

APPROPRIATEZZA DELL'IMAGING NELLA STADIAZIONE E VALUTAZIONE DELLA RISPOSTA DOPO TRATTAMENTO CHEMIO-RADIOTERAPICO NEOADIUVANTE NEI TUMORI ESOFAGEI LOCALMENTE AVANZATI

IMAGING FUNZIONALE

Chieti, 23-24 febbraio 2017

Rocco Mazza

UOC Medicina Nucleare

Policlinico Universitario SS. Annunziata -
Chieti



PET-TC NEI TUMORI DELL'ESOFAGO

- ✓ **Stadiazione**
- ✓ **Pianificazione del trattamento RT**
- ✓ **Valutazione risposta al trattamento CRT**
- ✓ **Ristadiazione**

PET-TC NEI TUMORI DELL'ESOFAGO

✓ **Stadiazione**

✓ Pianificazione del trattamento RT

✓ **Valutazione risposta al trattamento CRT**

✓ Ristadiazione

STADIAZIONE

**Scelta del tipo di trattamento dei pz con tumore
esofageo**

**(chirurgia - CRT neoadiuvante + chirurgia - CT palliativa)
è strettamente legato allo stadio di malattia**

**Per impostare il trattamento più adeguato e migliorare
la**

**prognosi è pertanto fondamentale un'accurata
stadiazione,**

che richiede un approccio multidisciplinare

STADIAZIONE

Positron
Emission
Tomography

STADIAZIONE

Positron

Emission

Tracers



STADIAZIONE

Positron Emission Tracers

18F-FDG

18F/11C-COLINA

18F-DOPA

18F-MISO

68Ga-DOTANOC

68Ga-DOTATOC

68Ga-DOTATATE

STADIAZIONE

Positron Emission Tracers

18F-FDG

18F/11C-COLINA

18F-DOPA

18F-MISO

68Ga-DOTANOC

68Ga-DOTATOC

68Ga-DOTATATE

STADIAZIONE

Positron Emission Tracers



18F-FDG

Nella pratica clinica:

per elevata attività
metabolica di entrambi
gli istotipi

(ADC e Squamoso)

STADIAZIONE

clinical practice guidelines

Annals of Oncology 27 (Supplement 5): v50-v57, 2016
doi:10.1093/annonc/mdw329

Oesophageal cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up[†]

F. Lordick¹, C. Mariette², K. Haustermans³, R. Obermannová⁴ & D. Arnold⁵ on behalf of the ESMO Guidelines Committee*

¹University Cancer Centre Leipzig, University Hospital Leipzig, Leipzig, Germany; ²Department of Digestive and Oncological Surgery, University Hospital Claude Huriez, Lille, France; ³Department of Radiation Oncology, Leuven Cancer Institute, University Hospitals Leuven, Leuven, Belgium; ⁴Clinic of Comprehensive Cancer Care, Masaryk Memorial Cancer Institute and Faculty of Medicine, Masaryk University, Brno, Czech Republic; ⁵Instituto CUF de Oncologia, Lisbon, Portugal

- ❑ "Decisions on the initial treatment approach are taken on the basis of clinical staging, which should be done with the highest degree of accuracy possible"
- ❑ "FDG-PET is particularly helpful to identify otherwise undetected distant metastases"

STADIAZIONE



National
Comprehensive
Cancer
Network®

NCCN Guidelines Version 2.2016

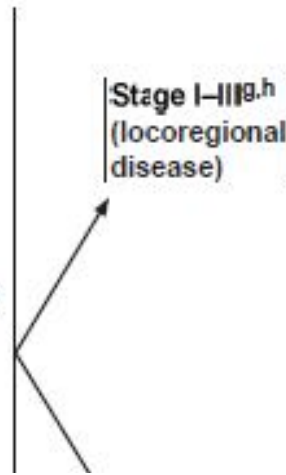
Esophageal and Esophagogastric Junction Cancers

[NCCN Guidelines Index](#)
[Esophageal/EGJ Table of Contents](#)
[Discussion](#)

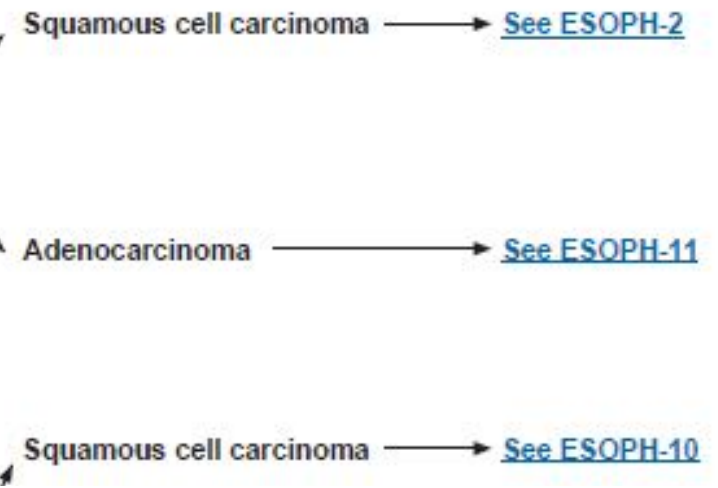
WORKUP

- H&P
- Upper GI endoscopy and biopsy^a
- Chest/abdominal CT with oral and IV contrast
- Pelvic CT with contrast as clinically indicated
- PET-CT evaluation if no evidence of M1 disease
- CBC and comprehensive chemistry profile
- Endoscopic ultrasound (EUS), if no evidence of M1 disease
- Endoscopic resection (ER) is essential for the accurate staging of early-stage cancers (T1a or T1b)^{a,b}
- Biopsy of metastatic disease as clinically indicated
- HER2-neu testing if metastatic adenocarcinoma is documented/suspected^c
- Bronchoscopy, if tumor is at or above the carina

CLINICAL STAGE^g



HISTOLOGIC CLASSIFICATION^f



**RACCOMANDATA PER STADIAZIONE DI PZ
CON
IMAGING CONVENZIONALI E NEGATIVO PER**

STADIAZIONE

HTA REPORT

FDG-PET/CT for cancer staging

The HTA document ([ASSR 2011](#)) concluded that

- the use of FDG-PET in staging patients with esophageal cancer for regional lymph nodes, in replacement of endoscopic ultrasonography is uncertain. The level of evidence for diagnostic accuracy of FDG-PET is very low, with heterogeneous estimates for both sensitivity and specificity.
- the use of FDG-PET in staging patients with esophageal cancer for distant metastasis is appropriate. Level of evidence for diagnostic accuracy of FDG-PET was judged moderate with FDG-PET performing better than CT.

STADIAZIONE



- stadiazione M di pa
Appropriato (livello

**RACCOMANDATA PER
STADIAZIONE DI PZ CON
IMAGING CONVENZIONALE
NEGATIVO PER MTS**

STADIAZIONE

T:

FDG PET non accurata nel definire estensione del T (in particolare T1 e T2) ridotta risoluzione spaziale

European Journal of Radiology 81 (2012) 21–30



Contents lists available at ScienceDirect

European Journal of Radiology

journal homepage: www.elsevier.com/locate/ejrad



Review

Extended staging of oesophageal cancer using FDG-PET – A critical appraisal

Maria Cristina Marzola^{a,*}, Giovanni De Manzoni^b, Gaia Grassetto^a, Claudio Cordiano^b, Adil Al-Nahhas^c, Abass Alavi^d, Domenico Rubello^{a,**}



© Academy of Molecular Imaging, 2005
Published Online: 4 November 2005

Mol Imaging Biol (2005) 7:422–430
DOI: 10.1007/s11307-005-0017-0

ORIGINAL ARTICLE

Comparison of Positron Emission Tomography, Computed Tomography, and Endoscopic Ultrasound in the Initial Staging of Patients with Esophageal Cancer

Val J. Lowe, MD,^{1,2} Fargol Booya, MD,¹ J. G. Fletcher, MD,¹ Mark Nathan, MD,¹ Eric Jensen, MD,¹ Brian Mullan, MD,¹ Eric Rohren, MD, PhD,¹ Maurits J. Wiersema, MD,² Enrique Vazquez-Sequeiros, MD,² Joseph A. Murray, MD,² Mark S. Allen, MD,³ Michael J. Levy, MD,² Jonathan E. Clain, MD²

J Gastrointest Oncol 2015;6(1):3-19

State-of-the-art molecular imaging in esophageal cancer management: implications for diagnosis, prognosis, and treatment

Jolinta Lin¹, Seth Kligerman², Rakhi Goel³, Payam Sajedi², Mohan Suntharalingam¹, Michael D. Chuong¹

STADIAZIONE

N:

➤ Valori di accuratezza nelle
varie casistiche oscillano
tra 45 e 84%

European Journal of Radiology 81 (2012) 21–30



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VOLUME 22 · NUMBER 18 · SEPTEMBER 15 2004

JOURNAL OF CLINICAL ONCOLOGY

REVIEW ARTICLE

Systematic Review of the Staging Performance of
¹⁸F-Fluorodeoxyglucose Positron Emission Tomography
in Esophageal Cancer

H.L. van Westreenen, M. Westerterp, P.M.M. Bossuyt, J. Pruijm, G.W. Sloof, J.J.B. van Lanschot,
H. Groen, and J.Th.M. Plukker

STADIAZIONE

N:

➤ Valori di accuratezza nelle
varie casistiche oscillano
tra 45 e 84%

➤ **Bassa accuratezza per LFN locoregionali vicini al T
(la cui captazione può essere mascherata da quella del
T)
può non distinguere N0 da N1**

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➤ Valori di accuratezza nelle varie casistiche oscillano tra 45 e 84%

➤ Bassa accuratezza per LFN locoregionali vicini al T (la cui captazione può essere mascherata da quella del T)

➤ può non distinguere N0 da N1

➤ Elevata accuratezza per LFN distanti dal T (che possono

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STADIAZIONE

Staging investigations for oesophageal cancer: a meta-analysis

M:

EPM van Vliet^{*1}, MH Heijnenbrok-Kal^{2,3}, MGM Hunink^{2,3}, EJ Kuipers^{1,4} and PD Siersema^{1,5}

- Fondamentale per escludere mts a distanza ed evitare chirurgia non necessaria (valori di accuratezza più elevati rispetto CT - sensibilità 80% specificità 90%)

Clinical Radiology xxx (2014) e1–e15



ELSEVIER

Contents lists available at ScienceDirect

Clinical Radiology

journal homepage: www.clinicalradiologyonline.net



Pictorial Review

Imaging of oesophageal cancer with FDG-PET/CT and MRI

P.S.N. van Rossum^{a,b}, A.L.H.M.W. van Lier^b, I.M. Lips^b, G.J. Meijer^b,
O. Reerink^b, M. van Vulpen^b, M.G.E.H. Lam^c, R. van Hillegersberg^a,
J.P. Ruurda^{a,*}

STADIAZIONE

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➤ Fondamentale per escludere mts a distanza ed evitare
chirurgia non necessaria (valori di accuratezza più
elevati

rispetto CT - sensibilità 80% specificità 90%)

