

NEN PRECEPTORSHIP

LA PRATICA CLINICA NELLE NEOPLASIE NEUROENDOCRINE

5/6 Aprile 2018 | IEO, Istituto Europeo di Oncologia - Milano

NEN  **Preceptorship**

 **IEO**
Istituto Europeo di Oncologia



IMAGING of GEP-NET

Luigi Funicelli

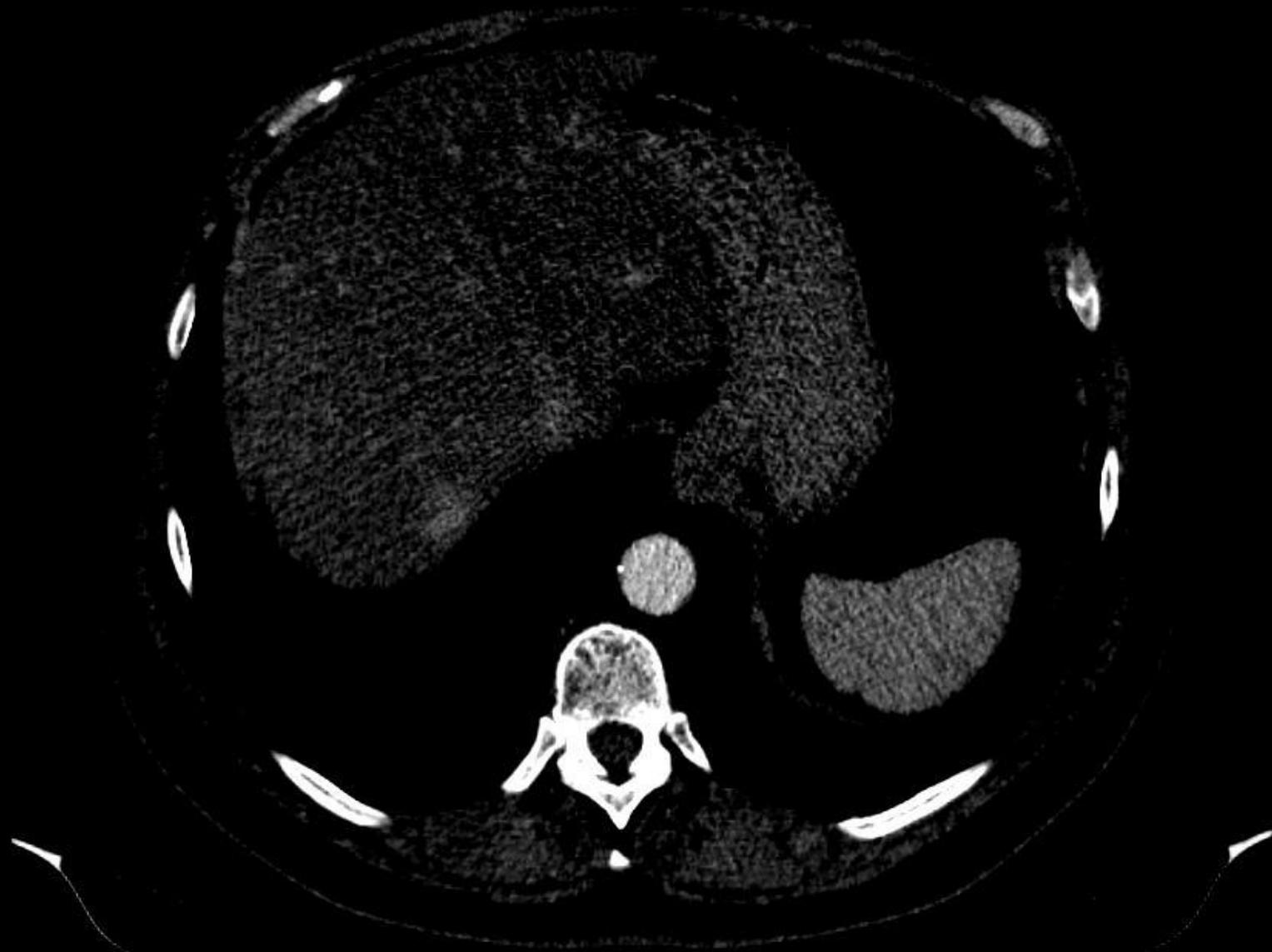
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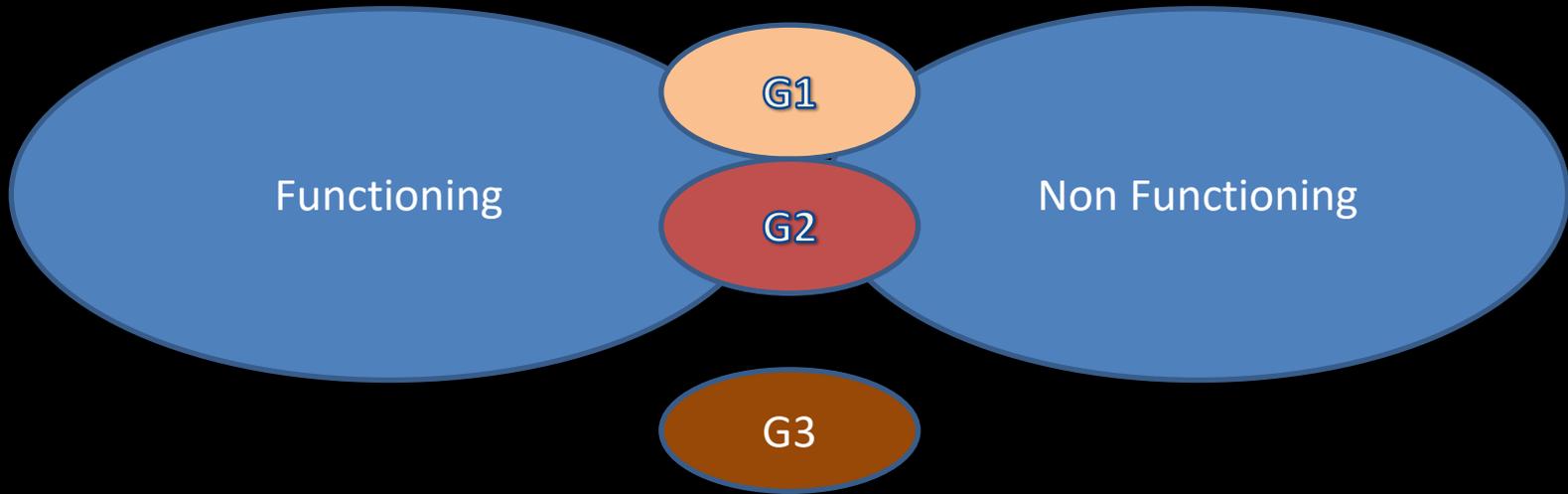


