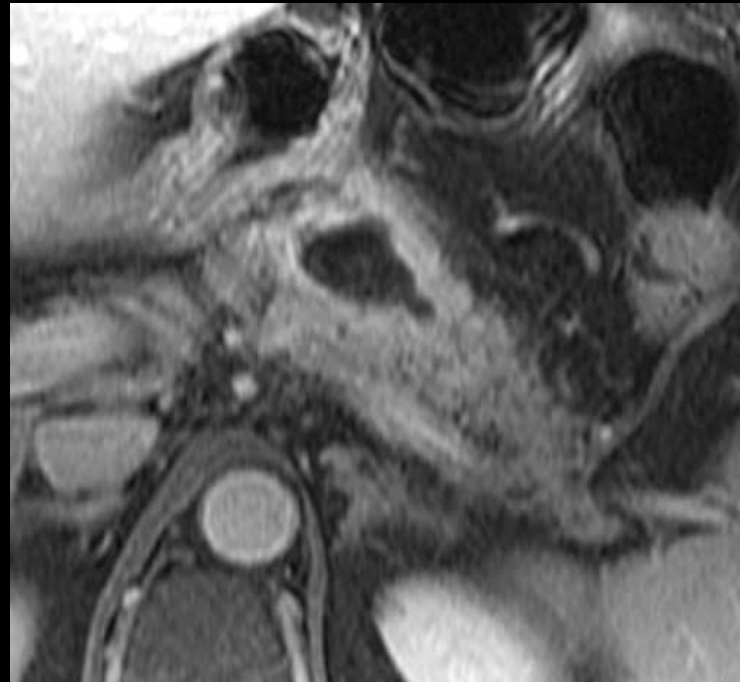
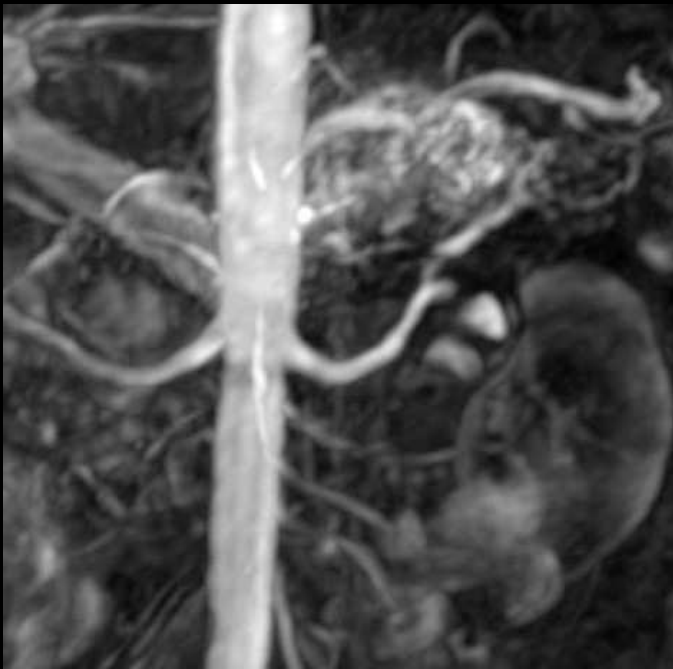
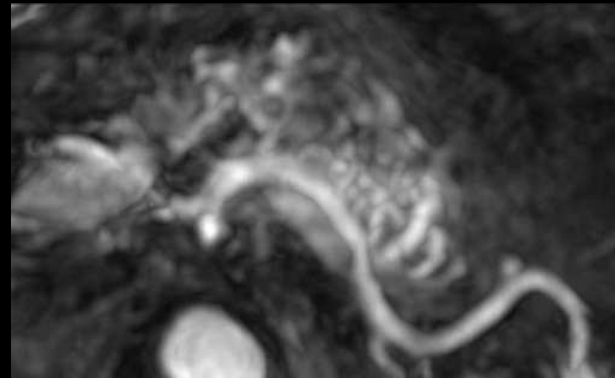
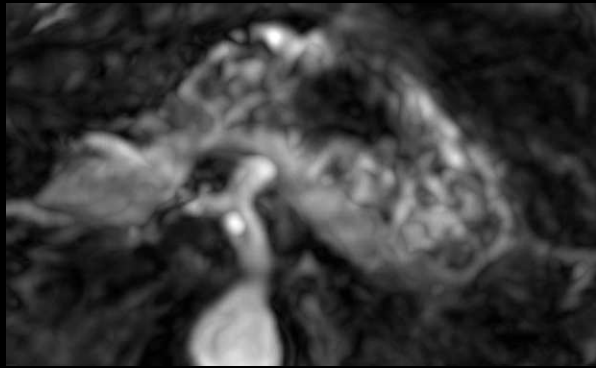
canal pancréatique  
dorsal dominant et  
pancréas divisum

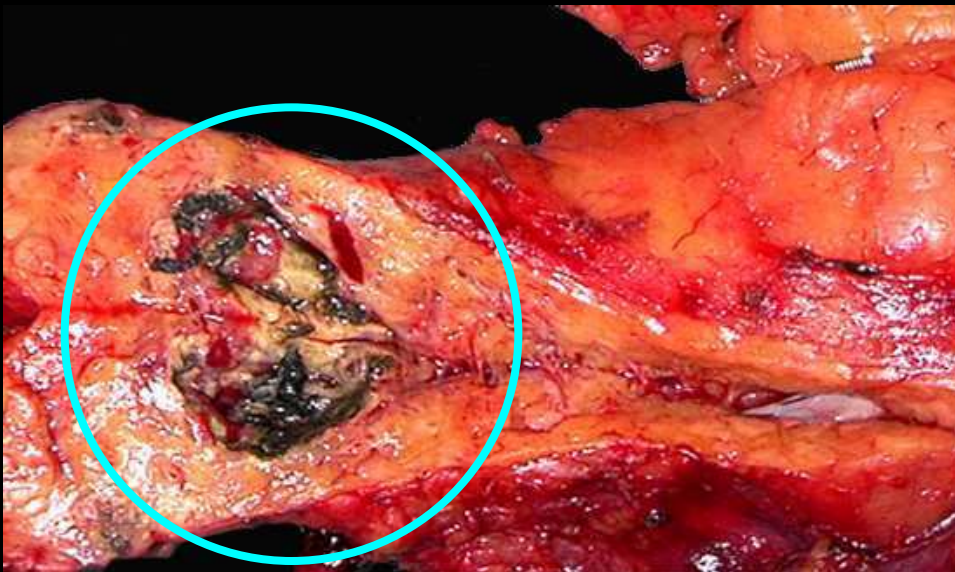
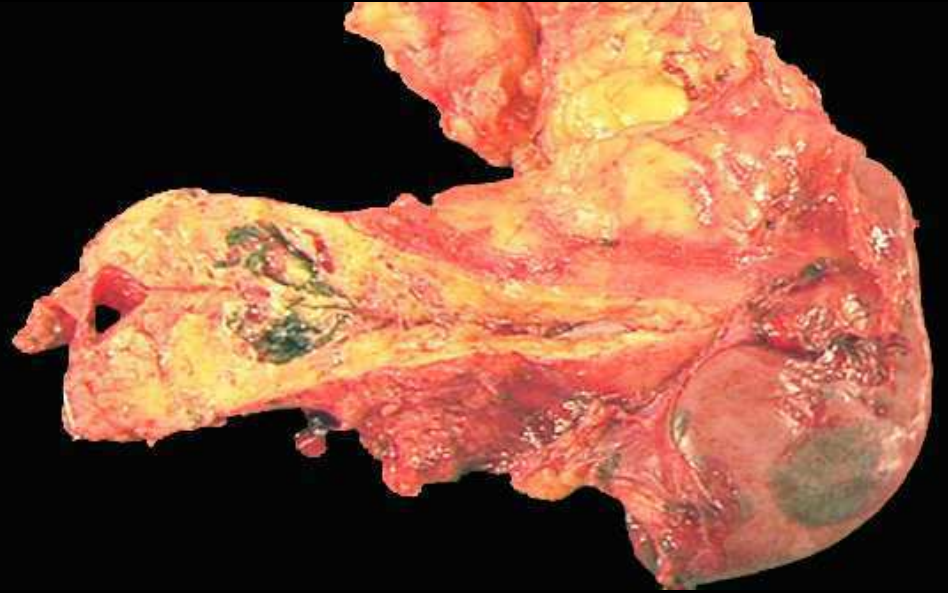
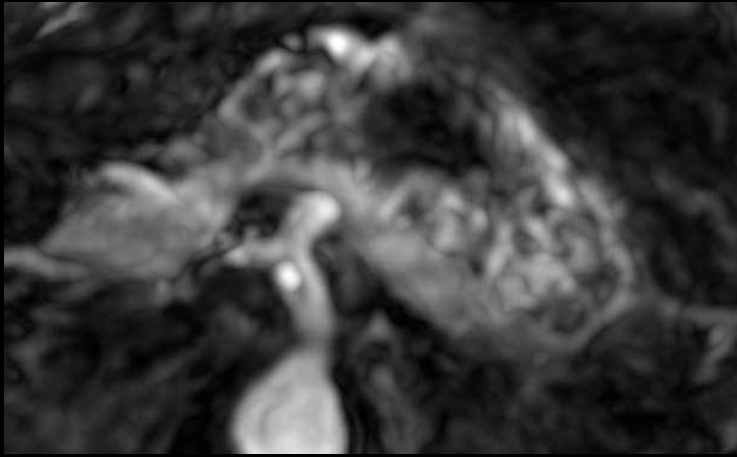


pyocholecyste et PA ( 1 )



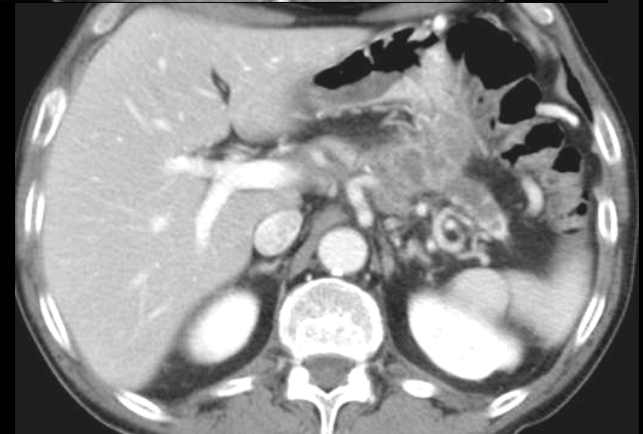
pycholécyste et PA ( 2 )





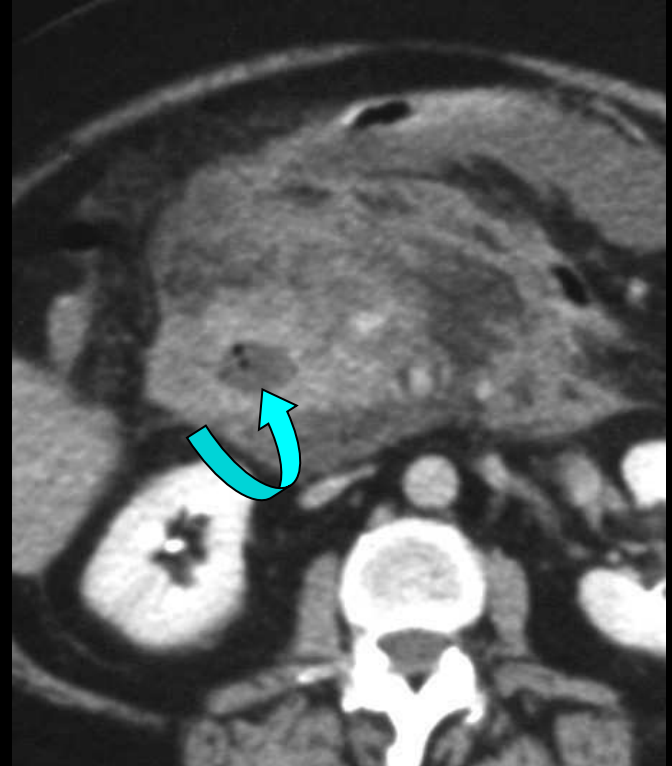
pancréatite aiguë sur  
malformation artério-  
veineuse pancréatique.