➤ Permette di identificare
nel

5-30% pz, con conseguenti
cambiamento di stadio,
trattamento e prognosi

Clinical Radiology xxx (2014) e1–e15

Contents lists available at ScienceDirect

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J.P. Ruurda^{a,*}



STADIAZIONE

Permette di **identificare**
tumori primitivi sincroni

(stomaco, colon-retto, testa-collo, polmone)
nel 2-6% pz

Clinical Radiology xxx (2014) e1–e15



ELSEVIER

Contents lists available at ScienceDirect

Clinical Radiology

journal homepage: www.clinicalradiologyonline.net

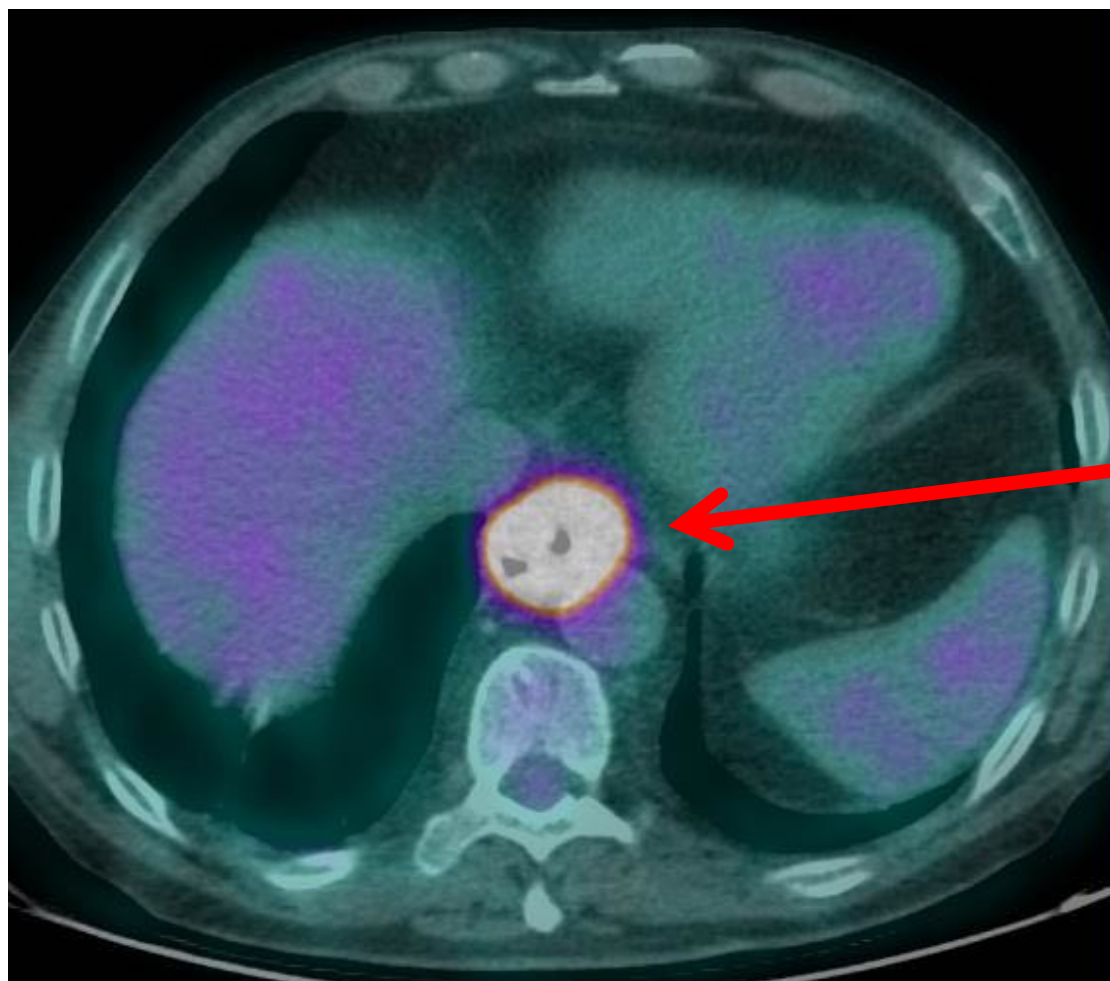


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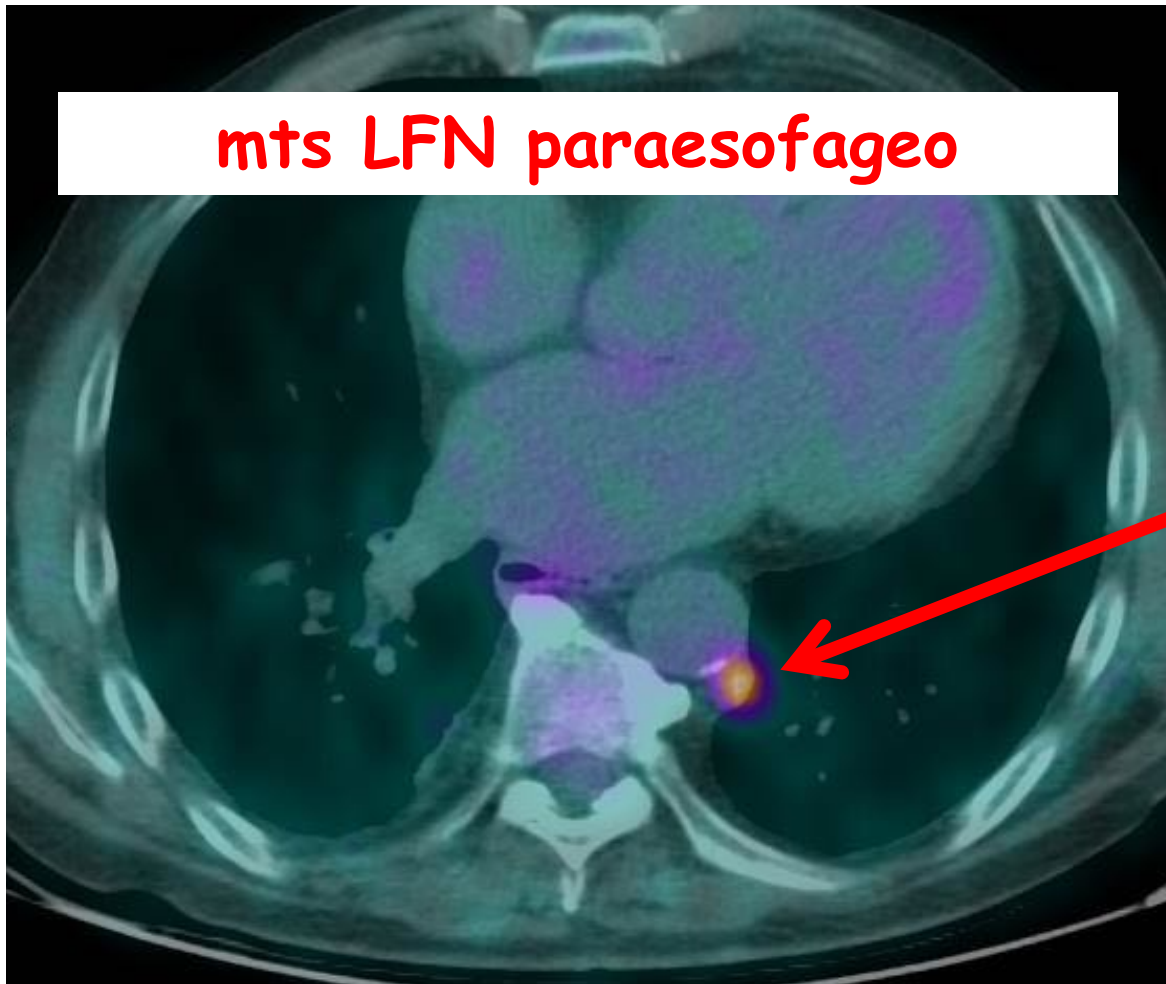
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O. Reerink^b, M. van Vulpen^b, M.G.E.H. Lam^c, R. van Hillegersberg^a,
J.P. Ruurda^{a,*}

**CASO 1
STADIAZIONE**



CASO 1

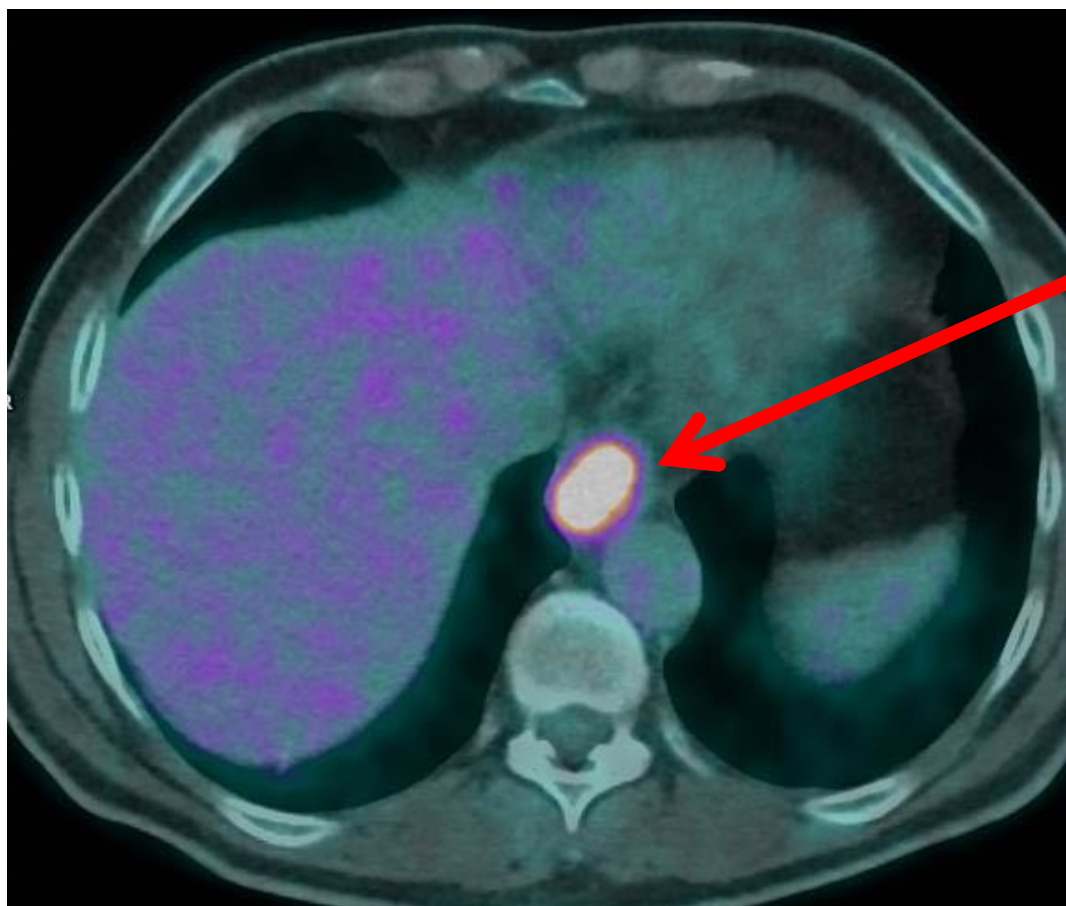
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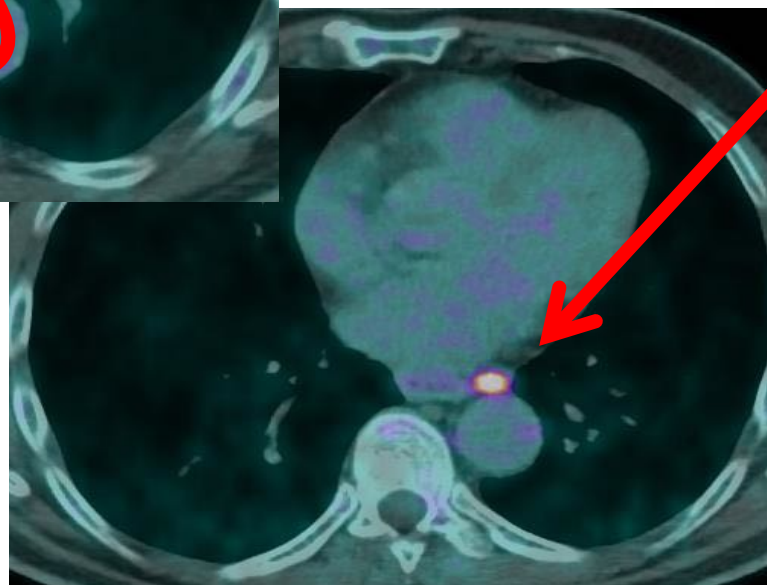
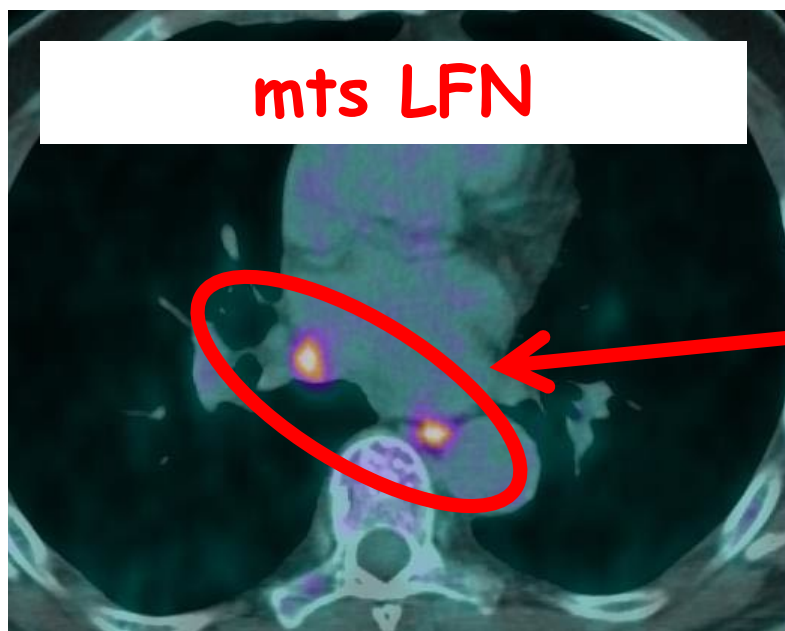
CASO 1
STADIAZIONE



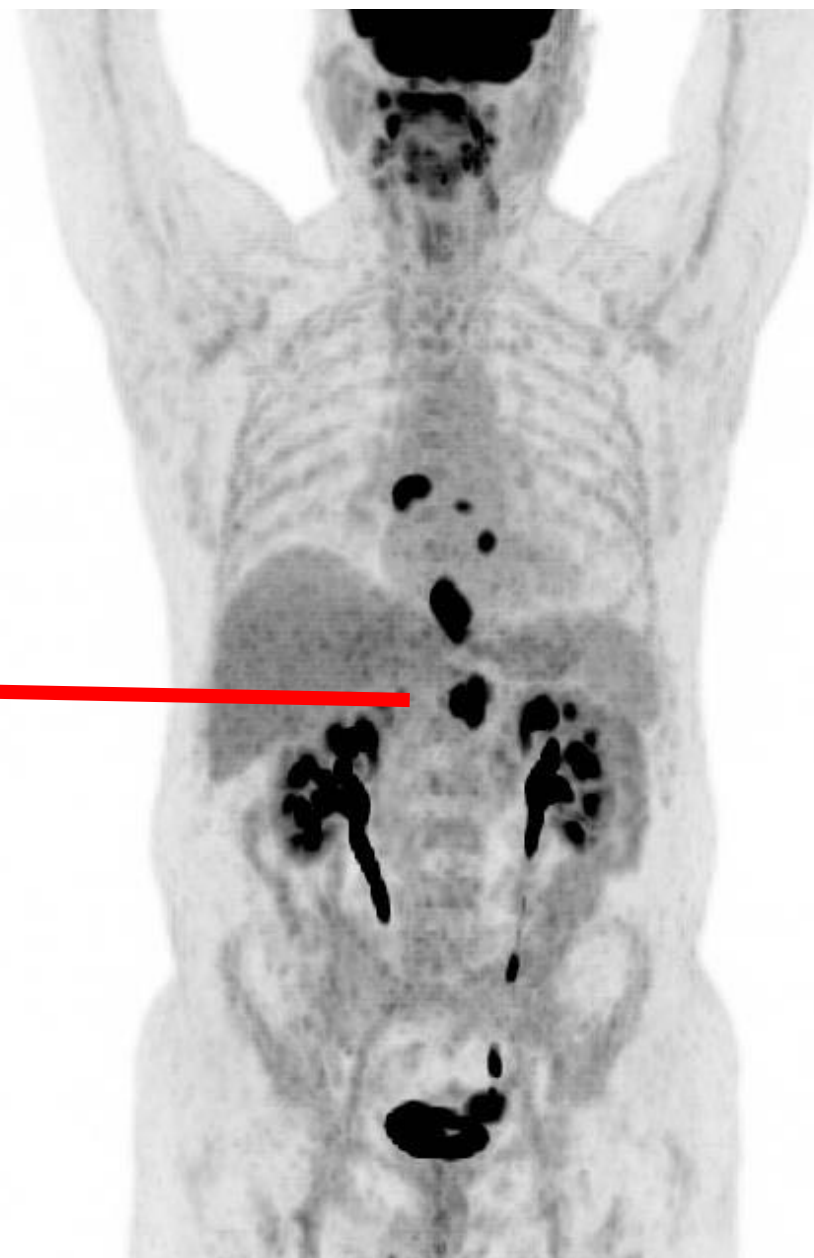
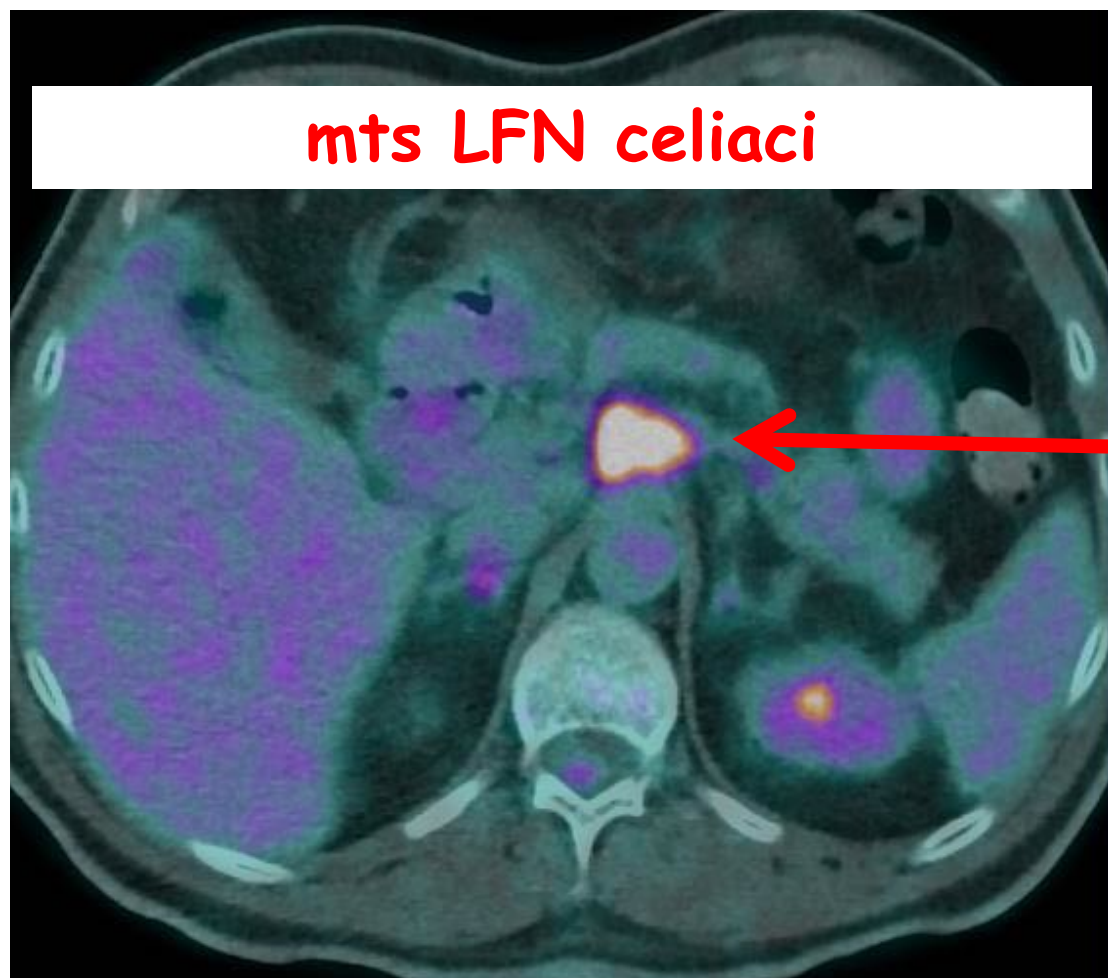
CASO 2
STADIAZIONE