R

L



NET imaging features



Imaging findings of NETs are not necessarily specific to a particular group (I, II, III) and they seem to overlap one another

Functioning Pancreatic NET

- Insulinomas



Homogeneous enhancing



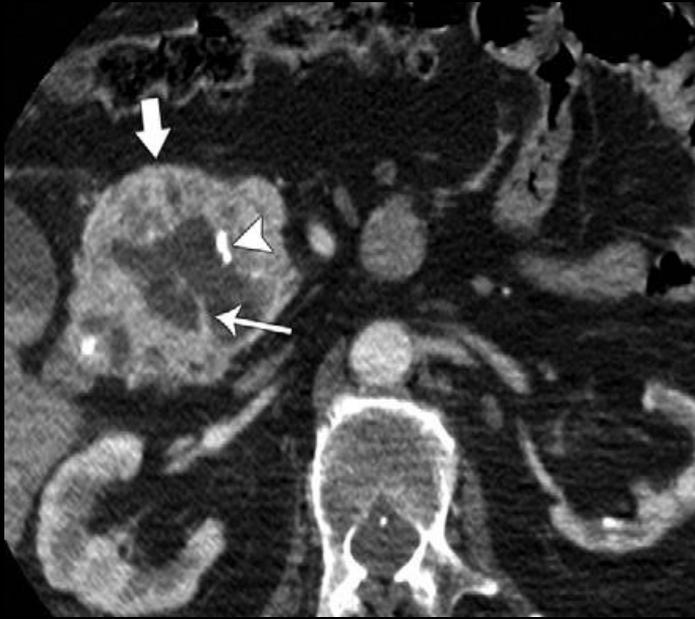
heterogeneous enhancing



In basso: TC ricostruzione coronale in sindrome di Zollinger-Ellison ed incremento sierico della gastrina. A sinistra: massa di 4,8 cm dotata di c.e. posteriormente al processo uncinato (freccia dritta); si associano linfonodi patologici regionali, anch'essi dotati di ricco c.e. (punte di freccia). Sondino naso-gastrico nello stomaco (freccia curva). A destra: ispessimento delle pliche gastriche (frecce) e della parete digiunale (punte di freccia). E.I.: NET pancreatico a basso grado ben differenziato; positività per cromogranina, sinaptofisina