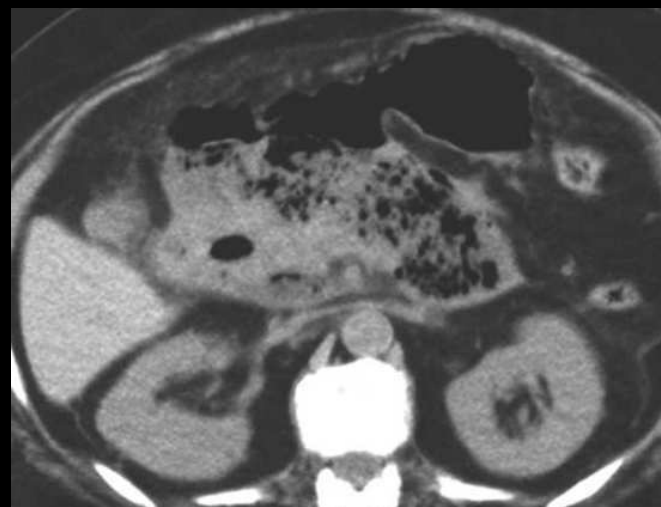
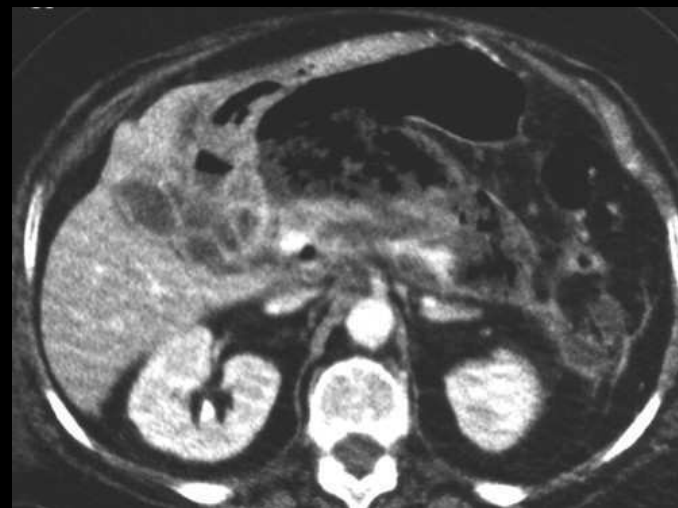
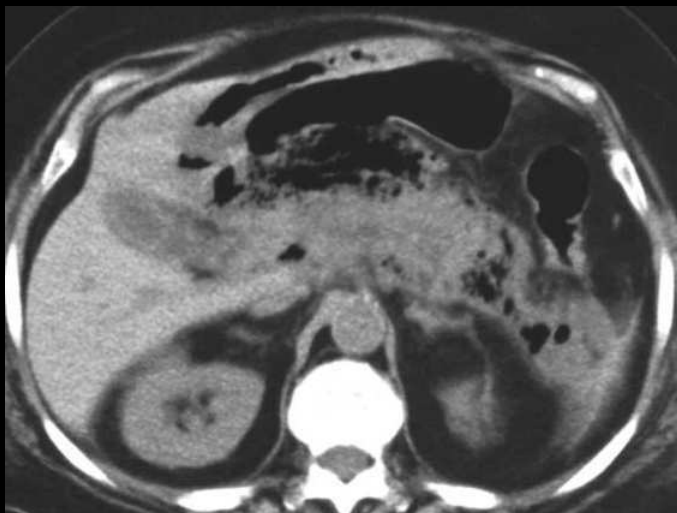
## imagerie et complications précoces des PA



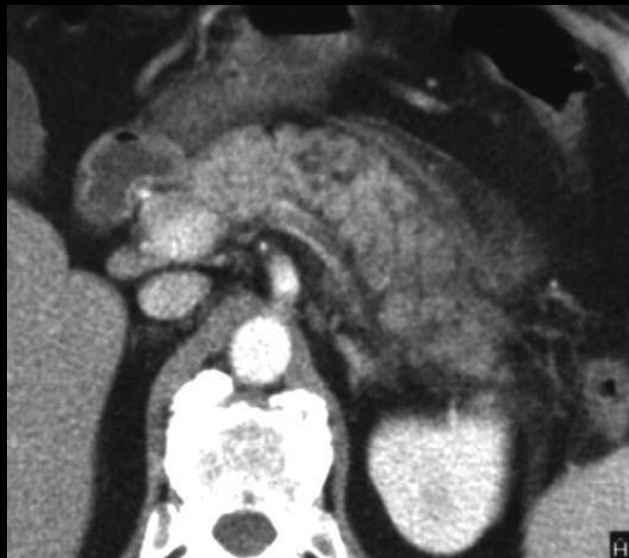
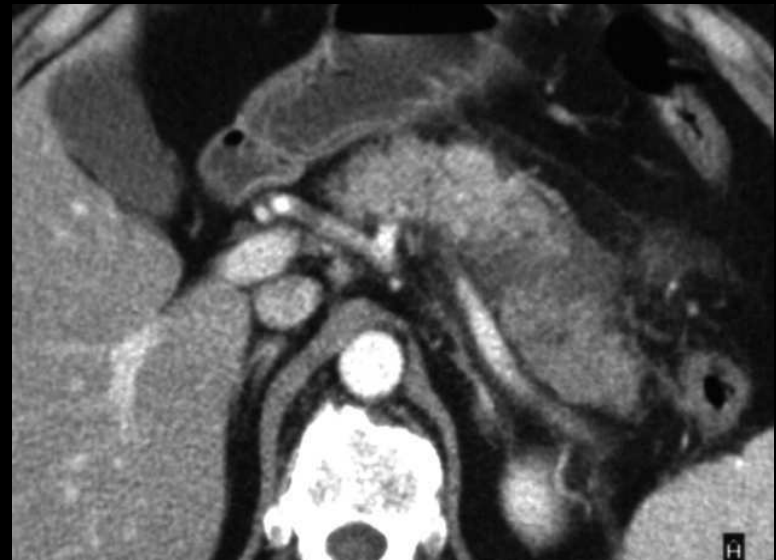
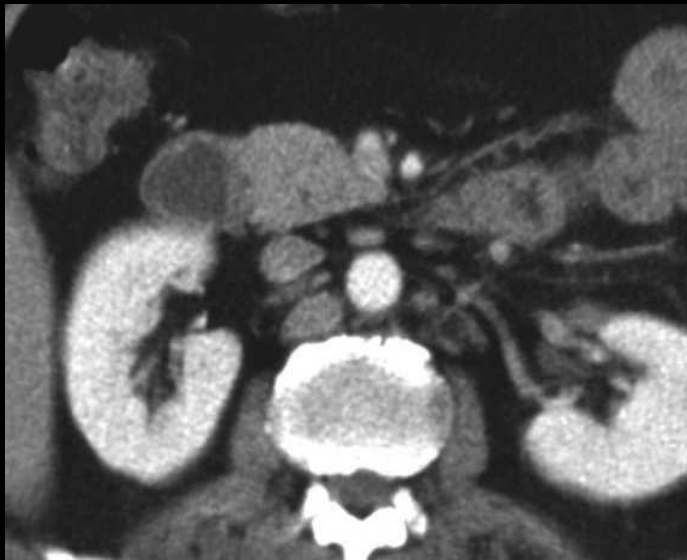
complications portales des PA

pancréatite aiguë biliaire nécrotique  
grade E ( 1 )

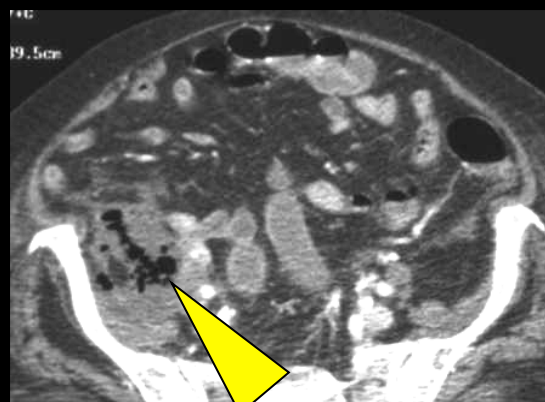
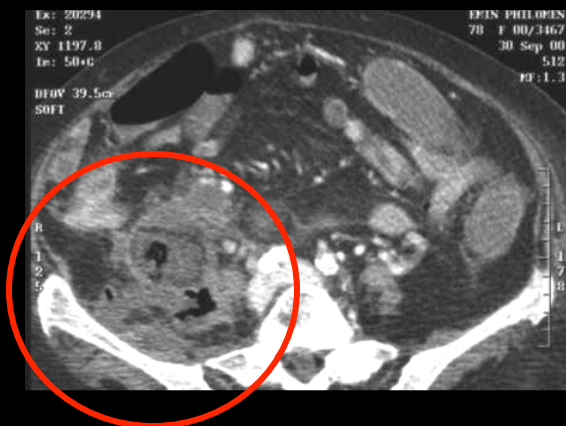
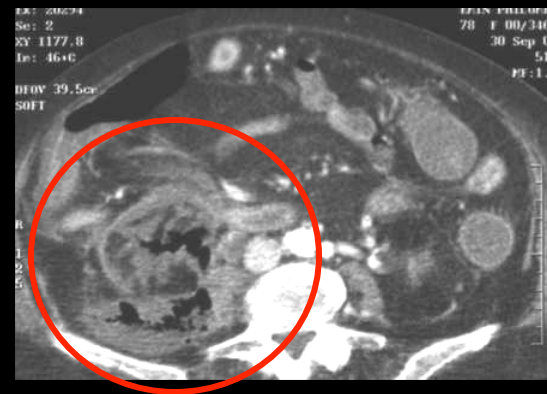




pancréatite aiguë biliaire nécrotique grade E : J 30 ( 2 )