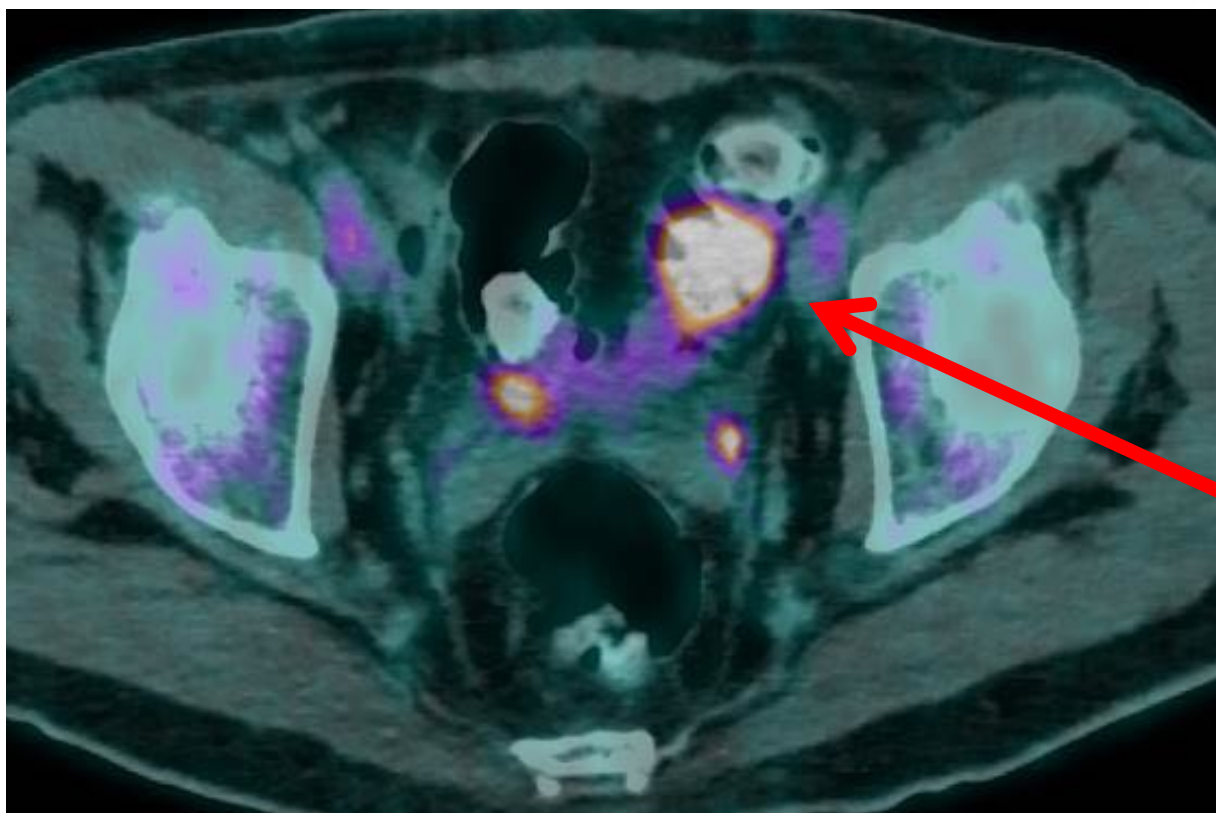
CASO 2
STADIAZIONE



CASO 2
STADIAZIONE

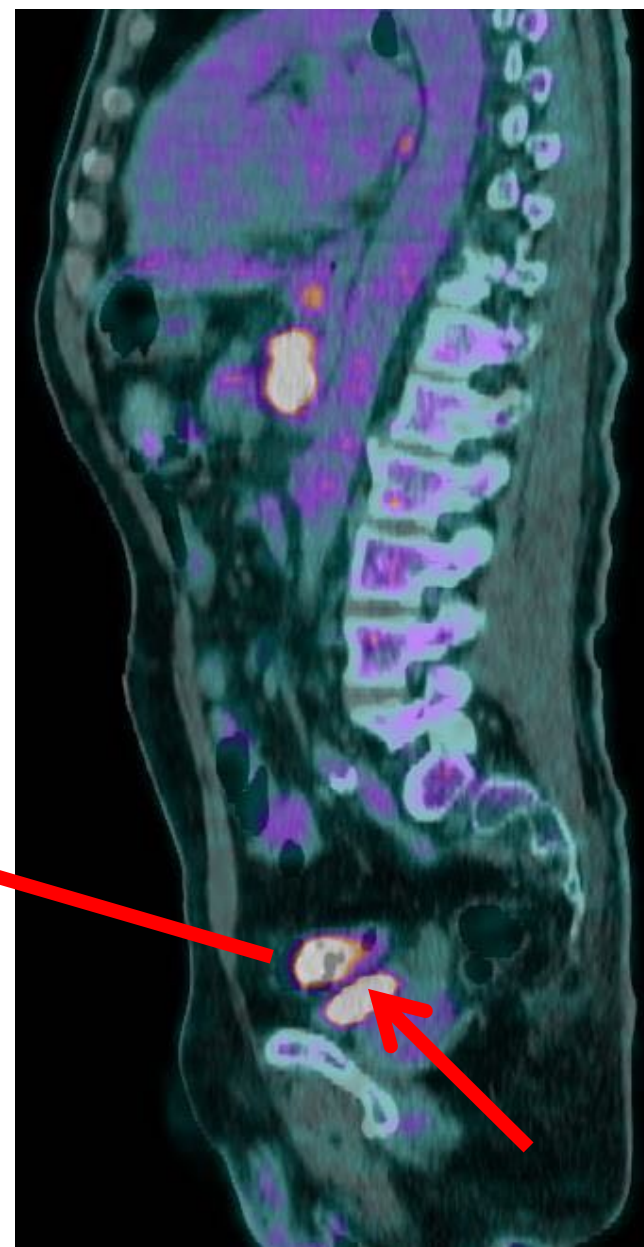
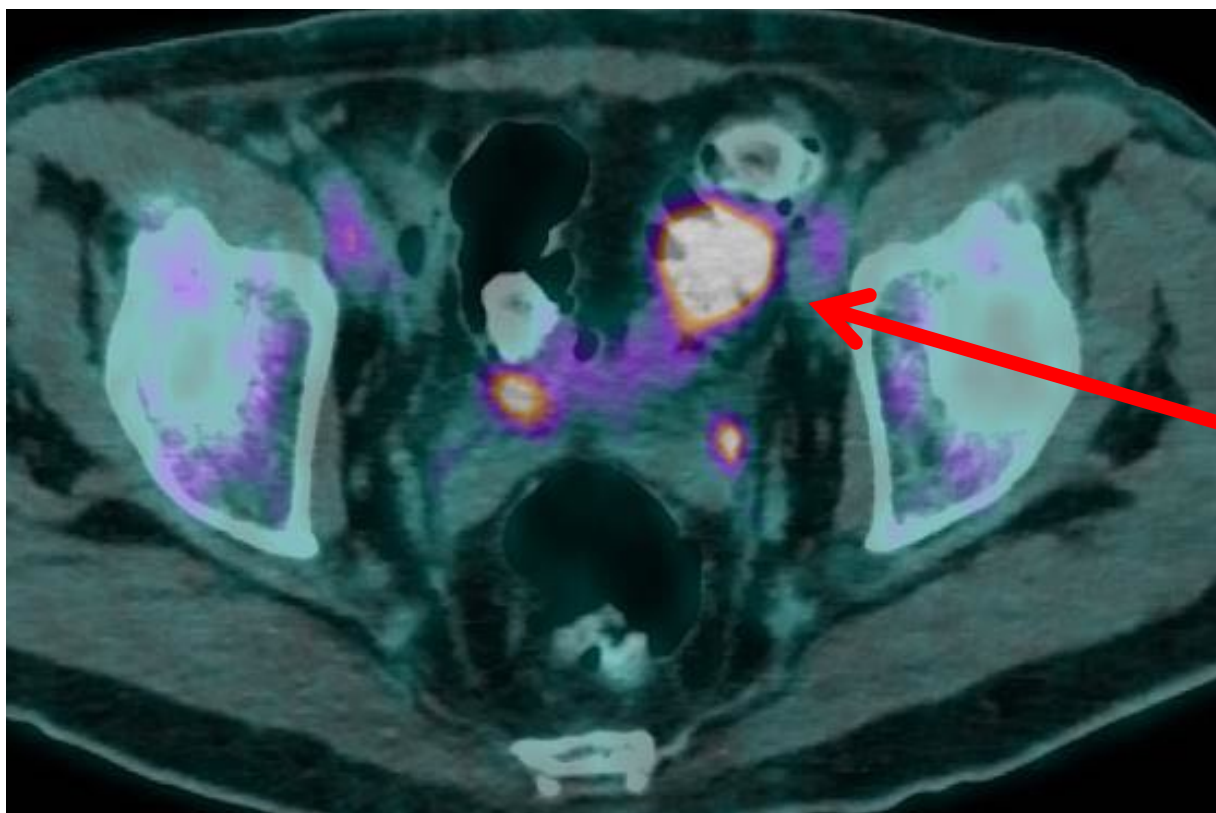