In alto: ricostruzione coronale di una TC in fase arteriosa di un NET funzionante (insulinoma); si notino le piccole dimensioni (9 mm) e l'elevato c.e.,





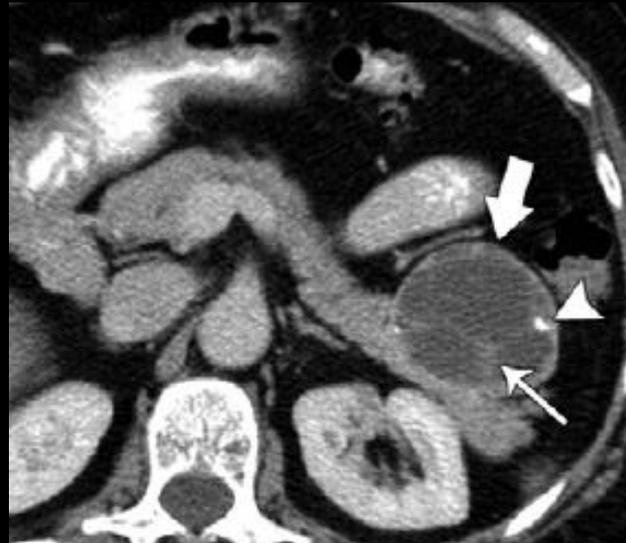
In basso a sinistra: TC in fase arteriosa mostra una lesione cistica predominante (freccia spessa) con sepimentazioni (freccia sottile) e calcificazioni (punta di freccia) alla coda del pancreas.

EI: NET ben differenziato non funzionante.

A destra: NET alla testa del pancreas con completa degenerazione cistica.

La diagnosi istologica non ha mostrato degenerazione maligna in questo tumore.

In alto: la TC arteriosa mostra una lesione alla testa del pancreas, ben definita (freccia spessa), solida e cistica, dotata di c.e. disomogeneo, con calcificazioni (punta di freccia) e sepimentazioni interne (freccia sottile). EI: NET ben differenziato con foci di carcinoma NE, scarsamente differenziato, G3



La TC con MdC, con studio trifasico dell'addome superiore costituisce metodica imaging di base per i NET nella diagnosi, staging, sorveglianza e monitoraggio della terapia.

Table 1. CT diagnosis of NETs

Type of NET	Mean sensitivity	Mean specificity	Mean detection rate	Patients/studies	Ref.
NET disease	82 (77–85)	86 (71–85)		253/4	3–6
Pancreatic NET	82 (67–96)	96		119/2	10–11
Liver metastases			79 (73–94)	79/3	7–9
Extrahepatic abdominal soft tissue metastases	84 (75–100)	92 (83–100)		342/5	3, 12–15
Bone metastases	70 (60–100)	96 (87–100)		451/6	3, 12–15, 17
CT enteroclysis for small intestinal NETs	61 (46–80)	99 (98–100)		337/3	3, 18,19
	50	25		8/1	20
	85	97		219/1 ^a	21

Data in the literature on the sensitivity, specificity and detection rate for NET diagnosis by CT. Figures are percentages with ranges in parentheses unless indicated otherwise. ^a Out of 219 patients included in the study, there were 19 subjects with small intestinal NETs.