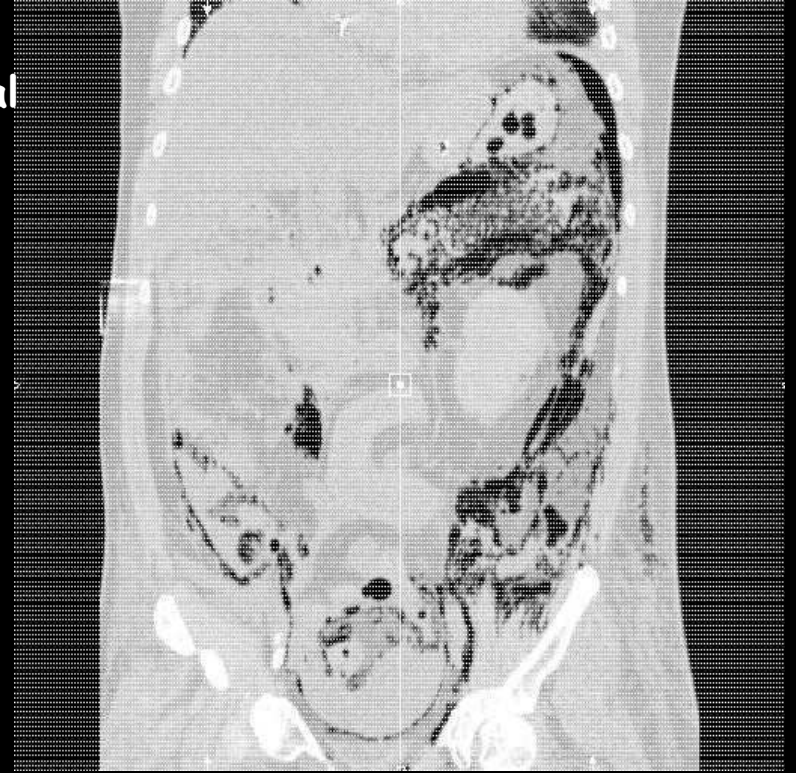


pancréatite aiguë et thrombus de la  
veine splénique



PA nécrose infectée

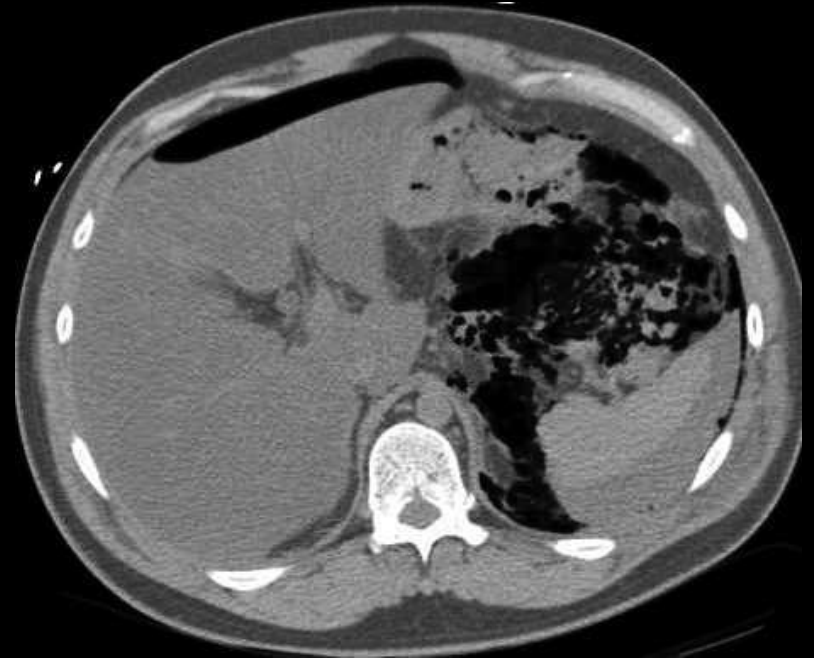
homme 33 ans ,tahitien , sd douloureux abdominal  
à début brutal, évoluant depuis 48  
heures ,tableau occlusif ,  
défaillance polyviscérale,  
fièvre ;ethylisme ,suspicion de minilithiase  
vésiculaire à l'échographie



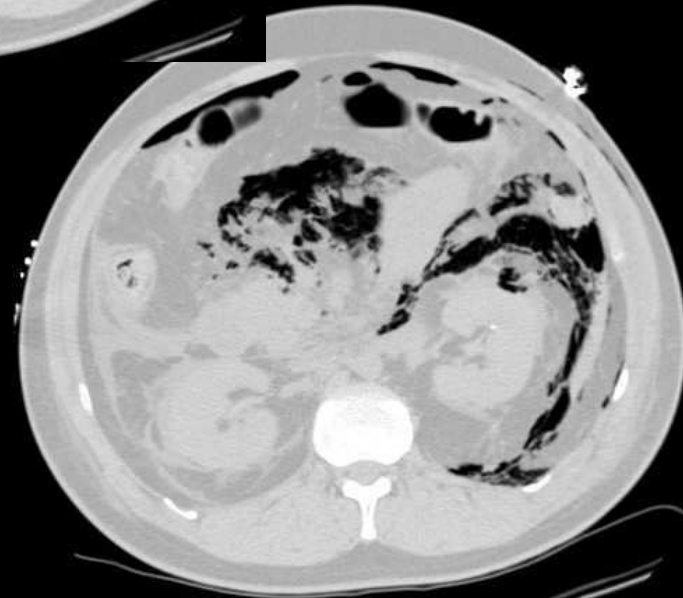
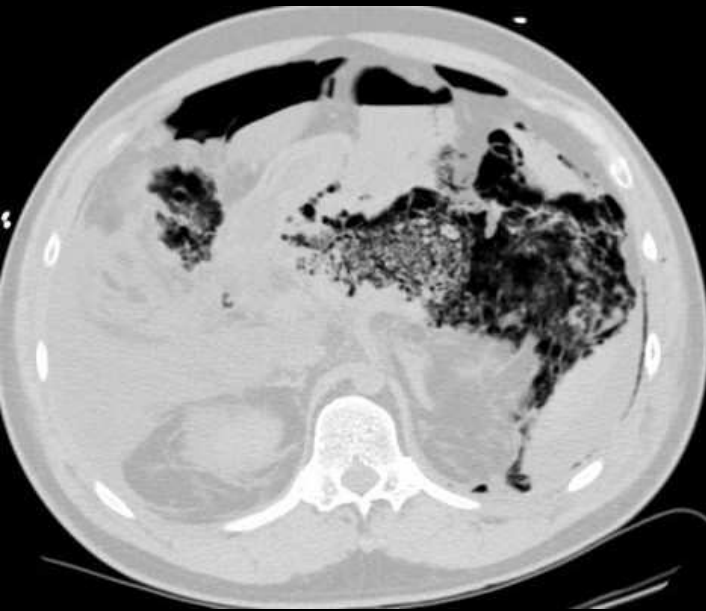
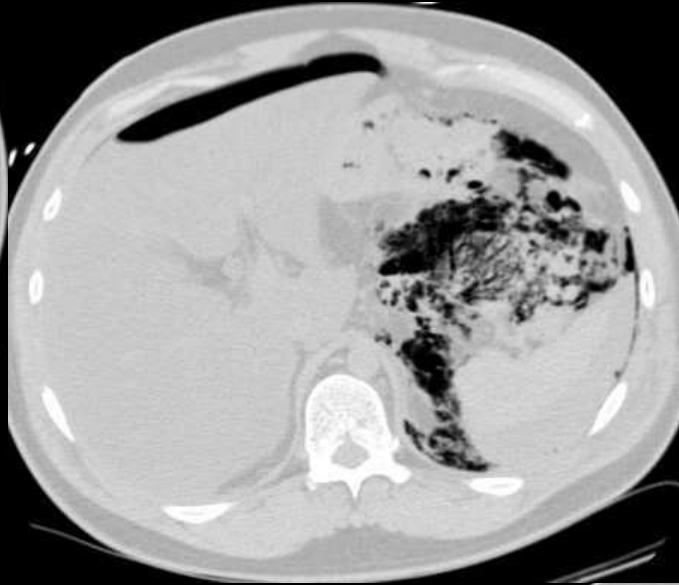
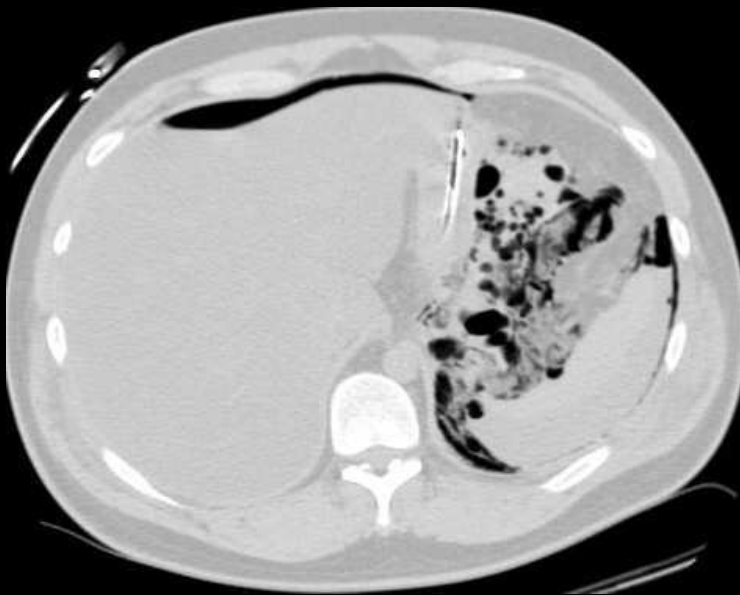
diagnostic positif  
diagnostic étiologique



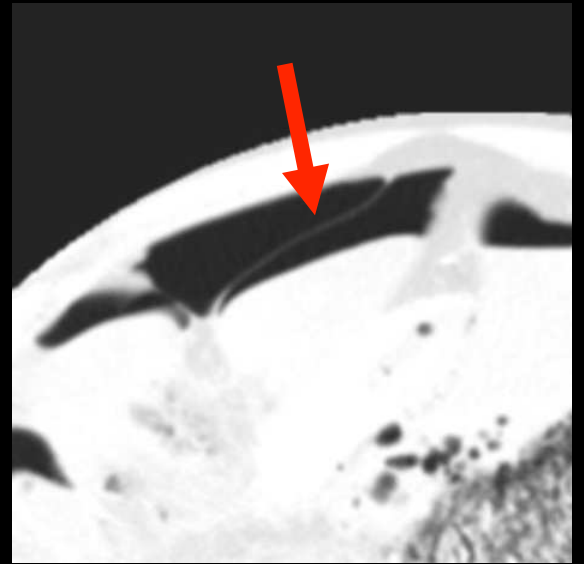
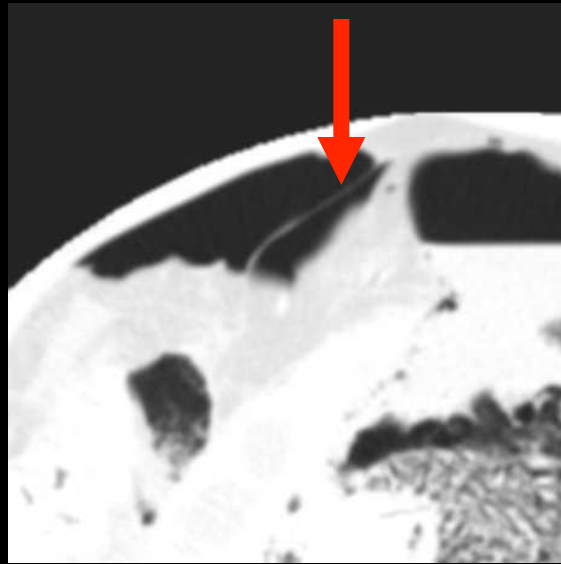
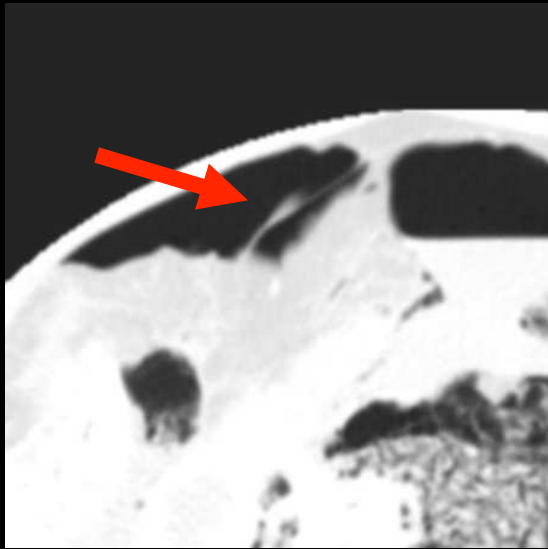
GGT 808 UI    N:2-34 UI