CASO 2
STADIAZIONE



CASO 3
STADIAZIONE

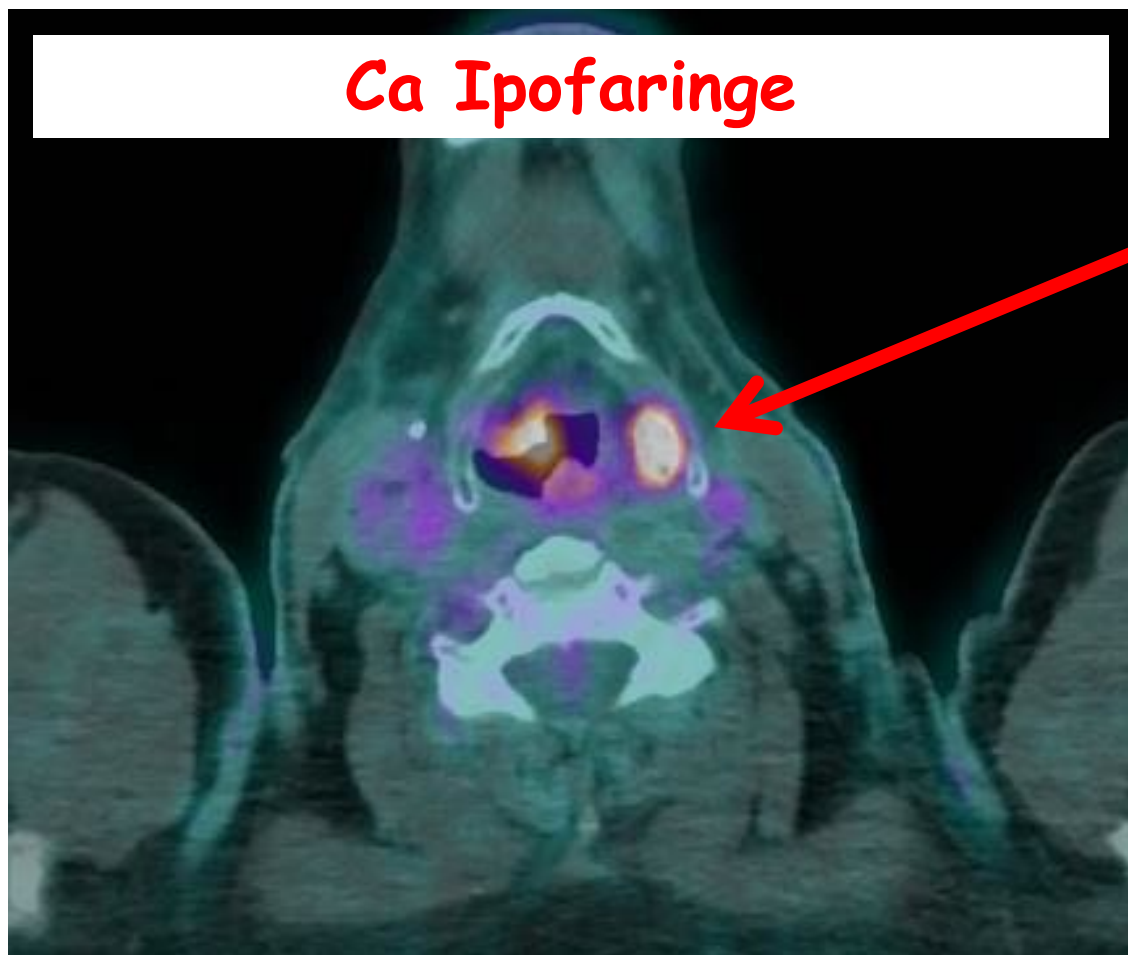
ADC sigma



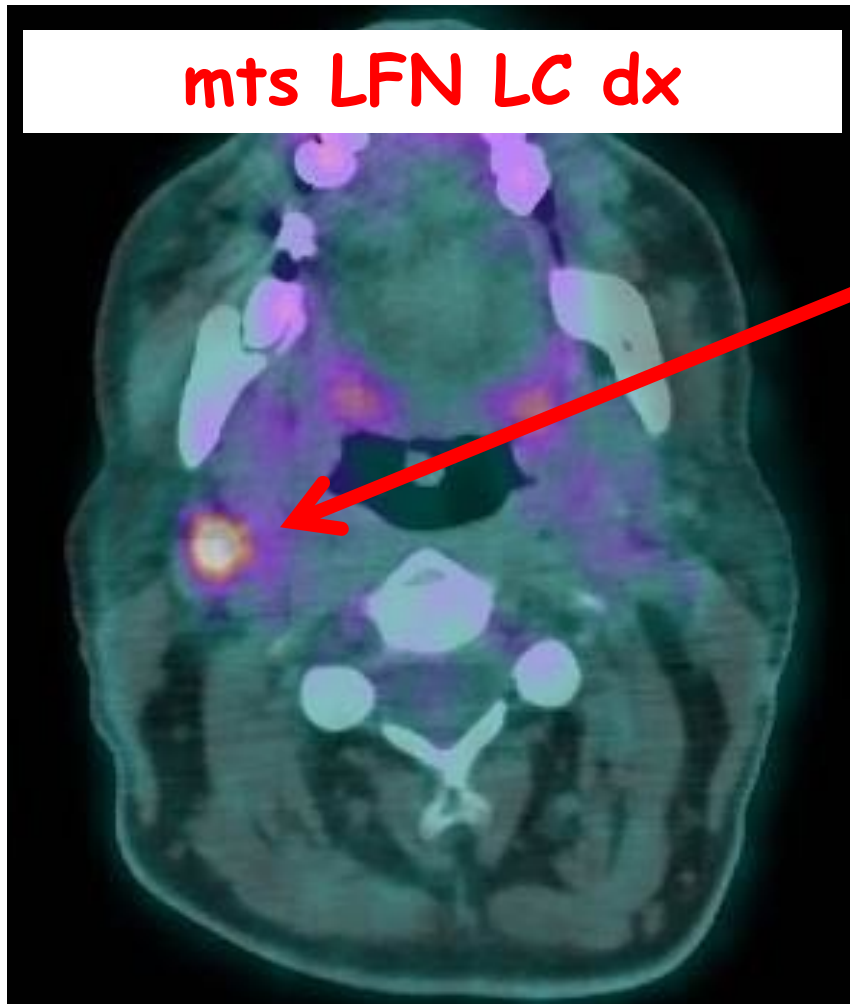
CASO 3
STADIAZIONE



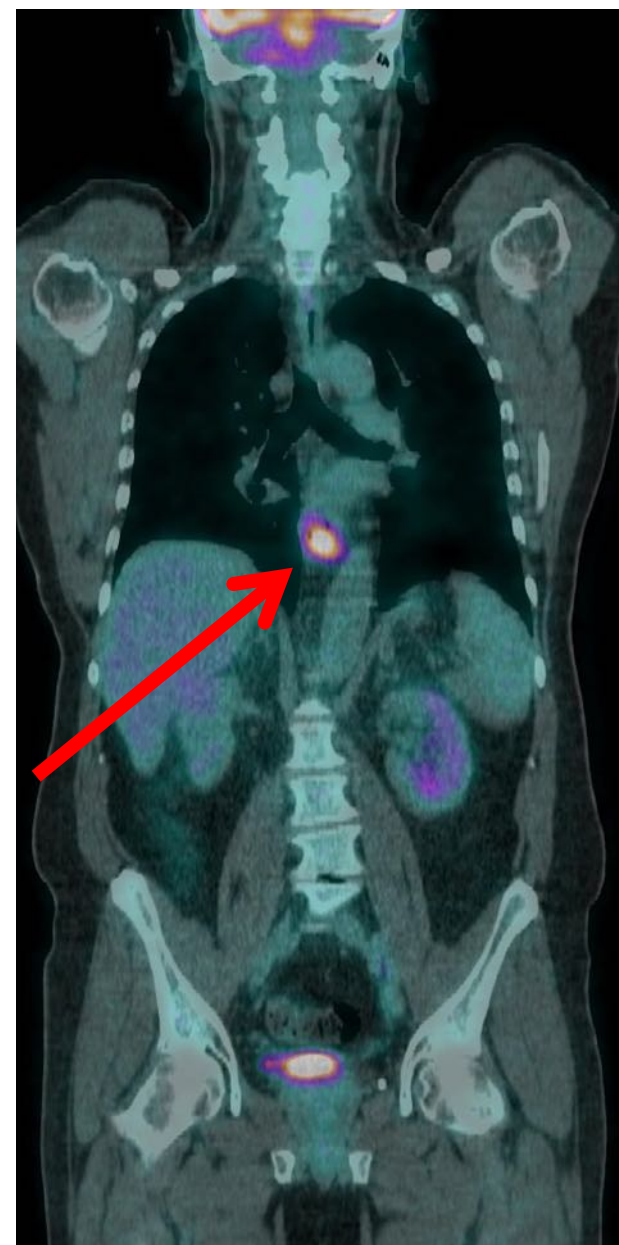
CASO 3
STADIAZIONE



CASO 3
STADIAZIONE



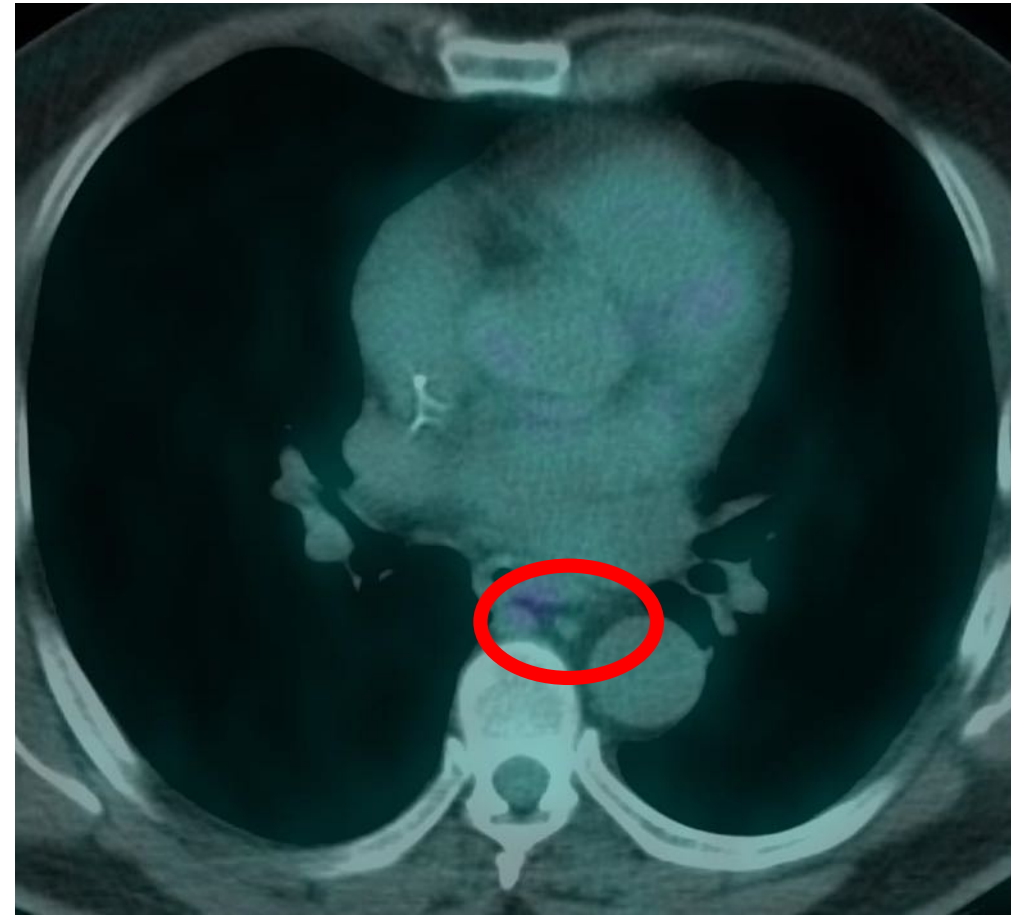
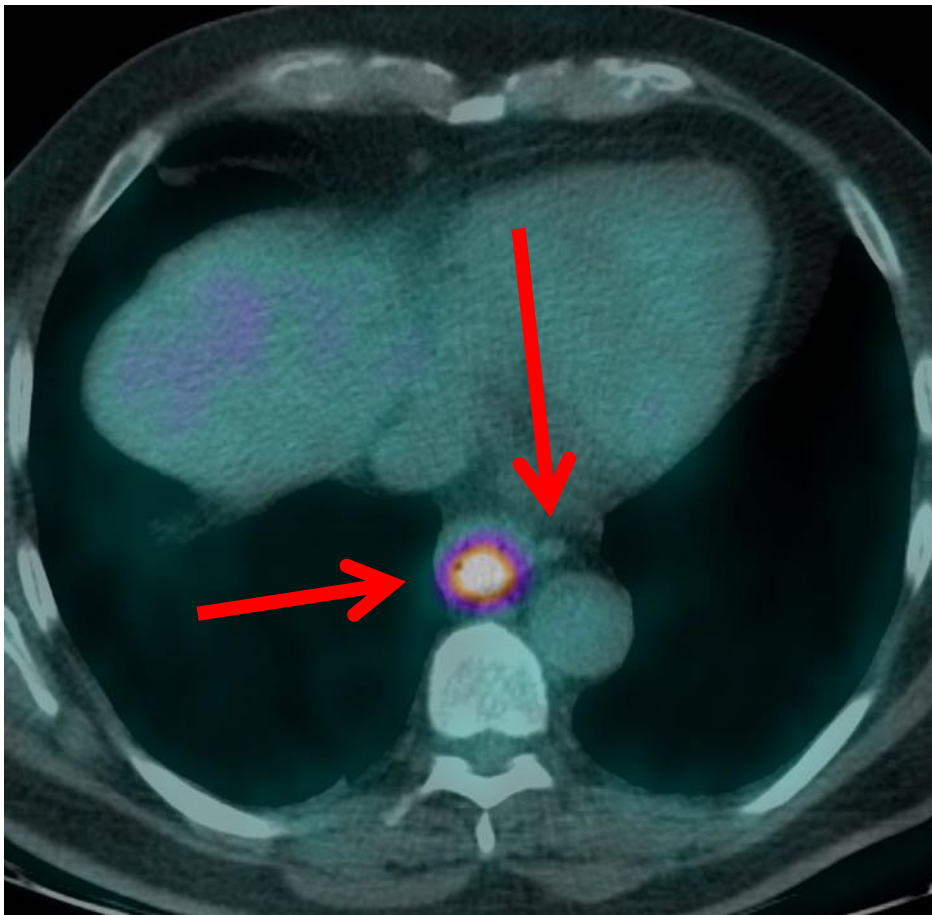
CASO 4
STADIAZIONE



CASO 4

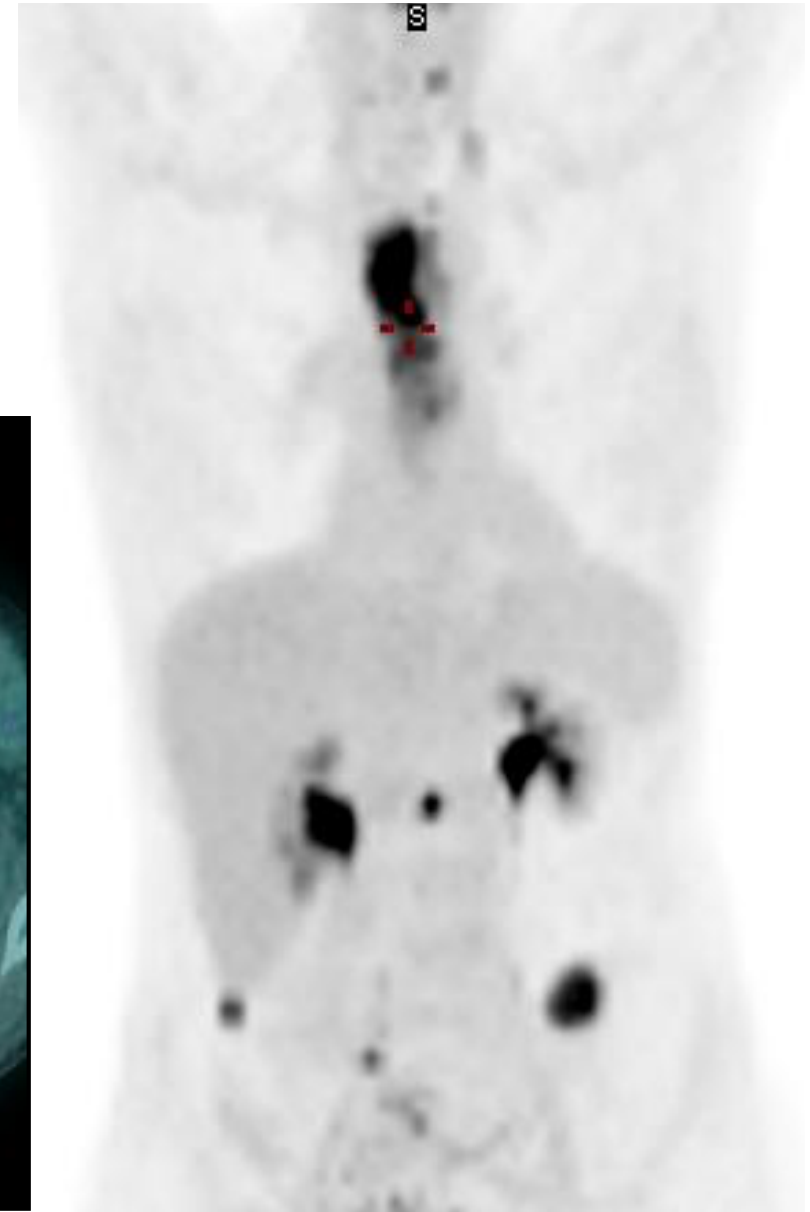
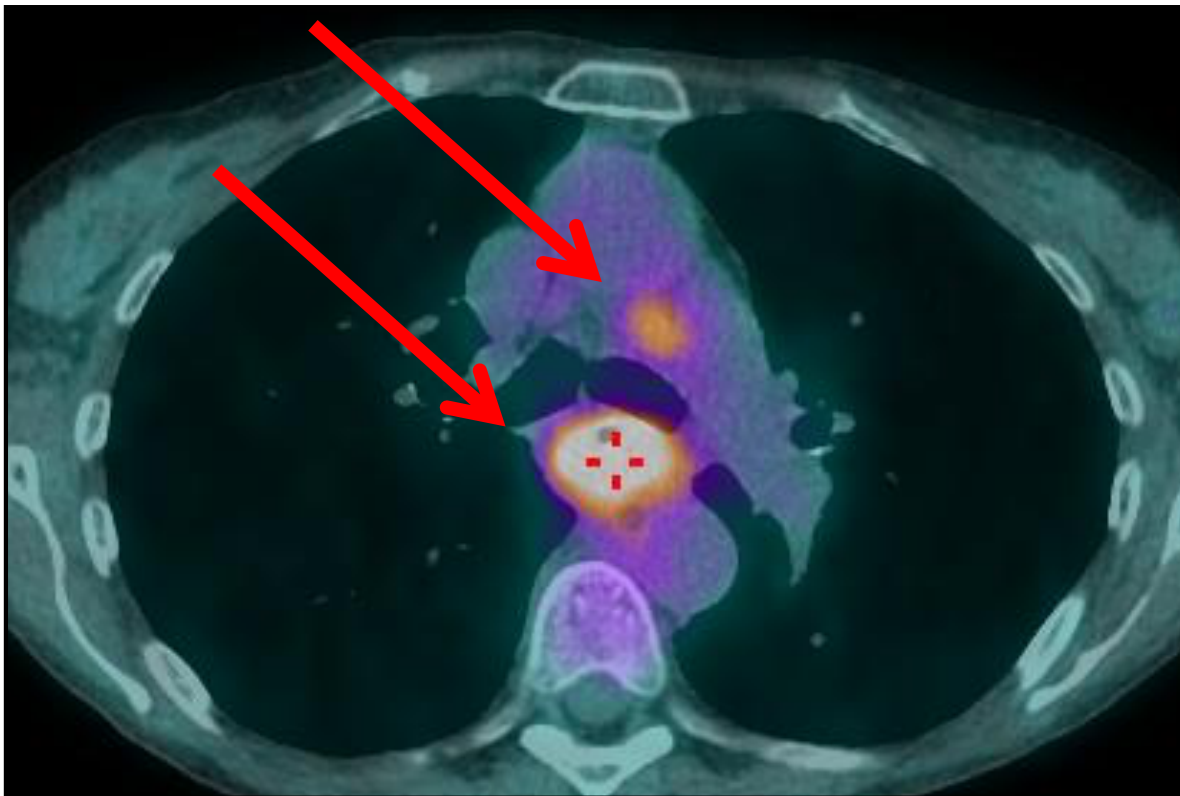
STADIAZIONE