Trifasica

Fase arteriosa precoce

Fase arteriosa tardiva



Early
Arterial
Phase



P
A
L SYSTEMS
0.0
VOLUME

Late
Arterial
Phase



STND/+

R
1
8
9

L
1
9
5

2,50mm

keV: 43

2,50mm P:0.984:1

T



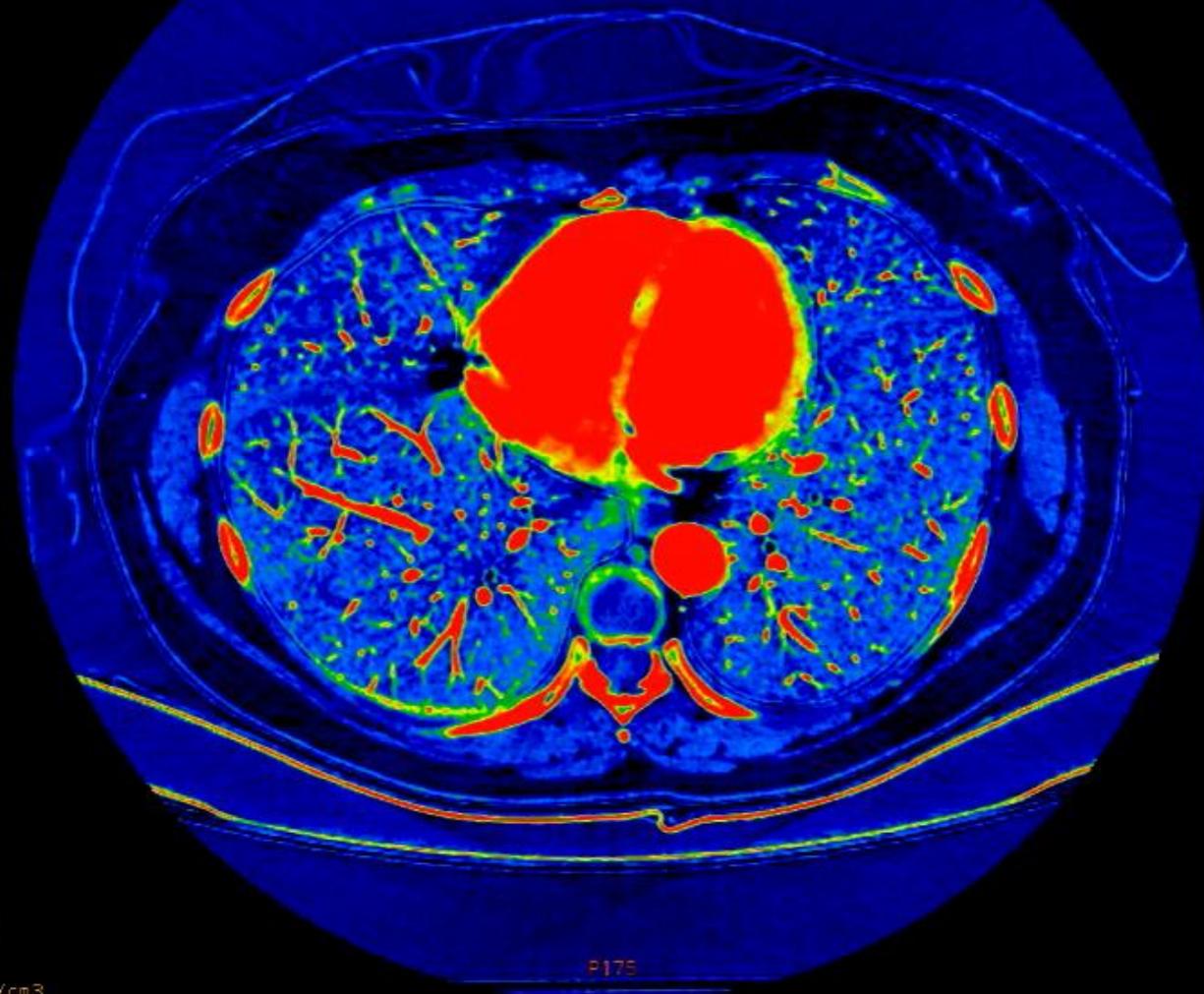
file "Material"

A210

61

2,00

52,3 x 38,5cm
ND/+



RM

La Rm è superiore alla TC nel visualizzare le metastasi epatiche (MdC epatospecifico e DWI), metastasi cerebrali, ossee e nel visualizzare i tumori pancreatici (specie ipovascolari).

Table 2. MRI diagnosis of NETs

Type of NET	Mean sensitivity	Mean specificity	Mean detection rate	Patients/studies	Ref.
Gastrinoma	70			122/1	28
Pancreatic NET	79 (54–100)	100	76 (61–95)	258/7	11, 29–34
Liver metastases	75 (70–80)	98		200/2	40, 41
Carcinomatosis			88 (81–91)	72/2	42, 43