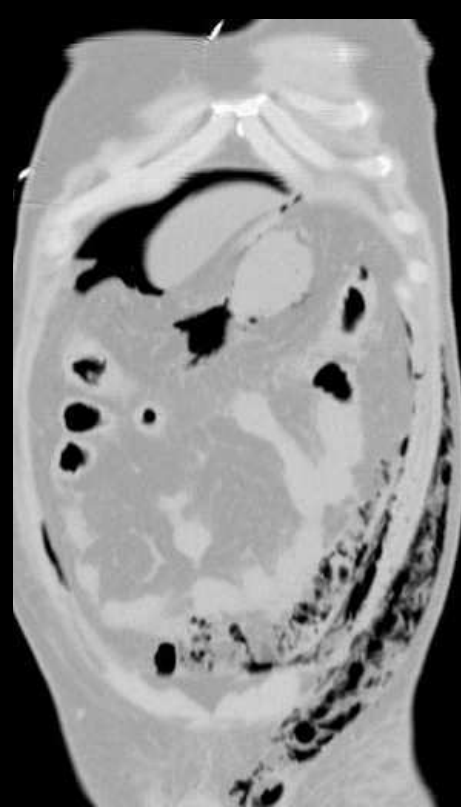
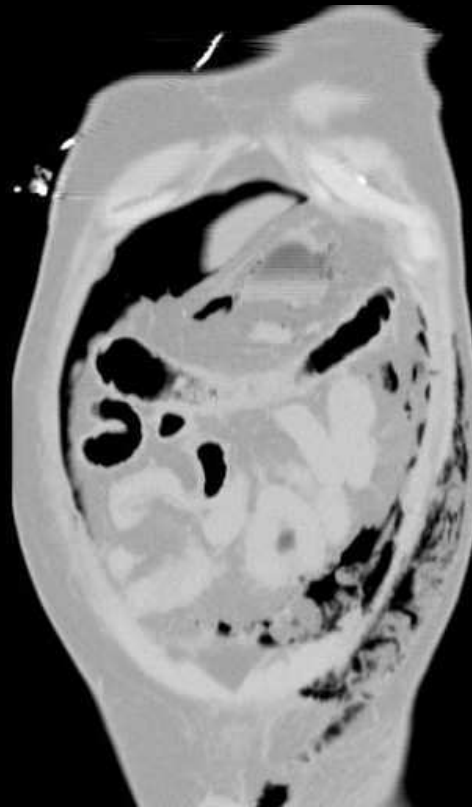
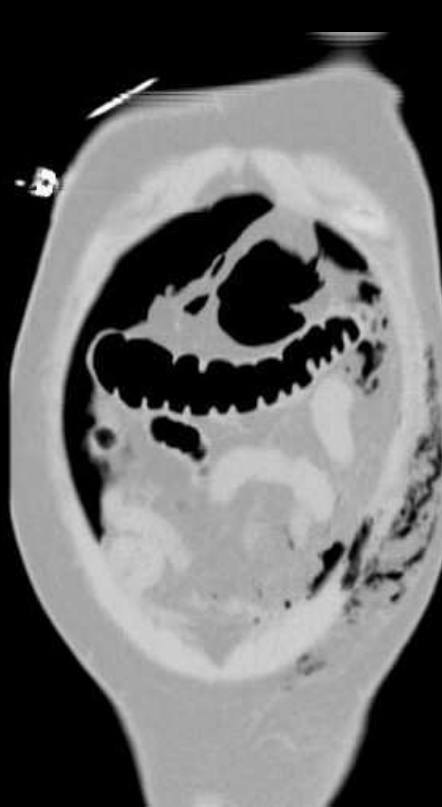
quels sont les principaux éléments  
sémiologiques

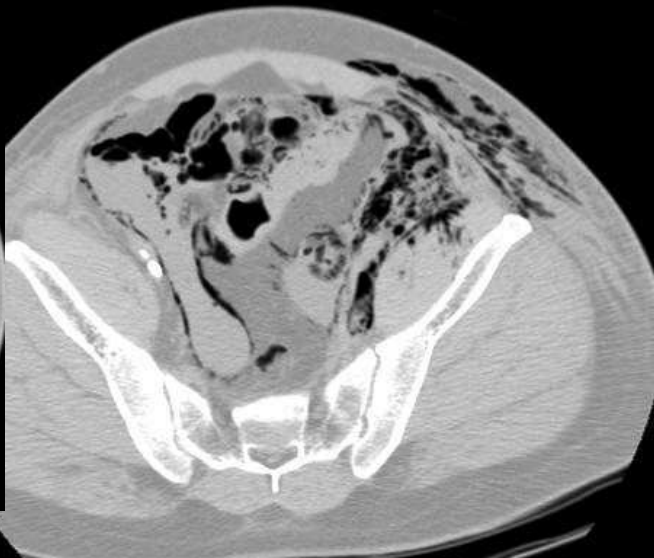
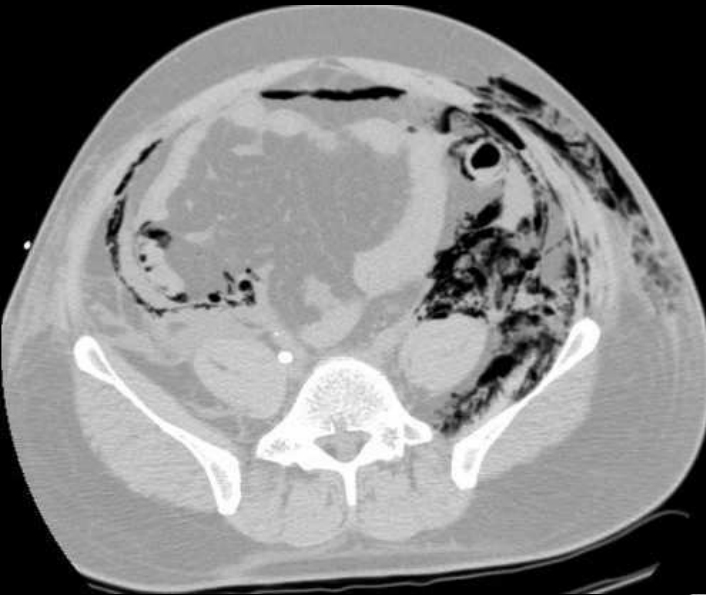
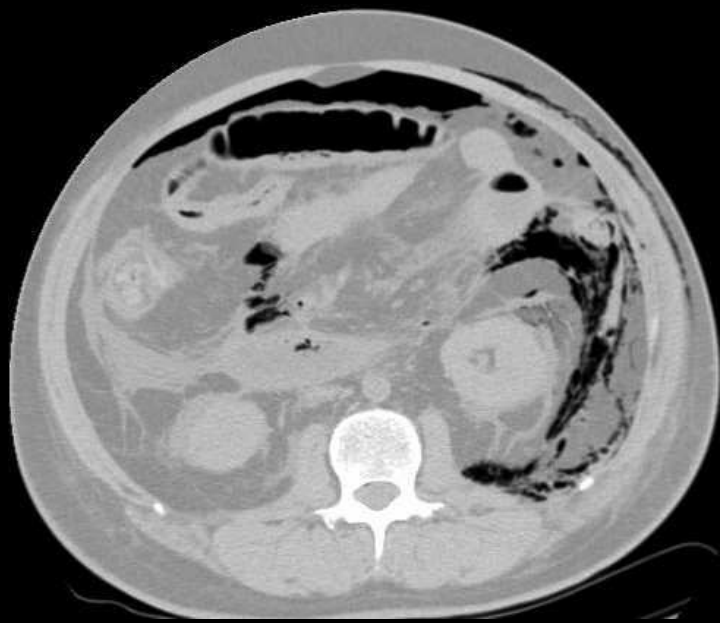


dissection gazeuse de la loge pancréatique et des  
espaces périrénaux, pneumopéritoine ???