LFN locoregionali piccoli non captanti FDG



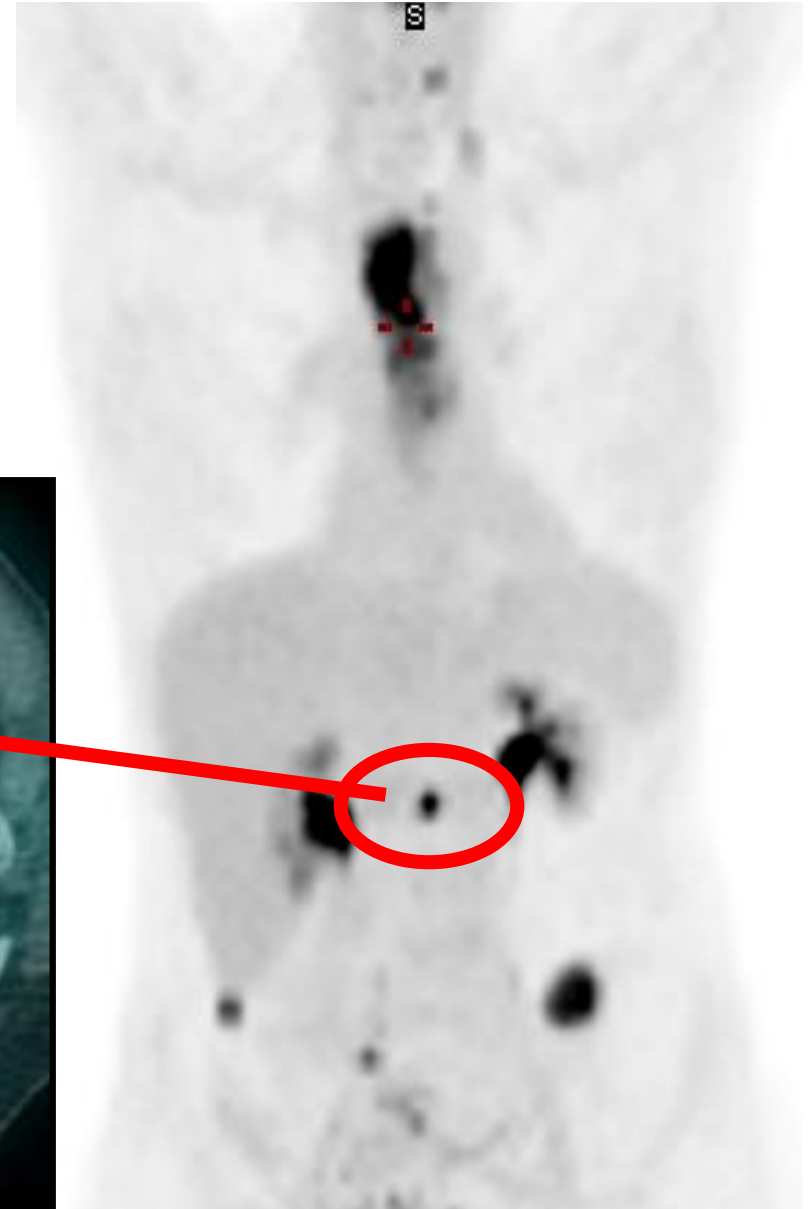
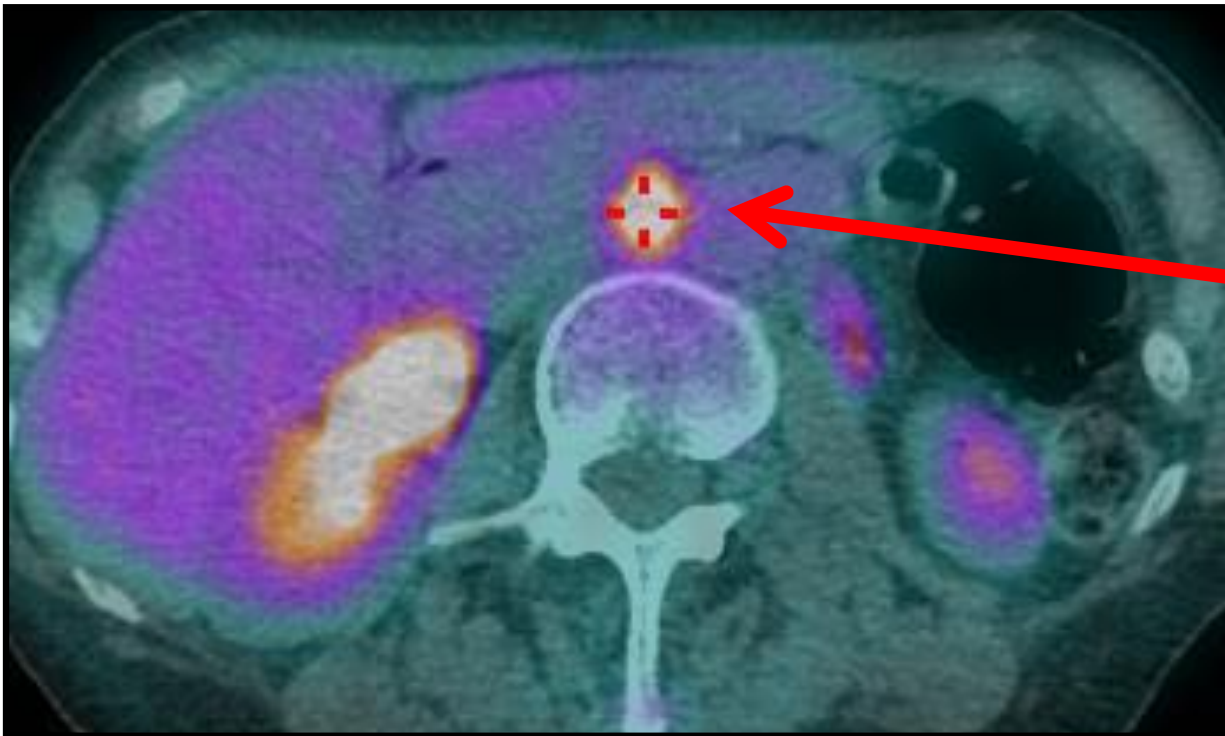
CASO 5
STADIAZIONE

Neoformazione con mts LFN



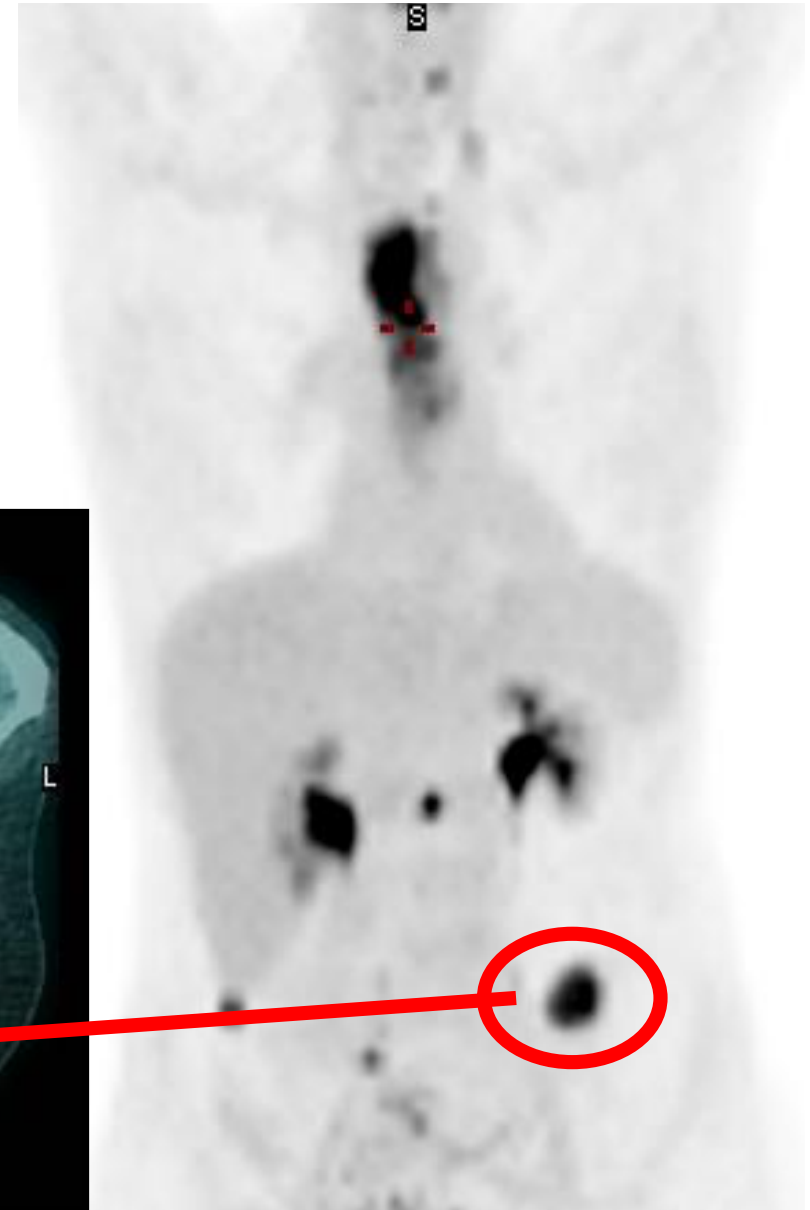
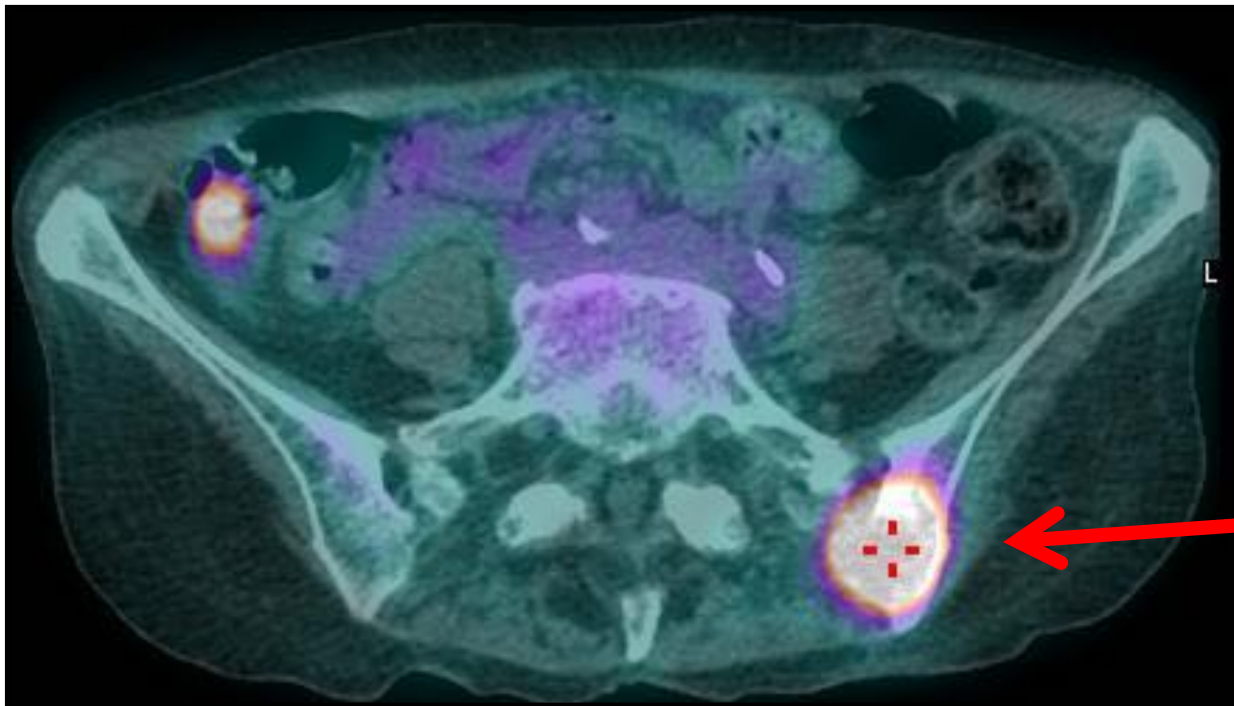
CASO 5
STADIAZIONE

mts LFN celiaci



CASO 5
STADIAZIONE

mts ossea



VALUTAZIONE RISPOSTA CRT

- **Fondamentale identificare precocemente i responders al trattamento CRT neoadiuvante**
- **Limitate e controverse evidenze sul ruolo FDG PET nel predire la risposta al trattamento**

JAMA Surg. 2015;150(6):555-562. doi:10.1001/jamasurg.2014.3867
Published online April 22, 2015.

Role of Repeat ¹⁸F-Fluorodeoxyglucose Positron Emission Tomography Examination in Predicting Pathologic Response Following Neoadjuvant Chemoradiotherapy for Esophageal Adenocarcinoma

Moshim Kukar, MD, Raed M. Alragi, MD, Feras Jabr, MD, Timothy A. Rutz, DO, Kristopher Attwood, PhD, Hector Nava, MD, Kfir Ben-David, MD, David Mattson, MD, Kilian Salerno, MD, Usha Malhotra, MD, Kazunori Kanehira, MD, James Gannon, MD, Steven N. Hochwald, MD

Clinical tools to predict outcomes in patients with esophageal cancer treated with definitive chemoradiation: are we there yet?

Abraham J. Wu, Karyn A. Goodman

J Gastrointest Oncol 2015;6(1):53-59

Journal of Nuclear Medicine, published on January 21, 2016 as doi:10.2967/jnumed.115.163766

The incremental value of subjective and quantitative assessment of ¹⁸F-FDG PET for the prediction of pathologic complete response to preoperative chemoradiotherapy in esophageal cancer.