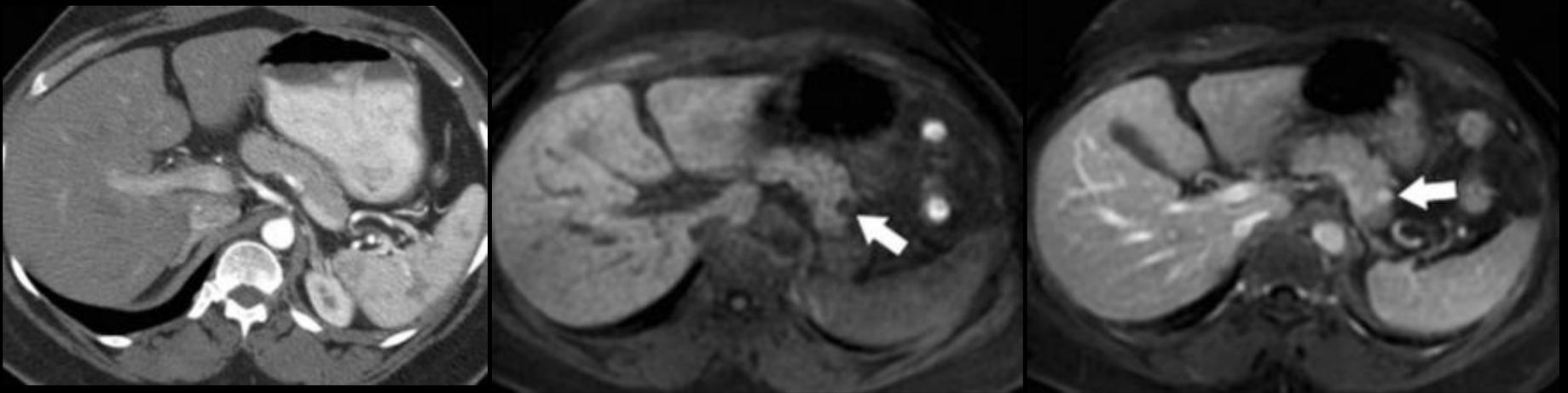
Data in the literature on the sensitivity, specificity and detection rate for NET diagnosis by MRI. Figures are percentages with ranges in parentheses unless indicated otherwise.

Neuroendocrinology DOI: 10.1159/000458155

Neuroendocrinology DOI: 10.1159/000471879

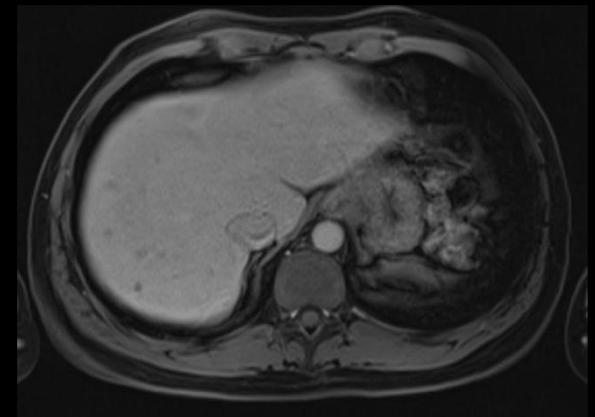
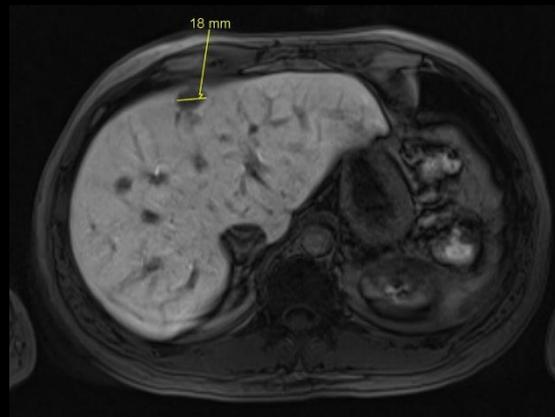
RM

La Rm è superiore nel visualizzare le metastasi epatiche (MdC epatospecifico e DWI), metastasi cerebrali, ossee e nel visualizzare i tumori pancreatici (specie ipovascolari).