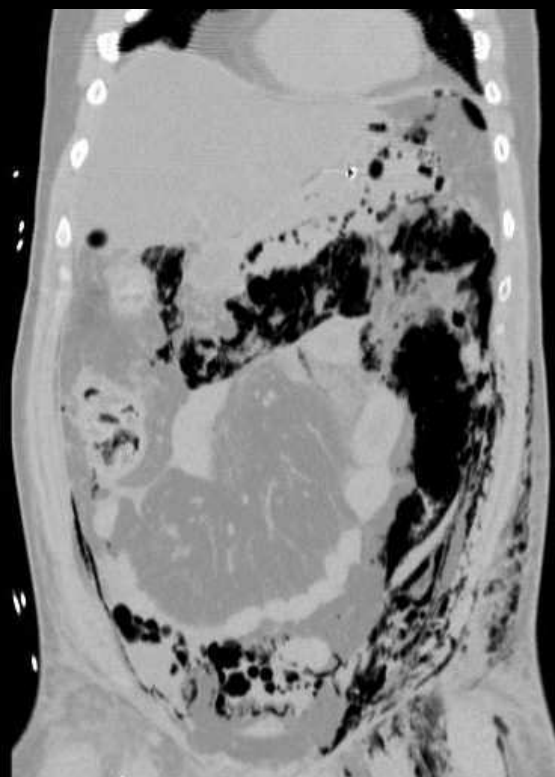


**pneumopéritoine ++**  
 + , silhouettage du  
 ligament falciforme  
 par le gaz libre  
 intrapéritonéal

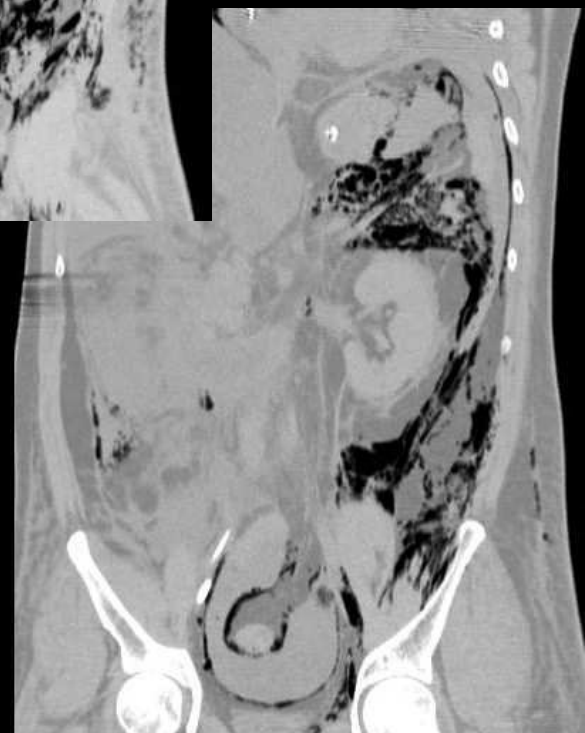
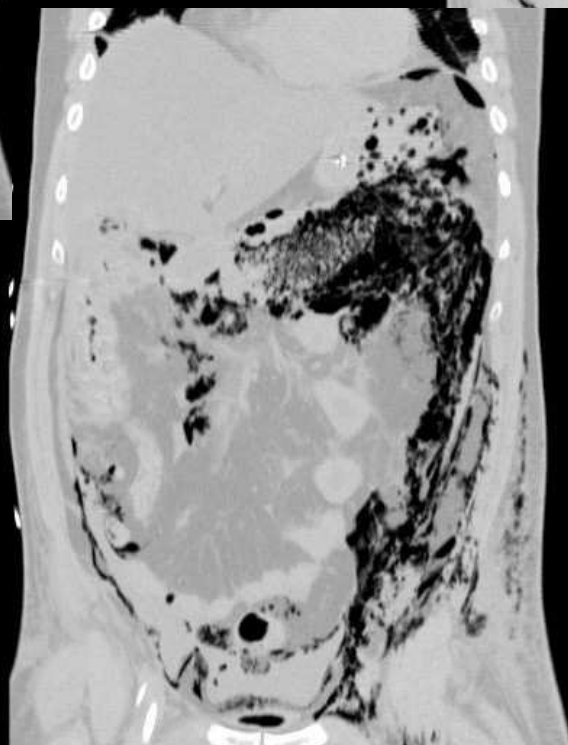
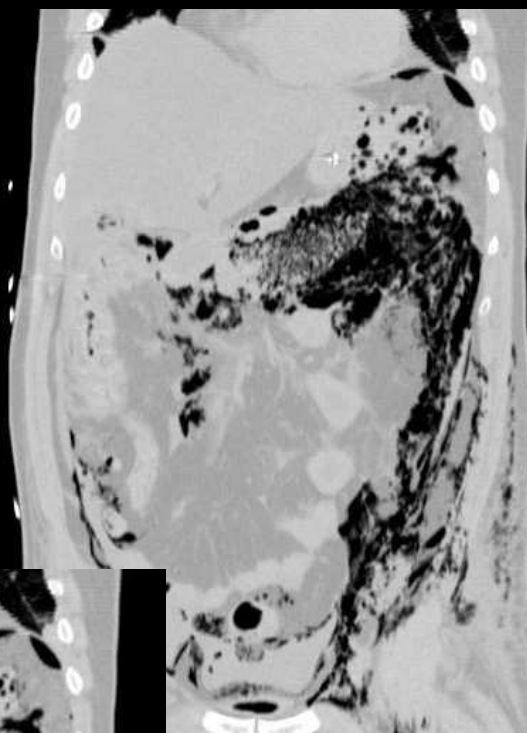




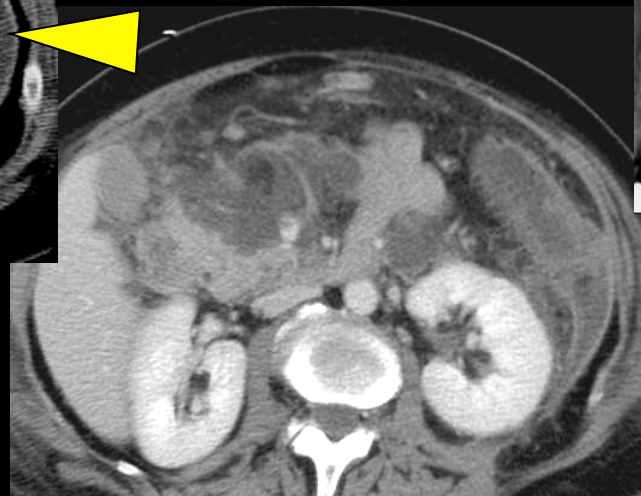
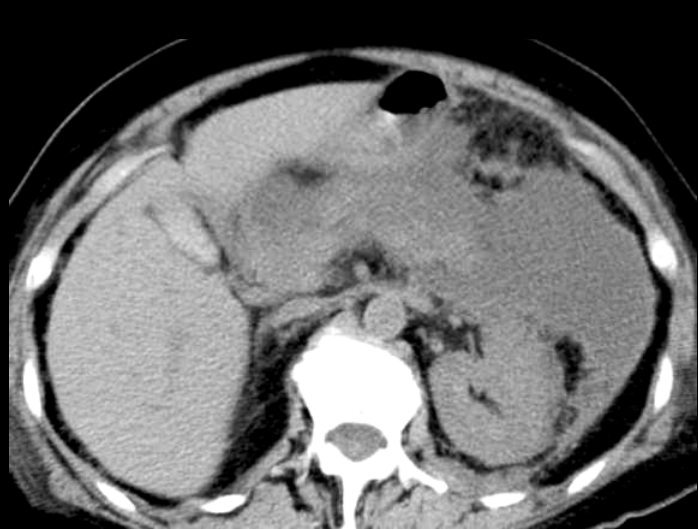
diffusion gazeuse dans les espaces sous  
péritonéaux pelviens



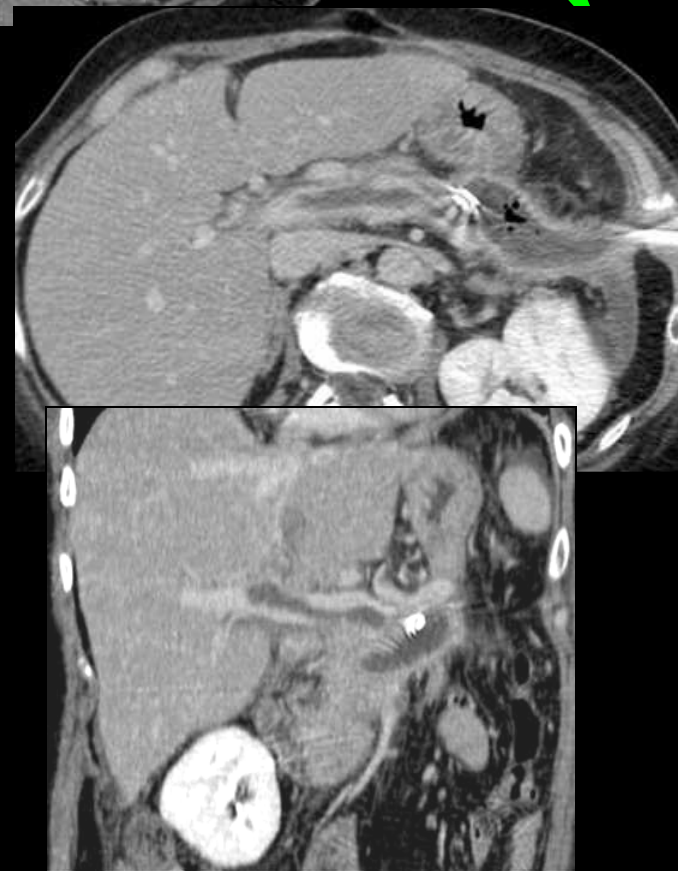
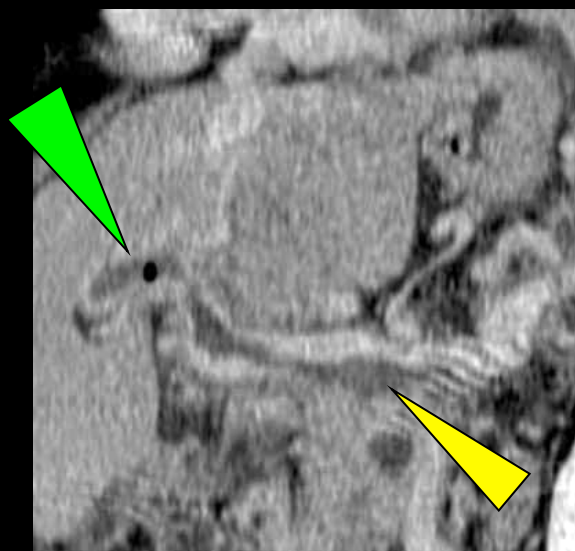
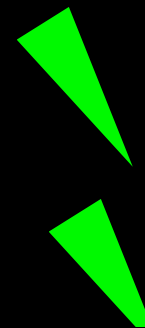
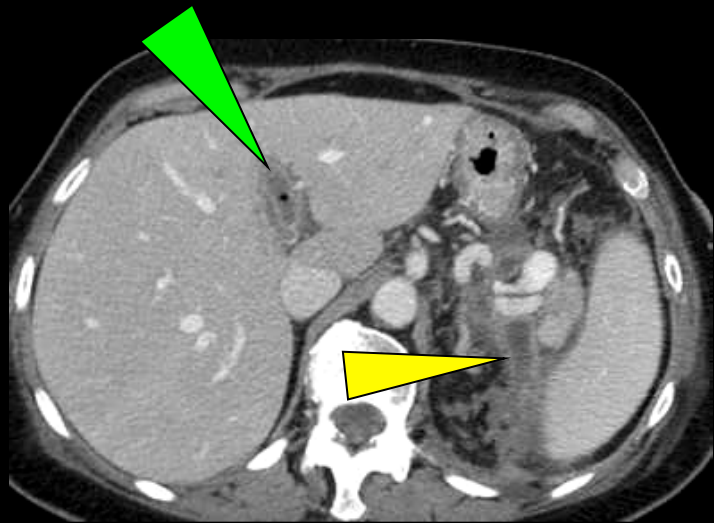
emphysème sous-  
cutané du flanc et  
de la racine  
crurale G



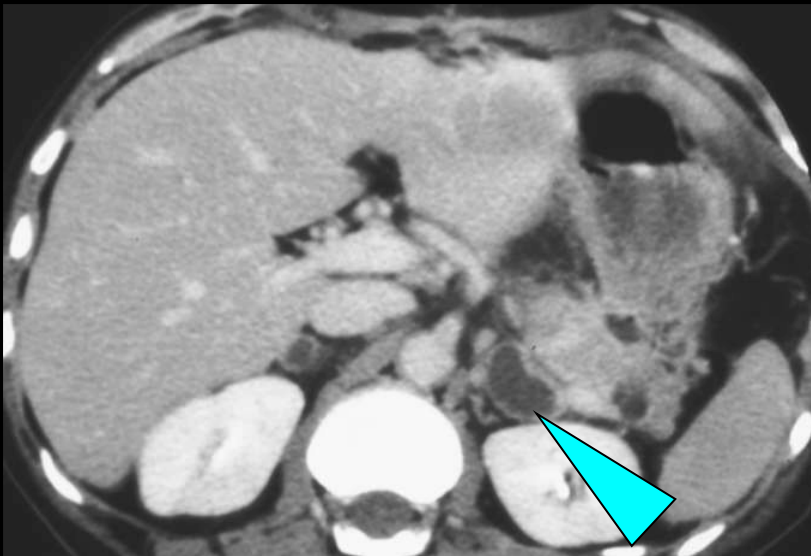
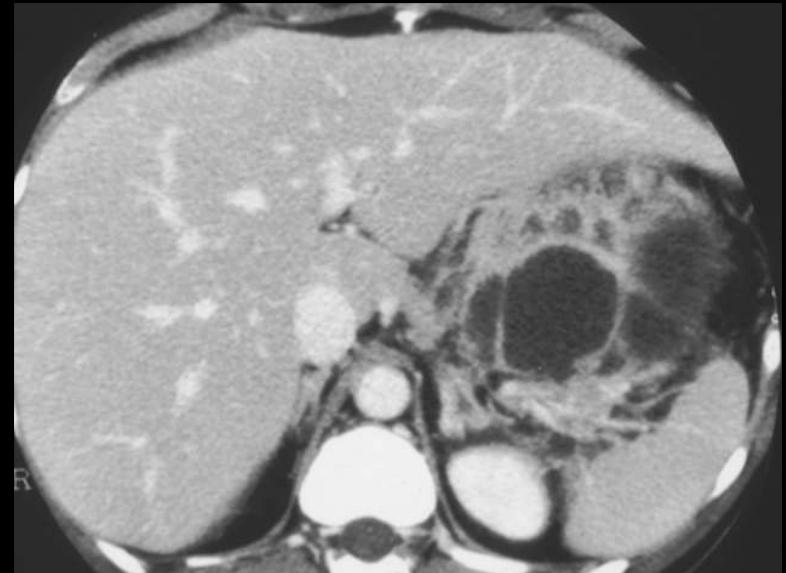
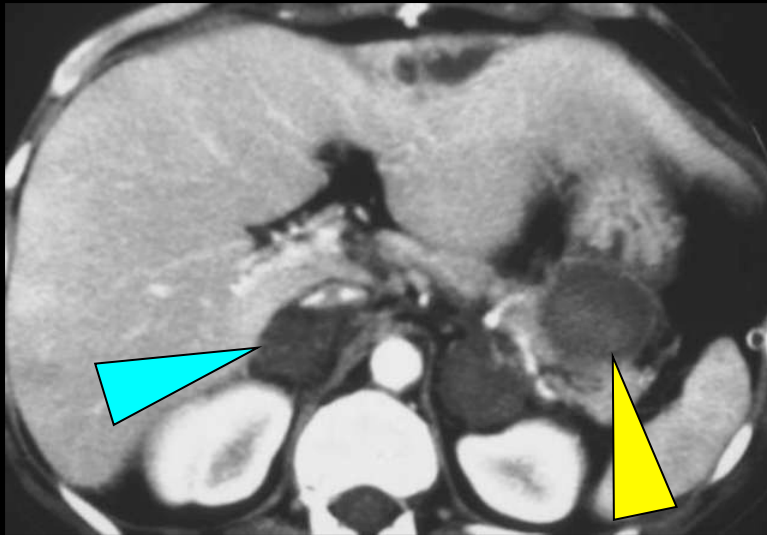
**Clostridium perfringens isolé à la ponction ; diagnostic de gangrène gazeuse du pancréas**