Authors: Peter S.N. van Rossum^{1,2}, David V. Fried^{3,4}, Lifei Zhang³, Wayne L. Hofstetter⁵, Marco van Vulpen², Gert J. Meijer², Laurence E. Court³, Steven H. Lin¹.

J Gastrointest Surg (2014) 18:894-905
DOI 10.1007/s11605-014-2488-2

ORIGINAL ARTICLE

A Systematic Review of the Predictive Value of ¹⁸FDG-PET in Esophageal and Esophagogastric Junction Cancer After Neoadjuvant Chemoradiation on the Survival Outcome Stratification

Pascaline Schollaert • Ralph Crott • Claude Bertrand • Lionel D'Hondt • Thierry Vander Borghet • Bruno Krug

Journal of Cancer 2015, Vol. 6



Review

Predicting the Response of Neoadjuvant Therapy for Patients with Esophageal Carcinoma: an In-depth Literature Review

Chang-Juan Tao¹, Gang Lin², Ya-Ping Xu^{1,3}, Wei-Min Mao^{2,3}

1179

Journal of Cancer
2015, 6(11): 1179-1186. doi: 10.7150/jca.12346

Review Article

Chin J Cancer Res 2015;27(3):221-230

Neoadjuvant treatment for advanced esophageal cancer: response assessment before surgery and how to predict response to chemoradiation before starting treatment

Elfriede Bollschweiler¹, Arnulf H. Hölscher¹, Matthias Schmidt², Ute Warnecke-Eberz¹

VALUTAZIONE RISPOSTA CRT

Variabilità risultati presenti in letteratura legata a diversi fattori:

- **la maggior parte degli studi sono retrospettivi**
- **coinvolgono un numero limitato di casi**
- **comprendono entrambi gli istotipi (ADC e Squamoso)**
- **variabilità nella definizione di risposta patologica (TRG 1 vs 2-3-4-5 / TRG 1-2 vs 3-4-5)**
- **ampia variabilità dell'intervallo di tempo tra le 2 FDG PET (seconda eseguita in corso o al termine del trattamento)**

VALUTAZIONE RISPOSTA CRT

Ampia variabilità nella definizione della risposta FDG
PET

➤ Valutazione Qualitativa (CR vs nCR)

J Nucl Med. 2009 May ; 50(Suppl 1): 122S–150S. doi:10.2967/jnumed.108.057307.

➤ Criteri PERCIST 1.0

From RECIST to PERCIST: Evolving Considerations for PET
Response Criteria in Solid Tumors

Richard L. Wahl^{1,2}, Heather Jacene¹, Yvette Kasamon², and Martin A. Lodge¹

➤ SUV max / medio

➤ MTV (metabolic tumor volume)

➤ TLG (total lesion glycolysis: $MTV \times SUV_{mean}$)

VALUTAZIONE RISPOSTA CRT

Ampia variabilità nella definizione della risposta FDG PET

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Parametri Funzionali utilizzati per calcolare

INDICE DI RISPOSTA (RI): variazione parametro tra PET pre-post

VALUTAZIONE RISPOSTA CRT

Ampia variabilità nella definizione della risposta FDG PET

- Valutazione Qualitativa (CR vs cCR)
 - Criteri PERCIST 1.0
 - SUV max / mean
 - MTV (metabolic tumor volume)
 - TLG (total lesion glycolysis: $MTV \times SUV_{mean}$)
- Parametri funzionali utilizzati per calcolare
INDICE DI RISPOSTA (RI): riduzione tra PET pre-post

**NECESSITA' DI STANDARDIZZARE
LA VALUTAZIONE DELLA
RISPOSTA METABOLICA**

VALUTAZIONE RISPOSTA CRT

Limiti legati al SUV:

- **Attività somministrata**
- **Peso del Pz**
- **Tempo intercorso tra iniezione e acquisizione**
- **Glicemia**
- **Caratteristiche del tomografo PET**

VALUTAZIONE RISPOSTA CRT

2 SUV realmente confrontabili se:

- **Stessa attività FDG somministrata al pz**
- **Stesso peso del pz tra prima e seconda acquisizione**
- **Stesso tempo di attesa iniezione/acquisizione**
- **Stessa glicemia prima delle due somministrazioni FDG**
- **Stesso tomografo PET**

VALUTAZIONE RISPOSTA CRT

- **La maggior parte degli studi dimostra correlazione tra risposta metabolica e risposta patologica**
- **FDG PET sembra utile nel predire risposta al trattamento CRT neoadiuvante e distinguere responders da non responders, sia precocemente (in corso di trattamento CRT - valutazione "early" a 2 settimane dall'inizio) sia al termine**

VALUTAZIONE RISPOSTA CRT

Al momento no evidenze per modificare management terapeutico in base ai risultati della FDG PET.
In particolare **no evidenze per evitare chirurgia nei pz con risposta metabolica completa.**

JAMA Surg. 2015;150(6):555-562. doi:10.1001/jamasurg.2014.3867
Published online April 22, 2015.

Role of Repeat ¹⁸F-Fluorodeoxyglucose Positron Emission Tomography Examination in Predicting Pathologic Response Following Neoadjuvant Chemoradiotherapy for Esophageal Adenocarcinoma

Moshim Kukar, MD; Raed M. Alragi, MD; Feras Jabr, MD; Timothy A. Rutz, DO; Kristopher Attwood, PhD; Hector Nava, MD; Kfir Ben-David, MD; David Mattson, MD; Kilian Salerno, MD; Usha Malhotra, MD; Kazunori Kanehira, MD; James Gannon, MD; Steven N. Hochwald, MD

Clinical tools to predict outcomes in patients with esophageal cancer treated with definitive chemoradiation: are we there yet?

Abraham J. Wu, Karyn A. Goodman

J Gastrointest Oncol 2015;6(1):53-59

J Gastrointest Surg (2014) 18:894-905
DOI 10.1007/s11605-014-2488-2

ORIGINAL ARTICLE

A Systematic Review of the Predictive Value of ¹⁸FDG-PET in Esophageal and Esophagogastric Junction Cancer After Neoadjuvant Chemoradiation on the Survival Outcome Stratification

Pascaline Schollaert · Ralph Crott · Claude Bertrand · Lionel D'Hondt · Thierry Vander Borgh · Bruno Krug

Journal of Cancer 2015, Vol. 6



Review

Predicting the Response of Neoadjuvant Therapy for Patients with Esophageal Carcinoma: an In-depth Literature Review

Chang-Juan Tao¹, Gang Lin², Ya-Ping Xu^{1,3}, Wei-Min Mao^{2,3}

1179

Journal of Cancer
2015, 6(11): 1179-1186. doi: 10.7150/jca.12346

Journal of Nuclear Medicine, published on January 21, 2016 as doi:10.2967/jnumed.115.163766

The incremental value of subjective and quantitative assessment of ¹⁸F-FDG PET for the prediction of pathologic complete response to preoperative chemoradiotherapy in esophageal cancer.

Authors: Peter S.N. van Rossum^{1,2}, David V. Fried^{3,4}, Lifei Zhang³, Wayne L. Hofstetter⁵, Marco van Vulpen², Gert J. Meijer², Laurence E. Court³, Steven H. Lin¹.

Review Article

Chin J Cancer Res 2015;27(3):221-230

Neoadjuvant treatment for advanced esophageal cancer: response assessment before surgery and how to predict response to chemoradiation before starting treatment

Elfriede Bollschweiler¹, Arnulf H. Hölscher¹, Matthias Schmidt², Ute Warnecke-Eberz¹

VALUTAZIONE RISPOSTA CRT

clinical practice guidelines

Annals of Oncology 27 (Supplement 5): v50-v57, 2016
doi:10.1093/annonc/mdw329

Oesophageal cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up[†]

F. Lordick¹, C. Mariette², K. Haustermans³, R. Obermannová⁴ & D. Arnold⁵ on behalf of the ESMO Guidelines Committee*

¹University Cancer Centre Leipzig, University Hospital Leipzig, Leipzig, Germany; ²Department of Digestive and Oncological Surgery, University Hospital Claude Huriez, Lille, France; ³Department of Radiation Oncology, Leuven Cancer Institute, University Hospitals Leuven, Leuven, Belgium; ⁴Clinic of Comprehensive Cancer Care, Masaryk Memorial Cancer Institute and Faculty of Medicine, Masaryk University, Brno, Czech Republic; ⁵Instituto CUF de Oncologia, Lisbon, Portugal

age.n.a.s. AGENZIA NAZIONALE PER I SERVIZI SANITARI REGIONALI

HTA REPORT

FDG-PET/CT for cancer staging

September 2012



National Comprehensive Cancer Network®

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

Esophageal and Esophagogastric Junction Cancers

Version 2.2016

NCCN.org

NCCN Guidelines for Patients® available at www.nccn.org/patients

Agenzia sanitaria e sociale regionale

Regione Emilia-Romagna
SERVIZIO SANITARIO REGIONALE EMILIA-ROMAGNA

ISSN 1591-223X
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209-2011

Criteria for appropriate use of FDG-PET in esophageal cancer

VALUTAZIONE RISPOSTA CRT

clinical practice guidelines

Annals of Oncology 27 (Supplement 5): v50-v57, 2016
doi:10.1093/annonc/mdw329

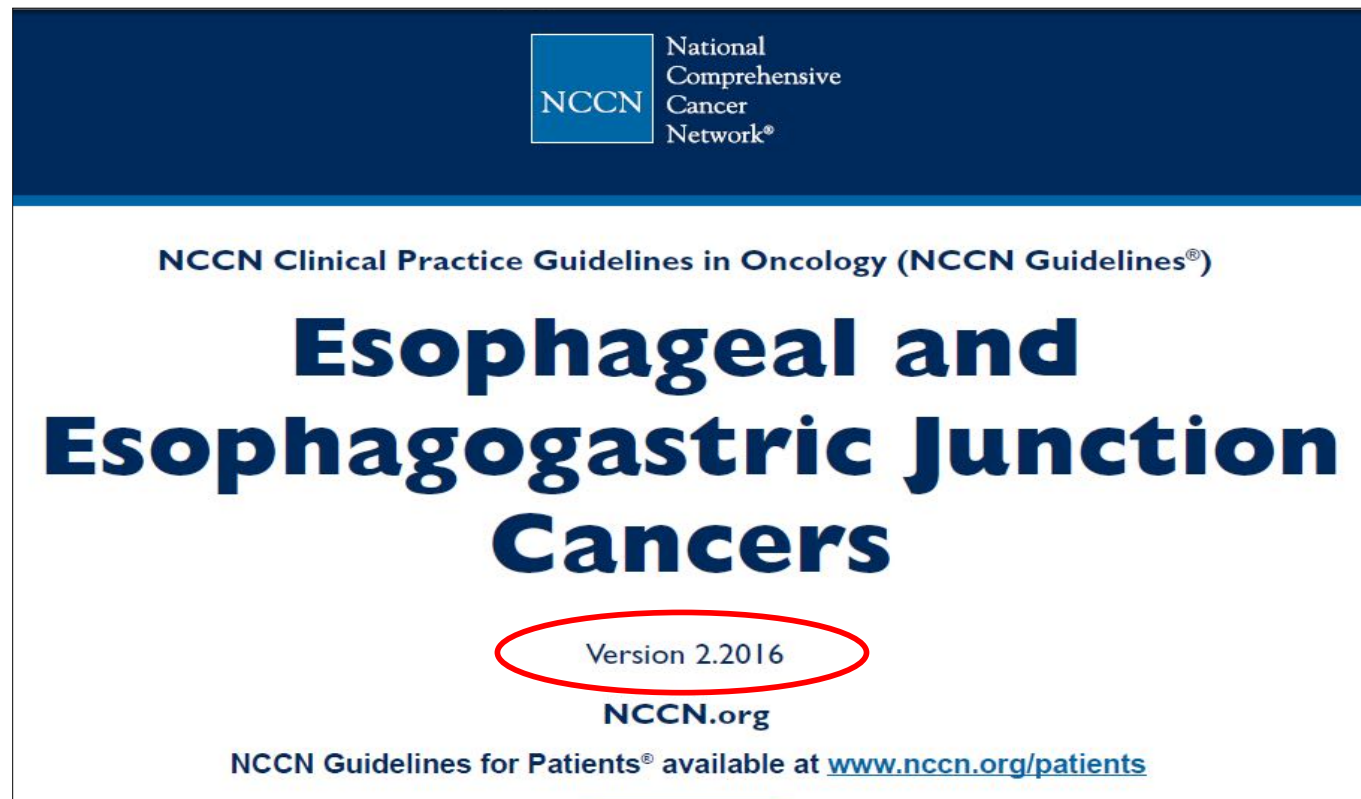
Oesophageal cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up[†]

F. Lordick¹, C. Mariette², K. Haustermans³, R. Obermannová⁴ & D. Arnold⁵ on behalf of the ESMO Guidelines Committee*

¹University Cancer Centre Leipzig, University Hospital Leipzig, Leipzig, Germany; ²Department of Digestive and Oncological Surgery, University Hospital Claude Huriez, Lille, France; ³Department of Radiation Oncology, Leuven Cancer Institute, University Hospitals Leuven, Leuven, Belgium; ⁴Clinic of Comprehensive Cancer Care, Masaryk Memorial Cancer Institute and Faculty of Medicine, Masaryk University, Brno, Czech Republic; ⁵Instituto CUF de Oncologia, Lisbon, Portugal

Tumour response to chemotherapy may be predicted early by FDG-PET in oesophageal and OGJ AC [III, C] [40]. However, at the present time, changing the therapeutic strategy according to early response assessment is investigational. FDG-PET is not relevant for evaluating tumour response after CRT, as it cannot reliably identify complete responders.