RM

La Rm è superiore nel visualizzare le metastasi epatiche (MdC epatospecifico e DWI),



Extra – pancreatic NET

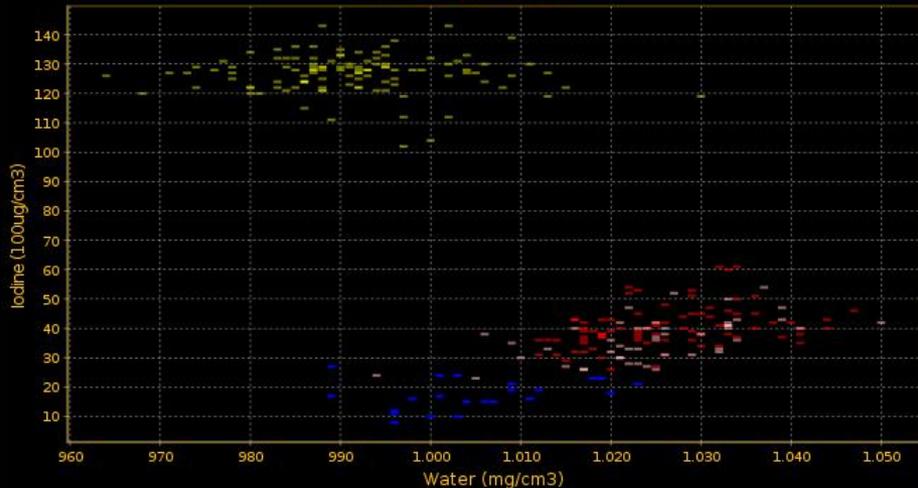
(67%) of all GEP-NET

Localizing the ileal implants could be challenging because of their small dimensions

Multifocal presentation is in 26-40% of cases.