PA nécrotique ( 1 )

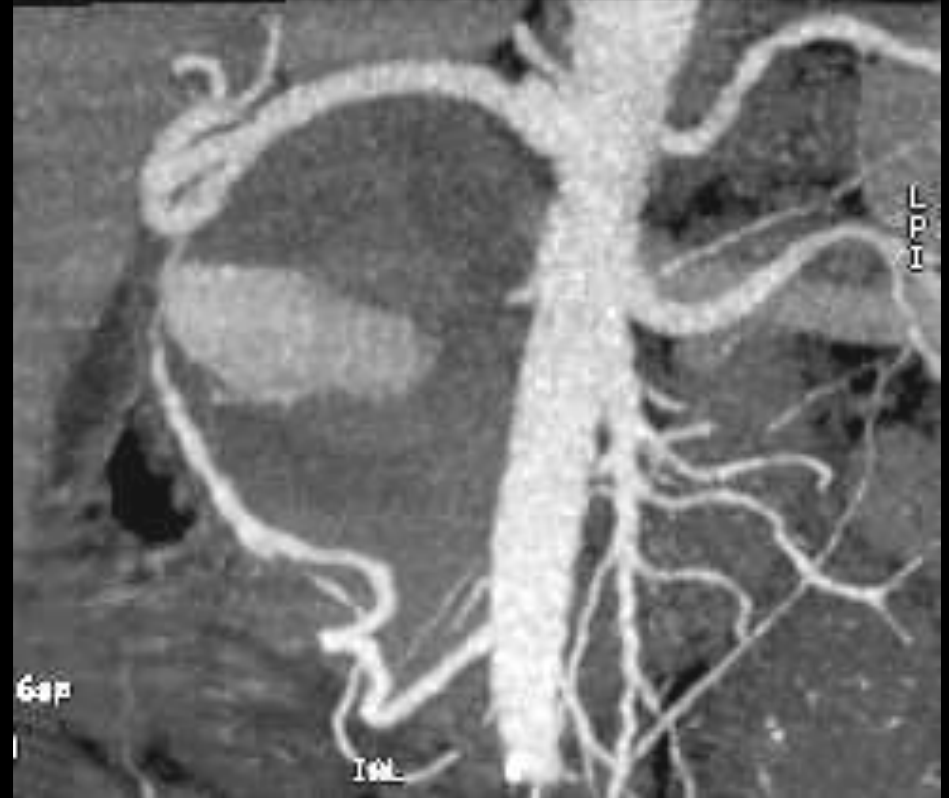


PA nécrotique + pylephlébite septique ( 2 )



complications d'une pancréatite aiguë



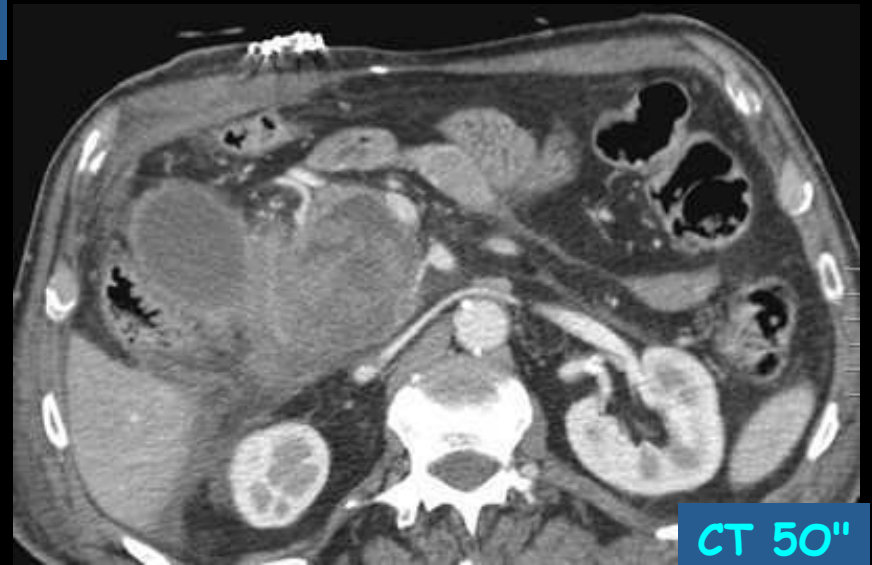


pancréatite aiguë + faux anévrysme

obs. M Zins Hôpital St Joseph Paris



CT 70" MPVR

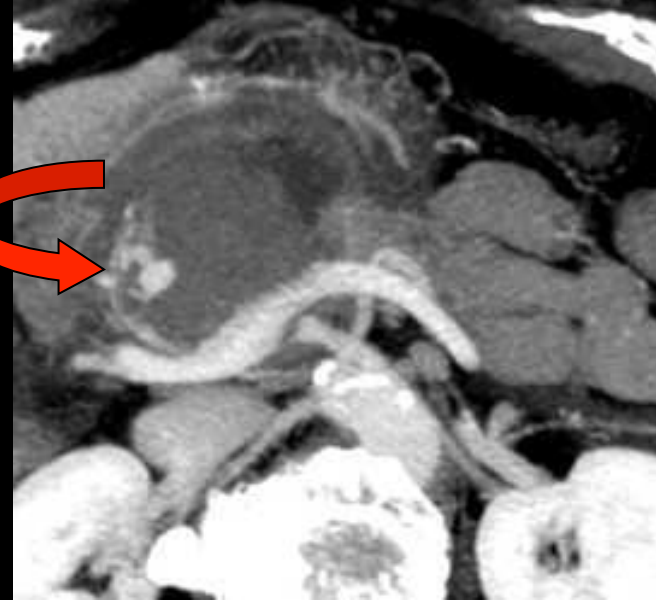


CT 50"

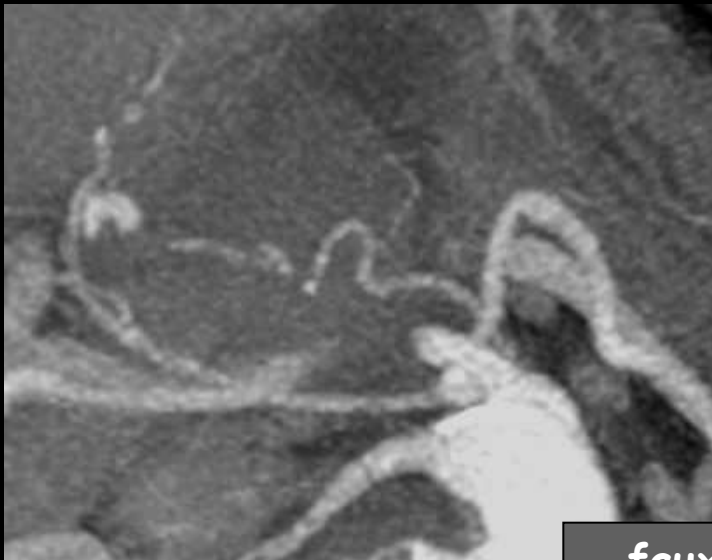
très gros faux anévrysme compliquant un pseudo kyste  
céphalique bilobé.



CT 50"



CT 70"

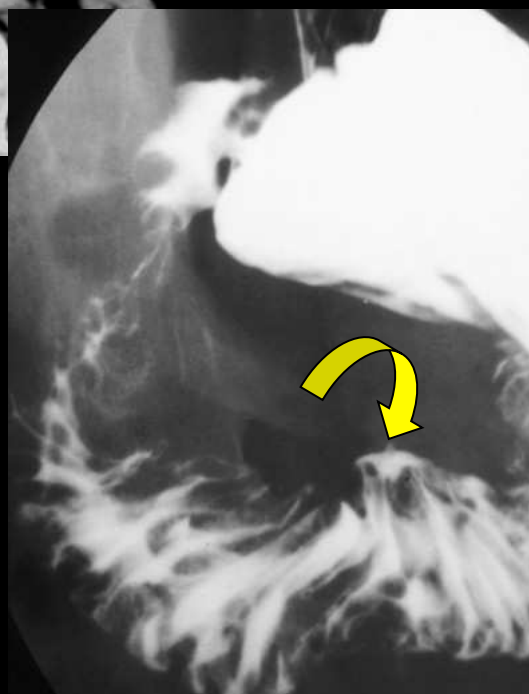
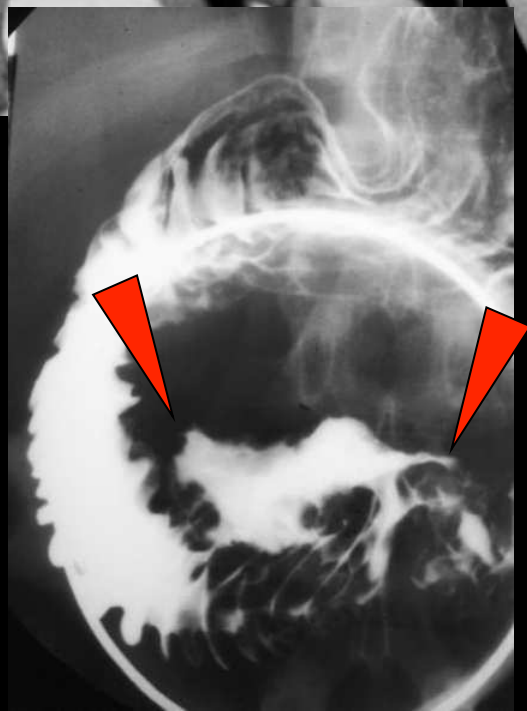
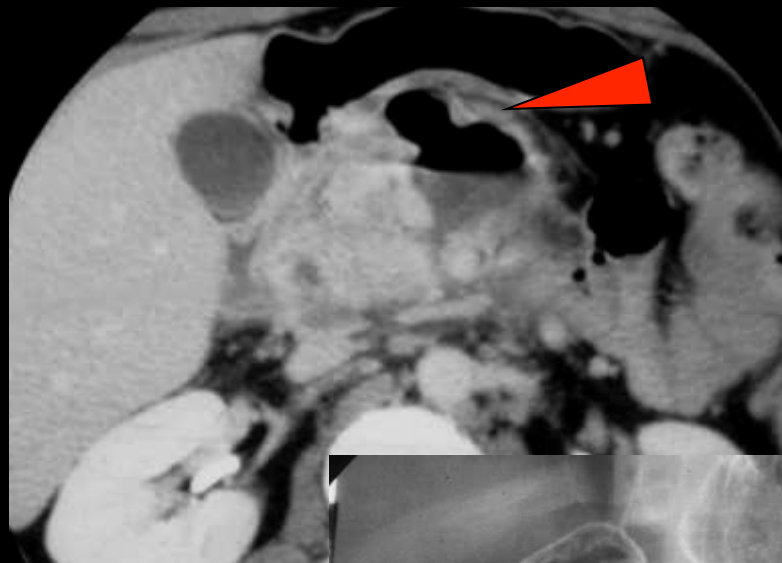