VALUTAZIONE RISPOSTA CRT



“Combined PET-CT scans are emerging and seem to be useful for restaging patients and monitoring response to primary therapy”

VALUTAZIONE RISPOSTA CRT

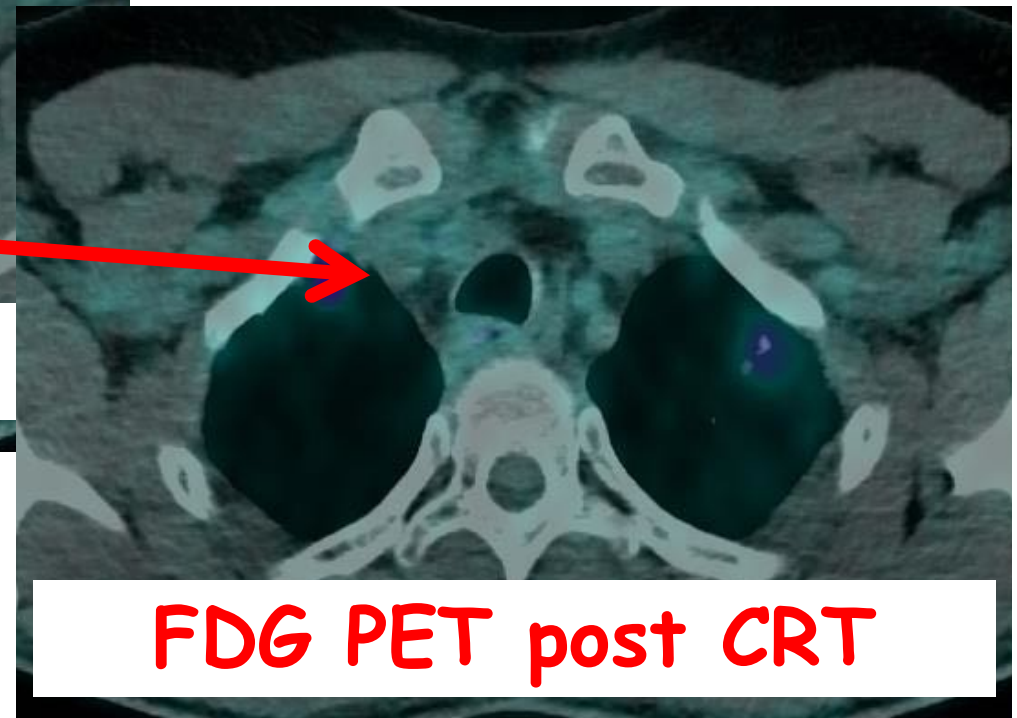
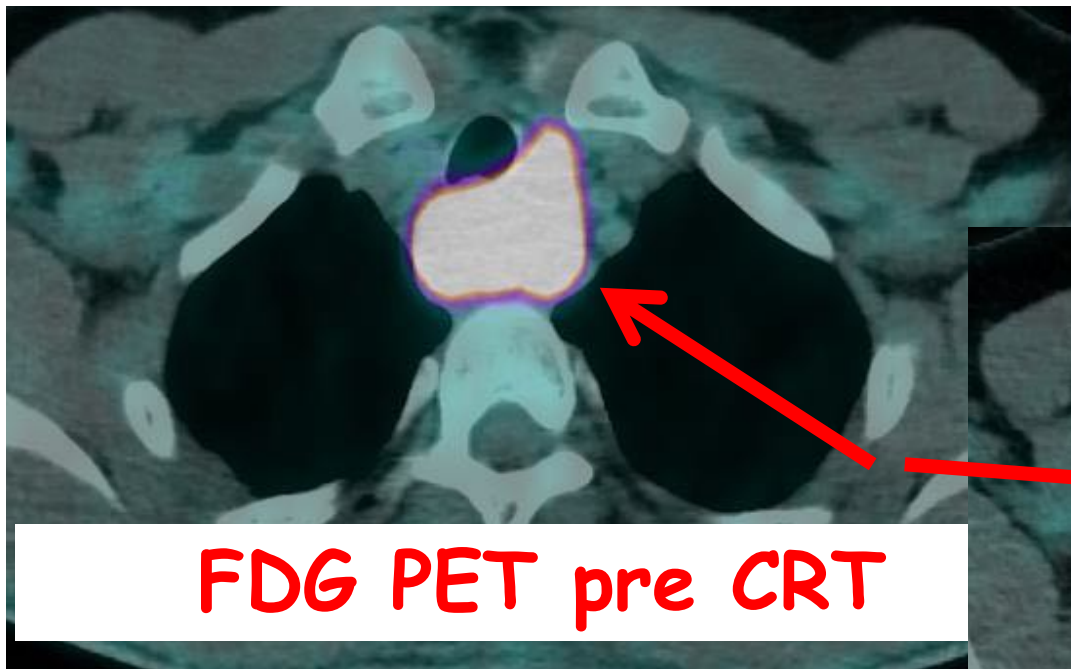


- valutazione della risposta precoce alla terapia neoadiuvante -
Inappropriato (livello di evidenza: basso)
- valutazione della risposta alla terapia neoadiuvante al termine del trattamento -
Incerto (livello di evidenza: molto basso)

CASO 1

VALUTAZIONE RISPOSTA CRT

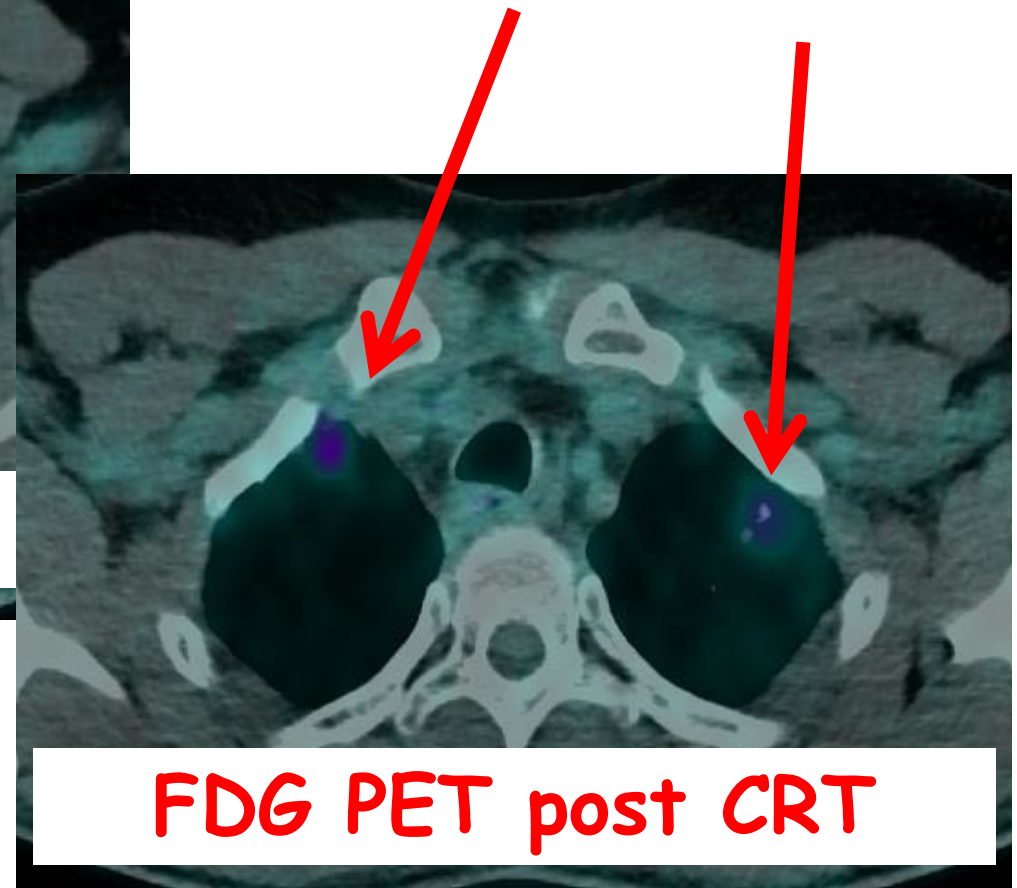
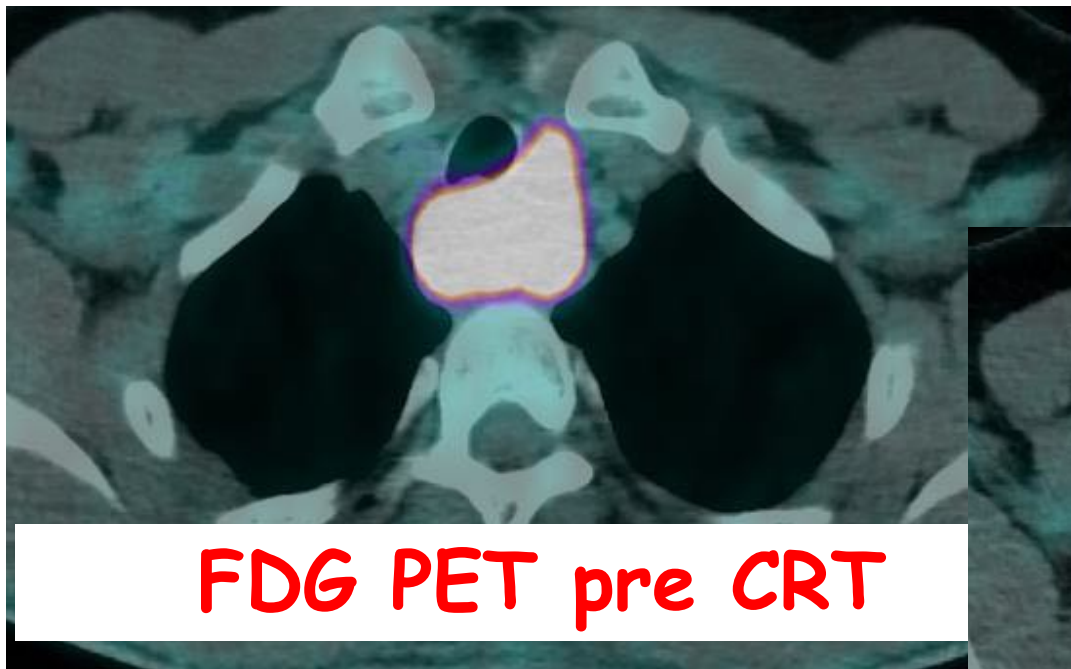
RISPOSTA METABOLICA COMPLETA