Scatterplot GSI

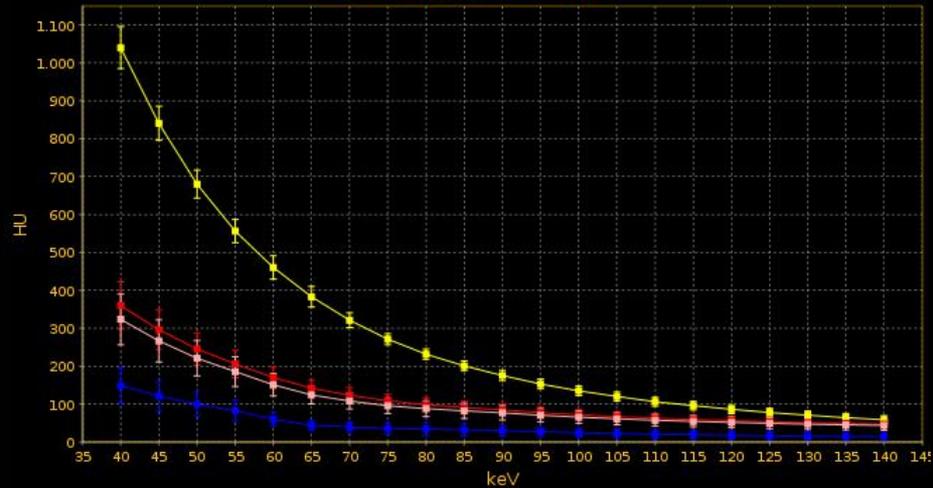
Ex: 29 mar 2018



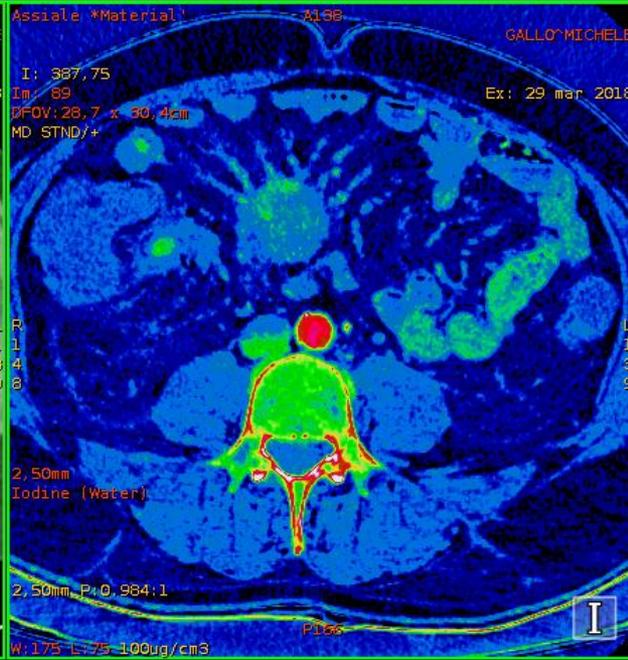
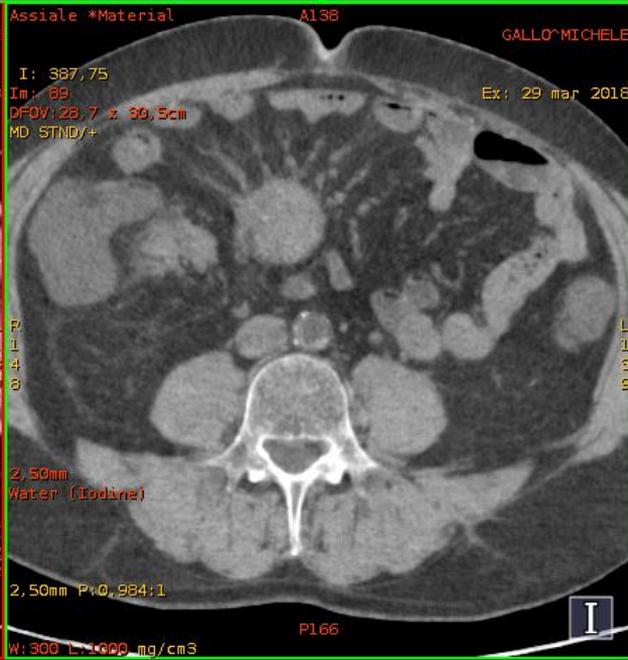
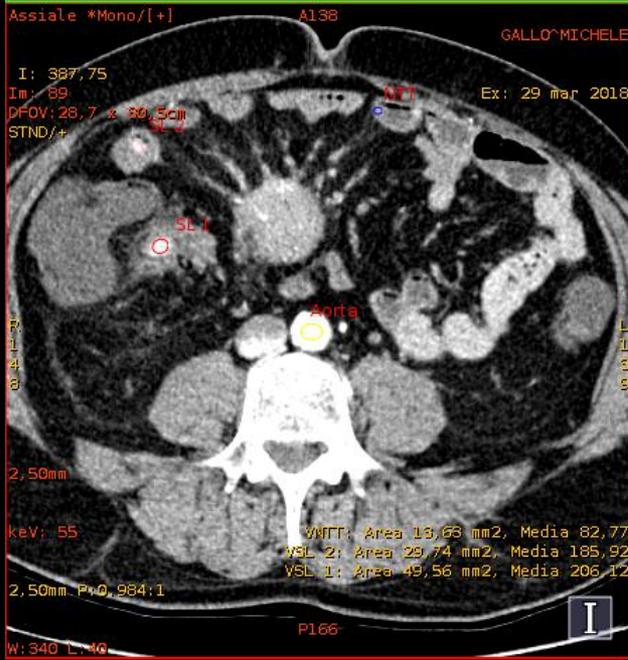
NTT · SL 2 · SL 1 · Aorta

Curva spettrale HU

Ex: 29 mar 2018

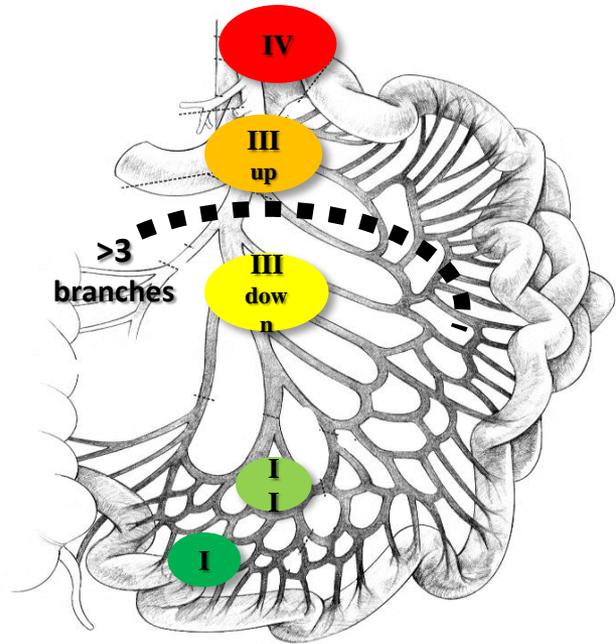
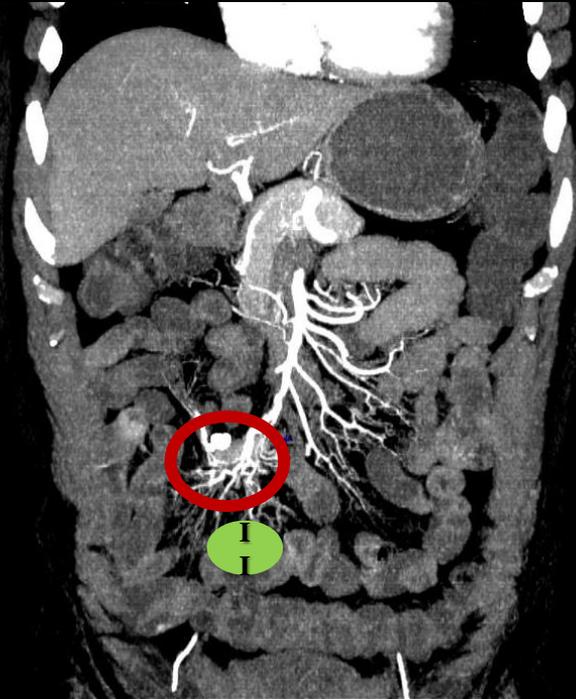