MPVR 50"



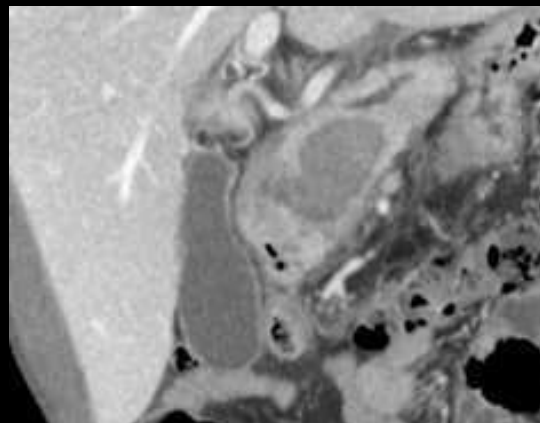
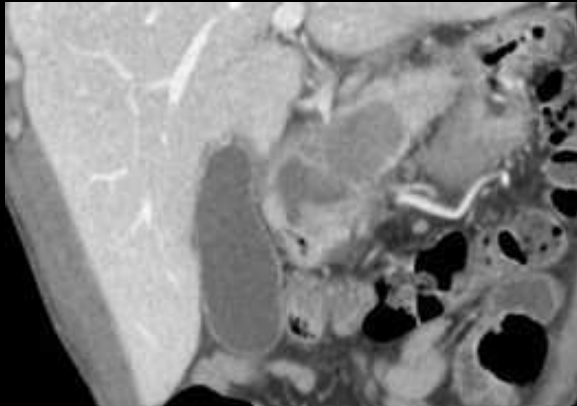
faux kyste hémorragique ; faux anévrisme d'une  
branche pancréatico-duodénale





contrôle après traitement

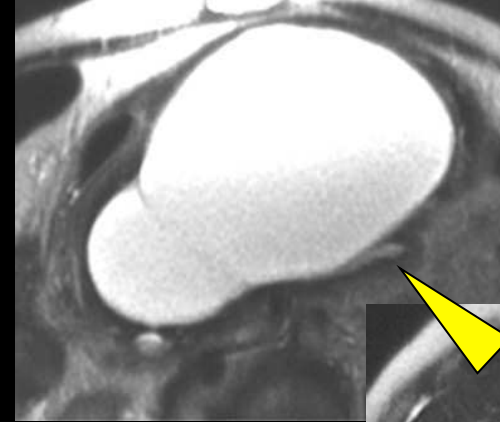
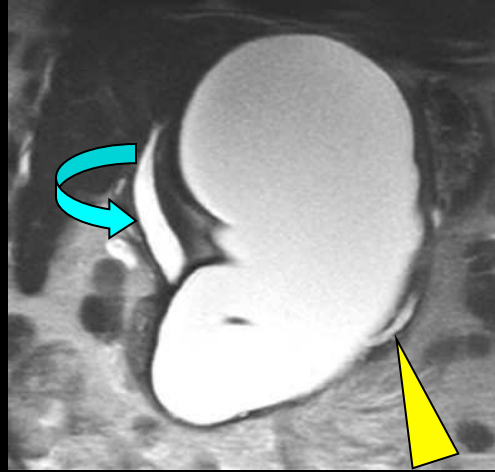
pancréatite aiguë alcoolique ; homme 38 ans  
poussée aiguë avec hémorragies digestives massives



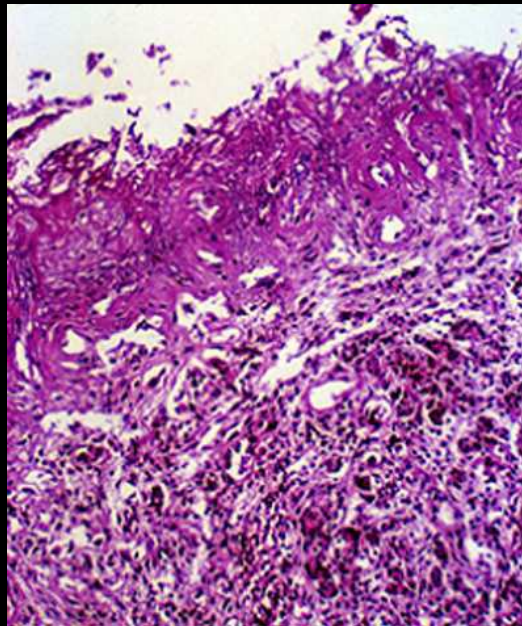
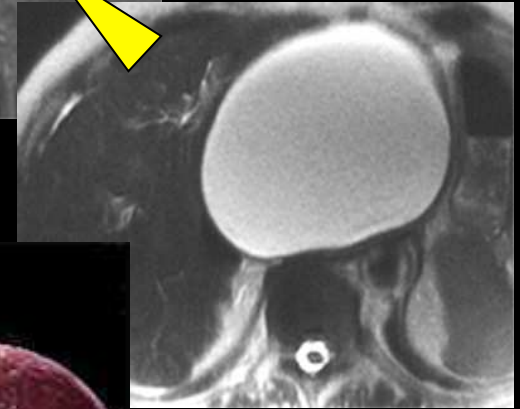
évolution en 2 semaines  
d'un pseudo kyste  
hémorragique sur  
PA : fistulisation  
gastrique

# imagerie et complications « retardées » des PA

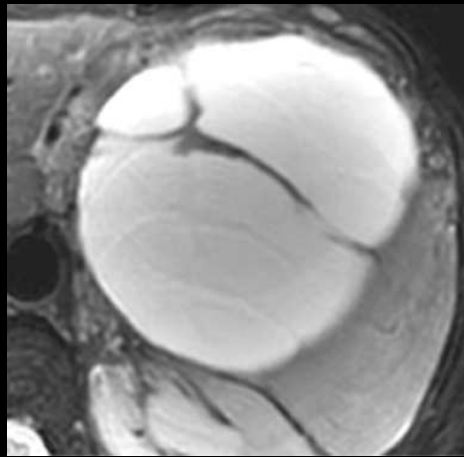
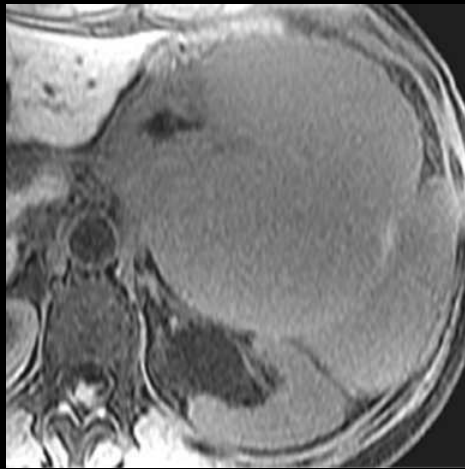
## les pseudo-kystes post nécrotiques



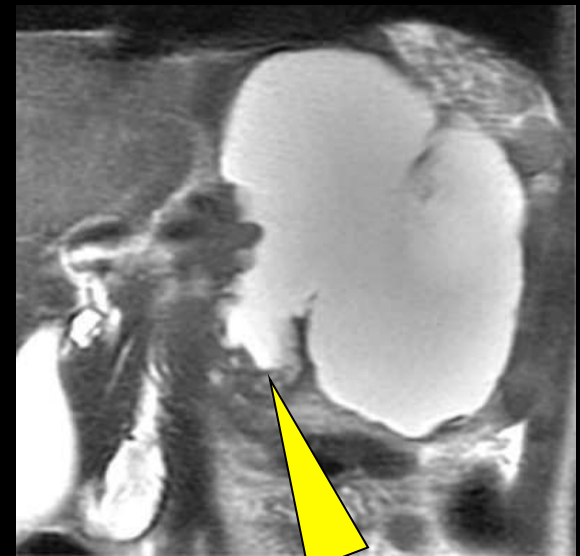
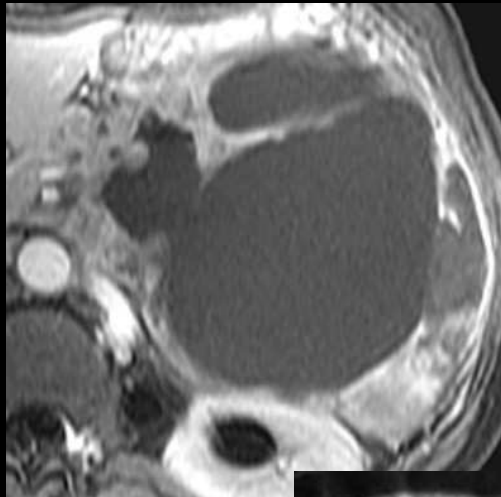
MR T2



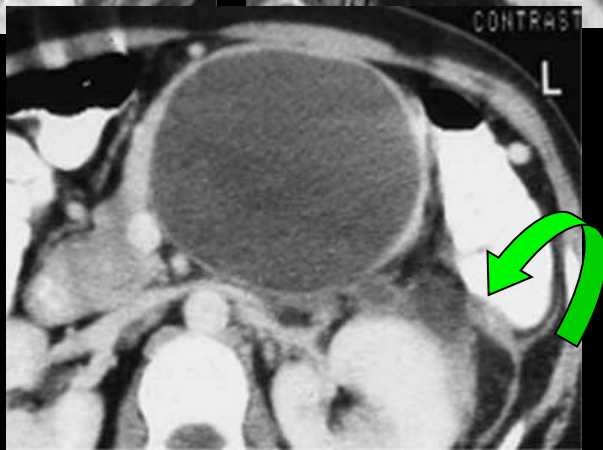
pseudo-kyste du pancréas



MR T2



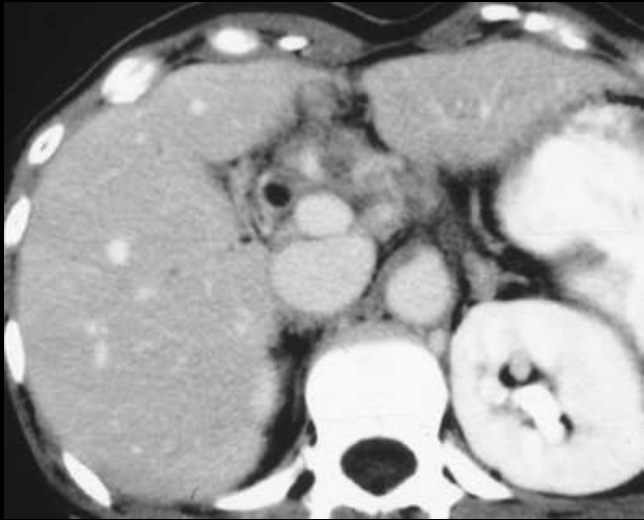
T1 1'30



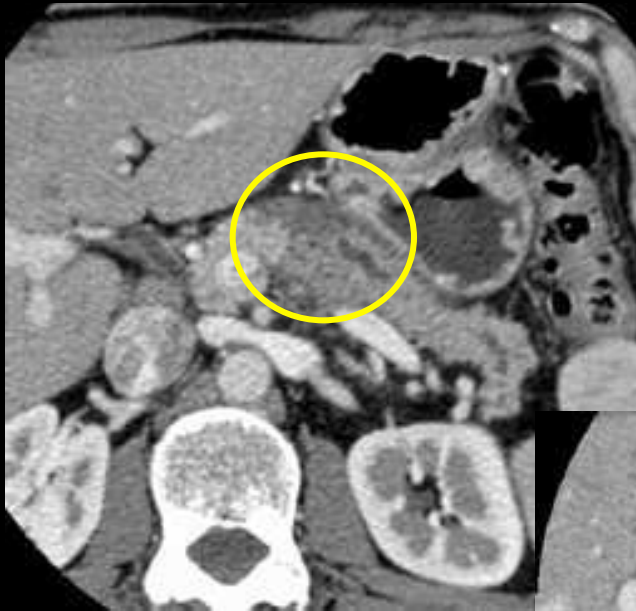
CT 1'30

pseudo-kystes du pancréas

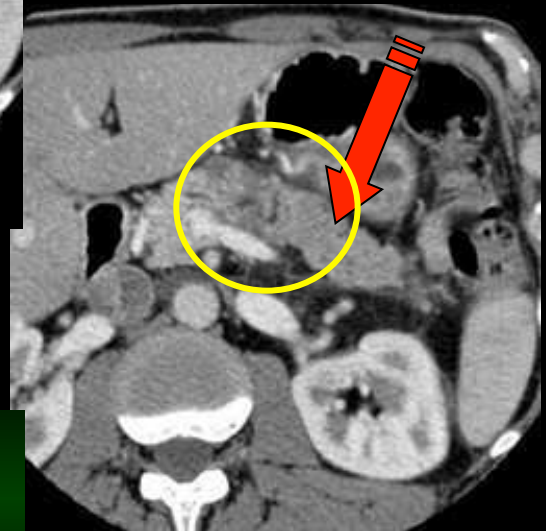
attention ! ! !



pancréatite récidivante chez une jeune femme : **adénocarcinome ductal !**

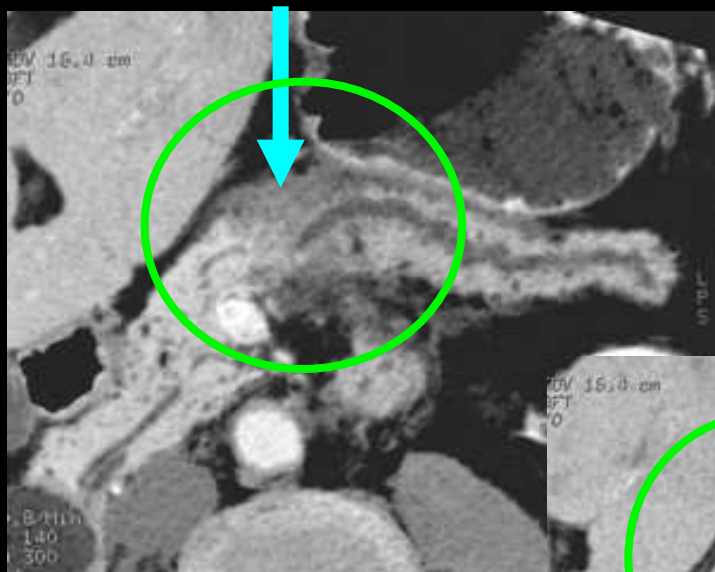


CT 45"

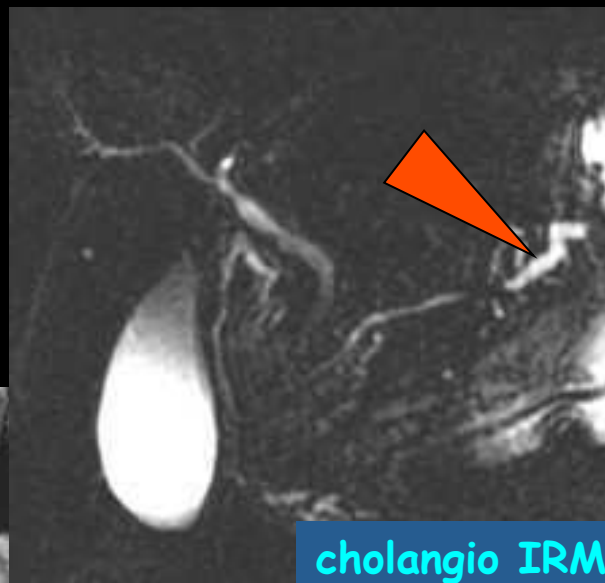


obs. M Zins Hôpital St Joseph Paris

adénocarcinome ductal du pancréas corporel sans  
modification des contours de la glande !  
pancréatite canalaire d'amont

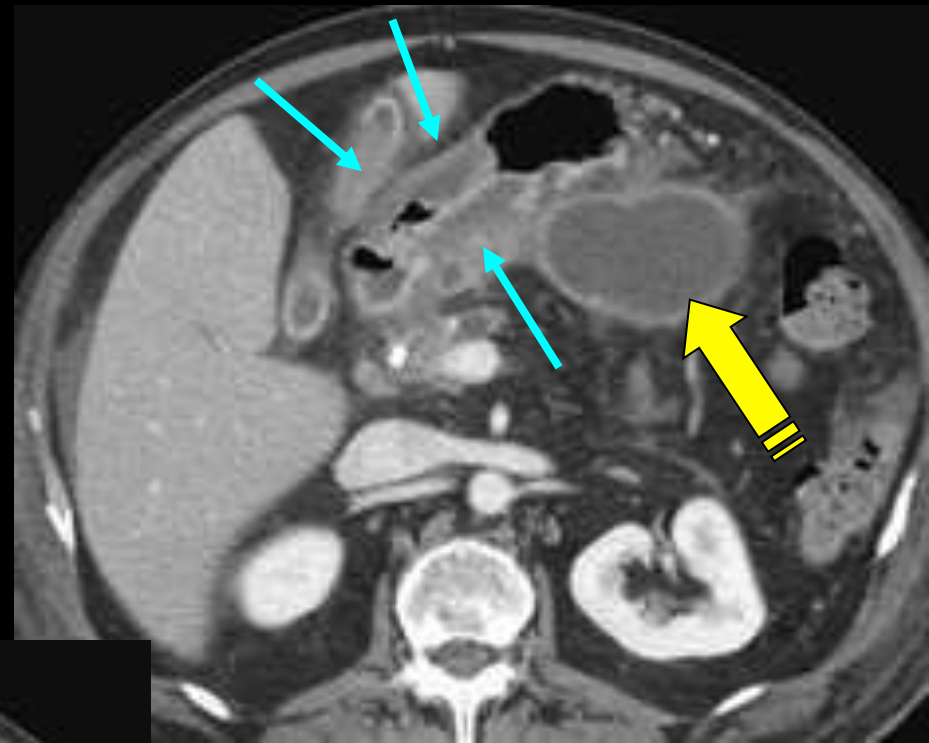
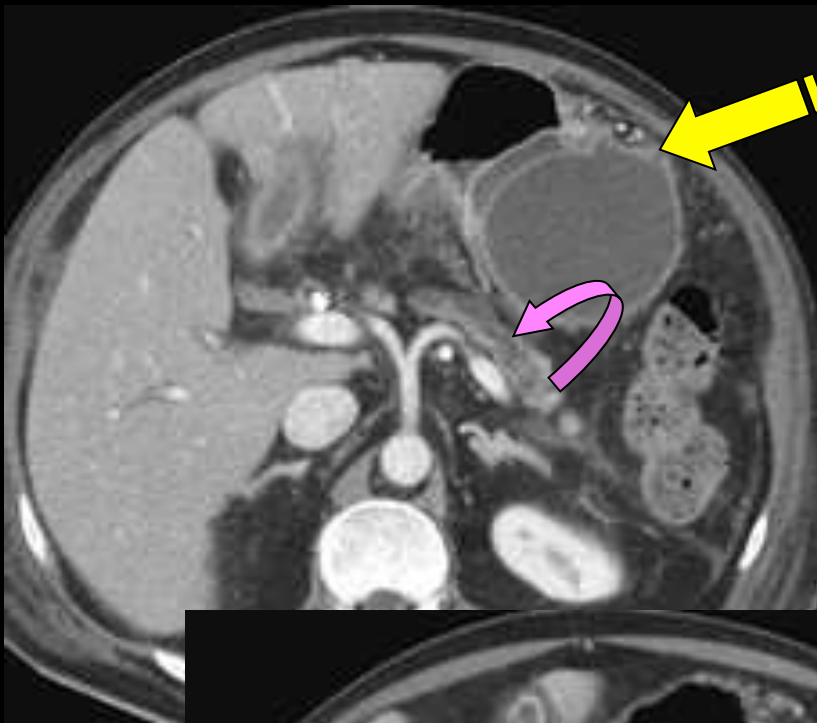


T1 50"



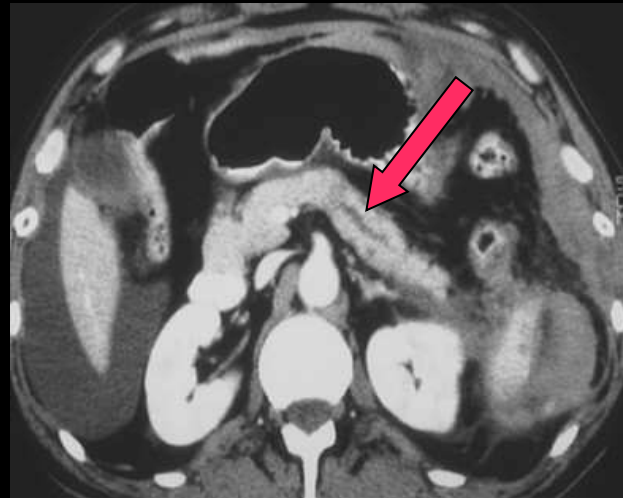
adénocarcinome ductal du pancréas isthmique  
et pancréatite d'amont ; image MinIP

obs. M Zins Hôpital St Joseph Paris



CT 70"

adénocarcinome ductal du  
pancréas isthmique et pseudo  
kyste de la cavité omentale



pancréatite aiguë avec ruptures splénique et  
colique gauche , symptomatiques d 'un ADK du  
corps du pancréas

à suivre