· NTT · SL 2 · SL 1 · Aorta

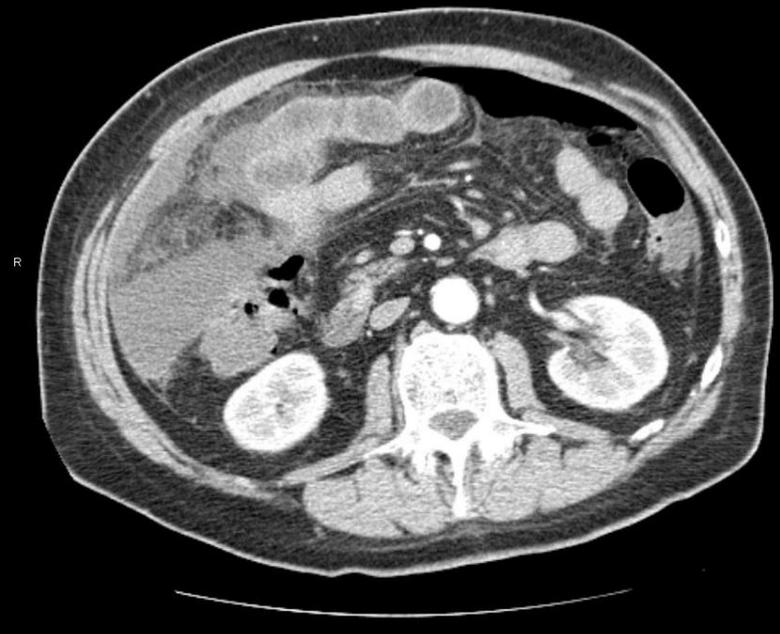
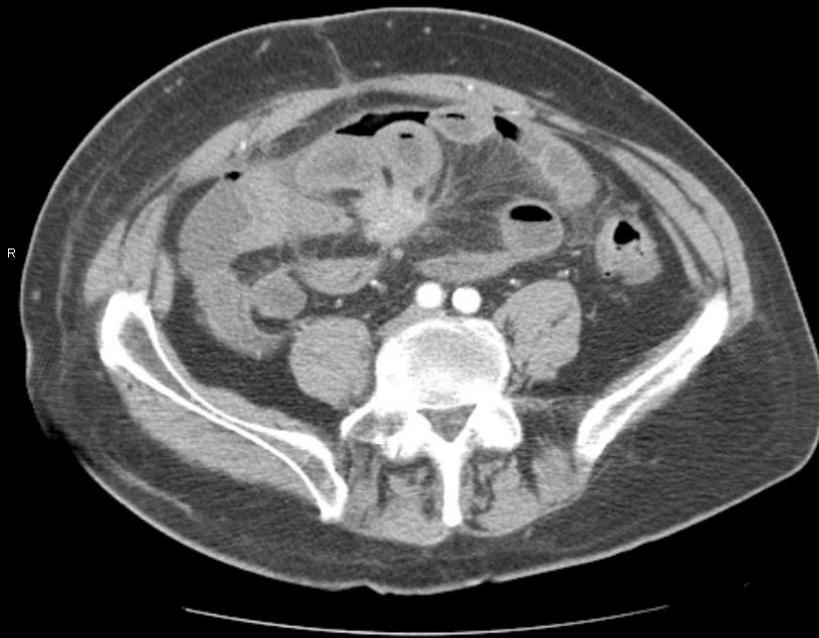


Extra – pancreatic NET

T2
9 or more
branches
left



Mesenteric retraction & peritoneal carcinomatosis



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