CASO 1

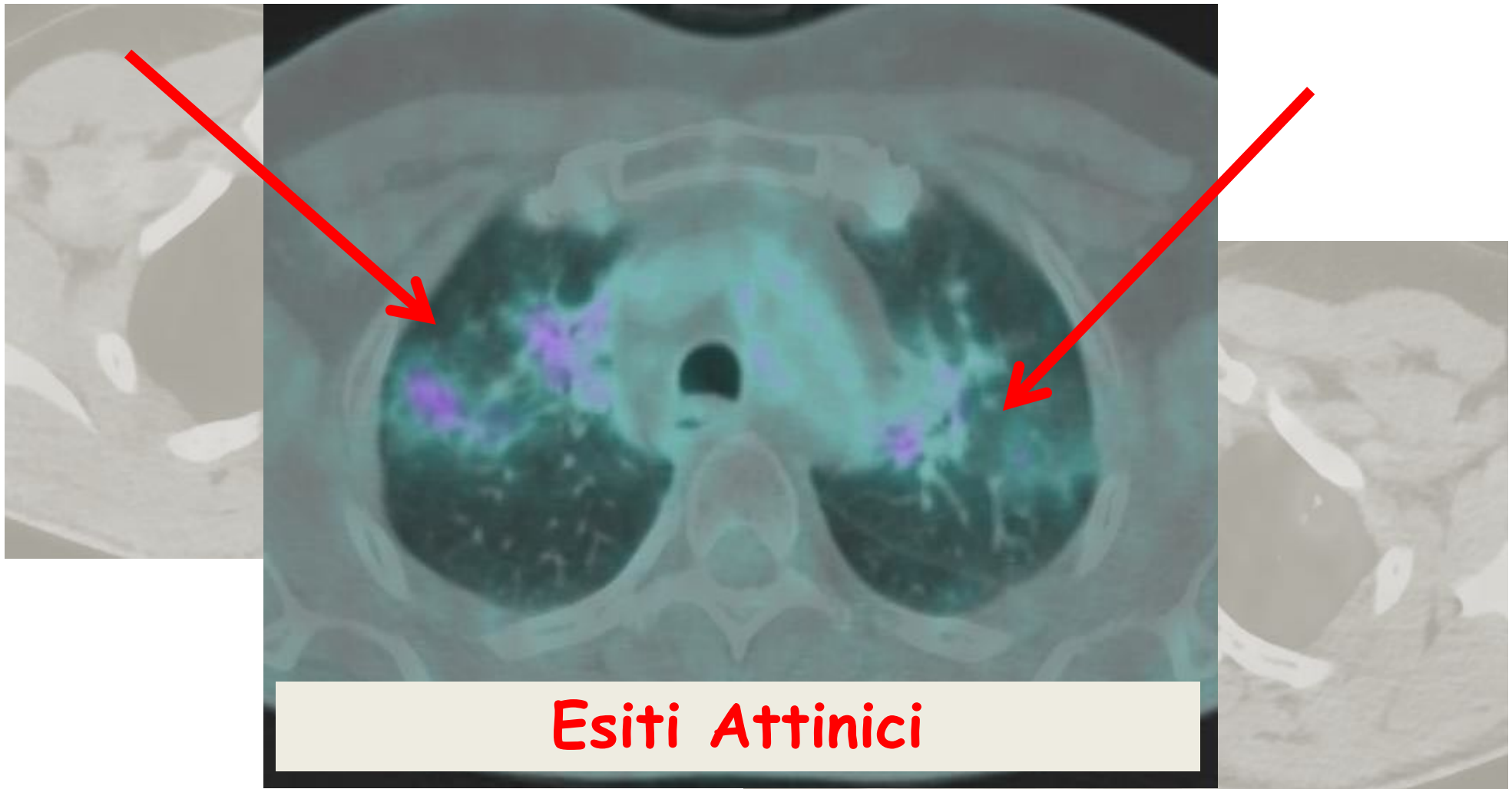
VALUTAZIONE RISPOSTA CRT

RISPOSTA METABOLICA COMPLETA



CASO 1

VALUTAZIONE RISPOSTA CRT



CASO 1

VALUTAZIONE RISPOSTA CRT

RISPOSTA METABOLICA COMPLETA



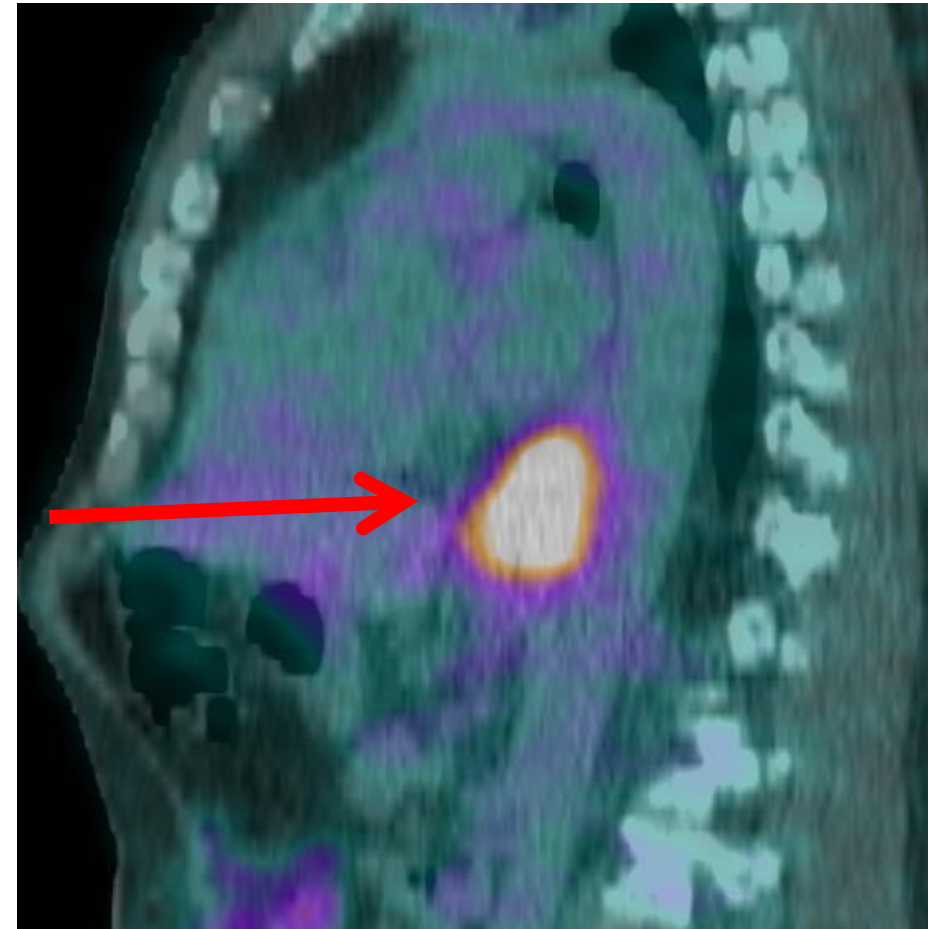
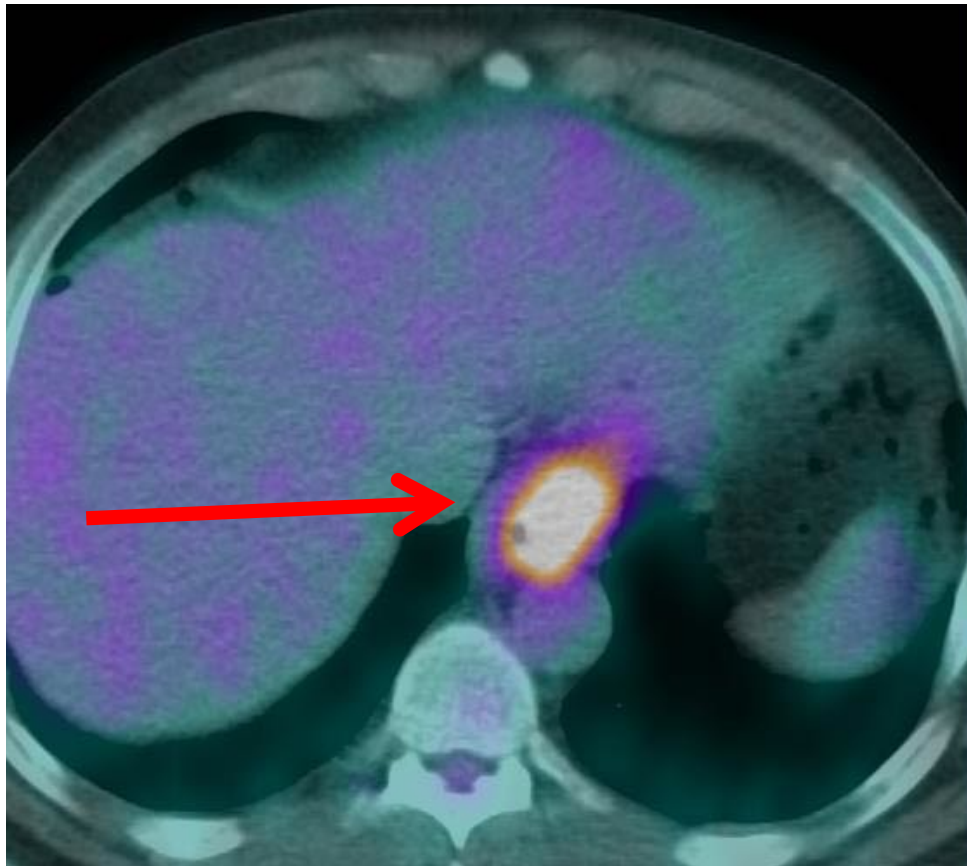
FDG PET pre CRT



FDG PET post CRT

CASO 2

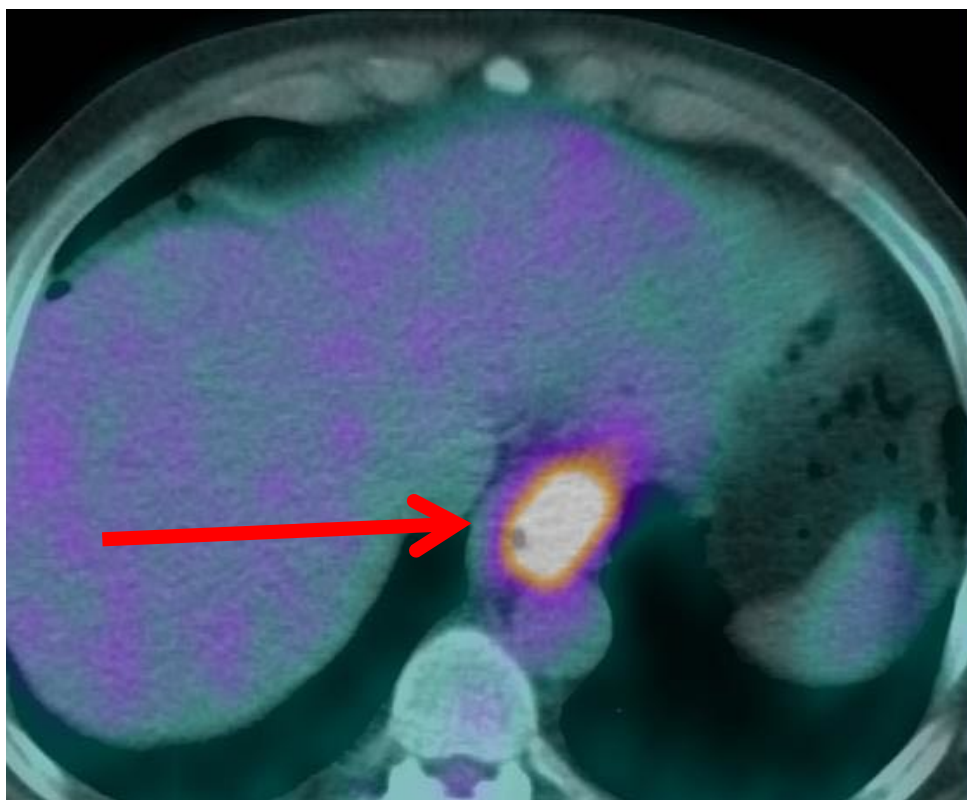
VALUTAZIONE RISPOSTA CRT



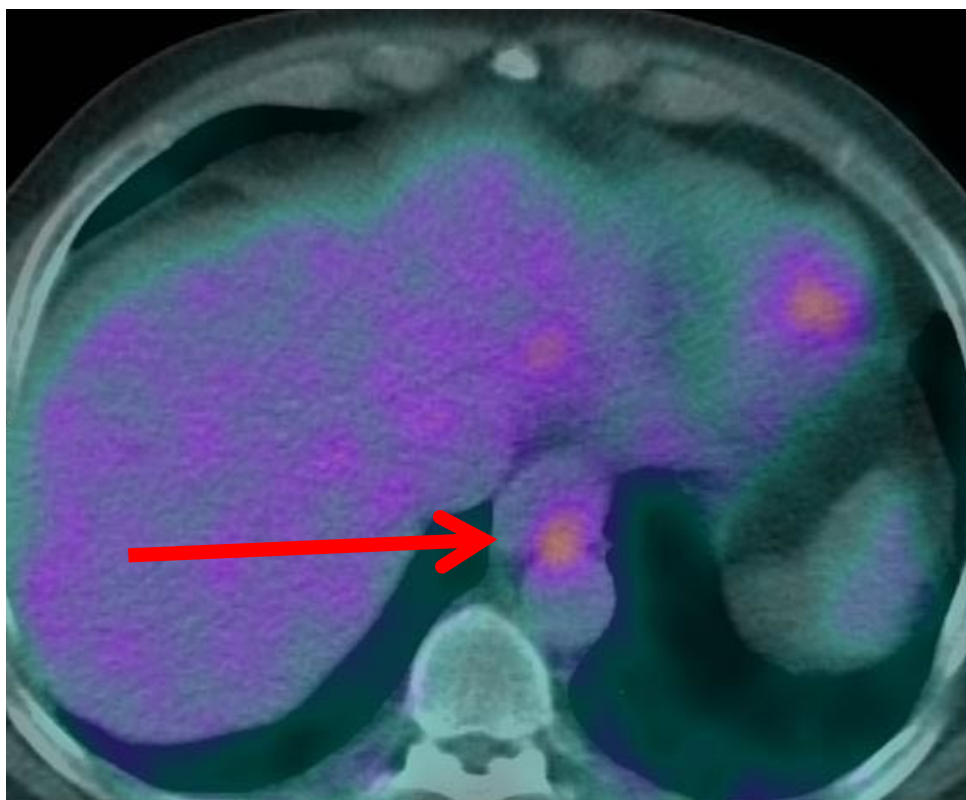
FDG PET di Stadiazione - pre CRT

CASO 2

VALUTAZIONE RISPOSTA CRT



FDG PET pre CRT
(SUVmax 10)



FDG PET post CRT
(SUVmax 6)

CASO 2

VALUTAZIONE RISPOSTA CRT

RISPOSTA METABOLICA PARZIALE



FDG PET pre CRT
(SUVmax 10)



FDG PET post CRT
(SUVmax 6)

CASO 2

VALUTAZIONE RISPOSTA CRT

- Eseguita esofagectomia distale
- FDG PET di ristadiazione

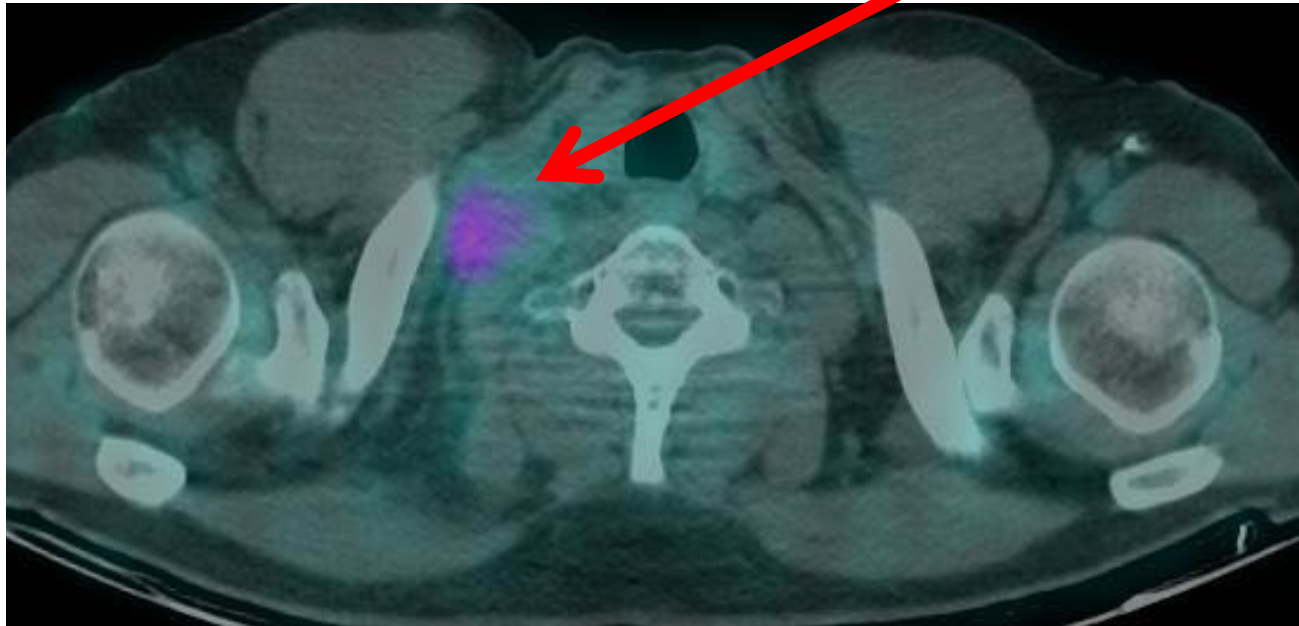


CASO 2

VALUTAZIONE RISPOSTA CRT

Sospetta mts LFN sovraclaveare dx

Conferma mediante EI



CASO 2

VALUTAZIONE RISPOSTA CRT

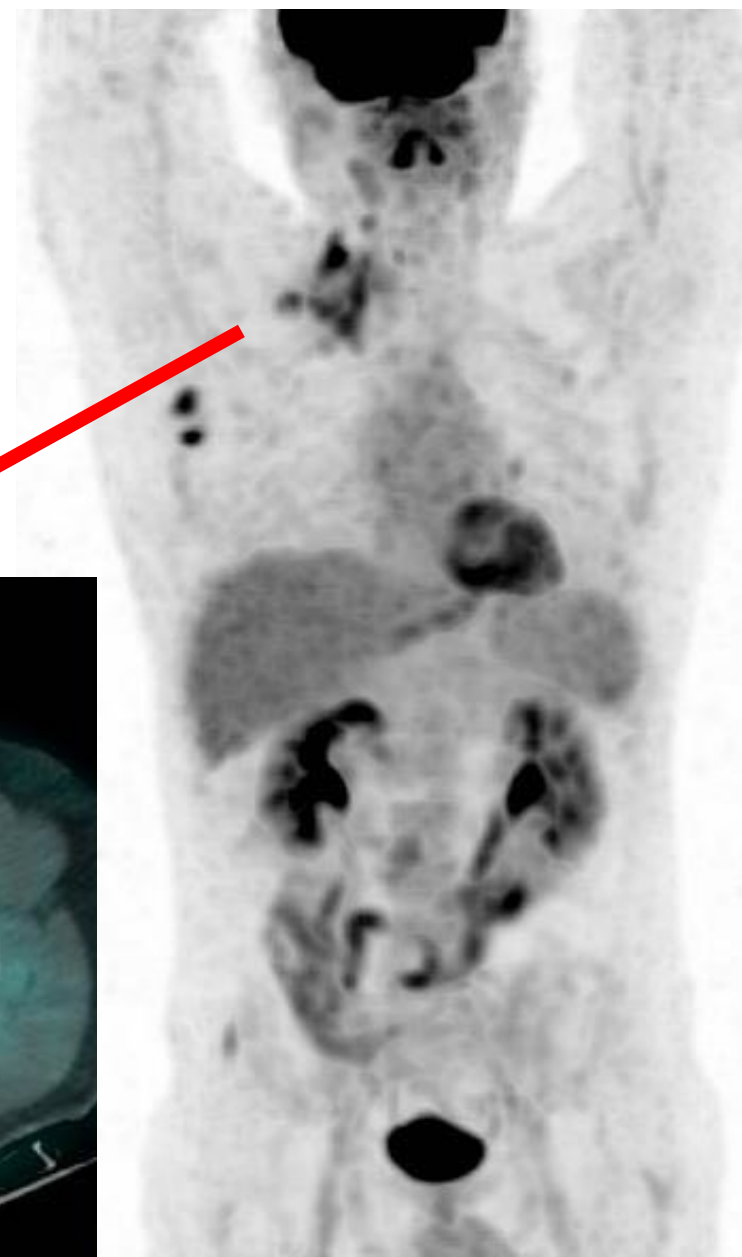
- Eseguita ChT
- FDG PET di ristadiiazione



CASO 2

VALUTAZIONE RISPOSTA CRT

mts LFN sovraclaveari a dx



CASO 2

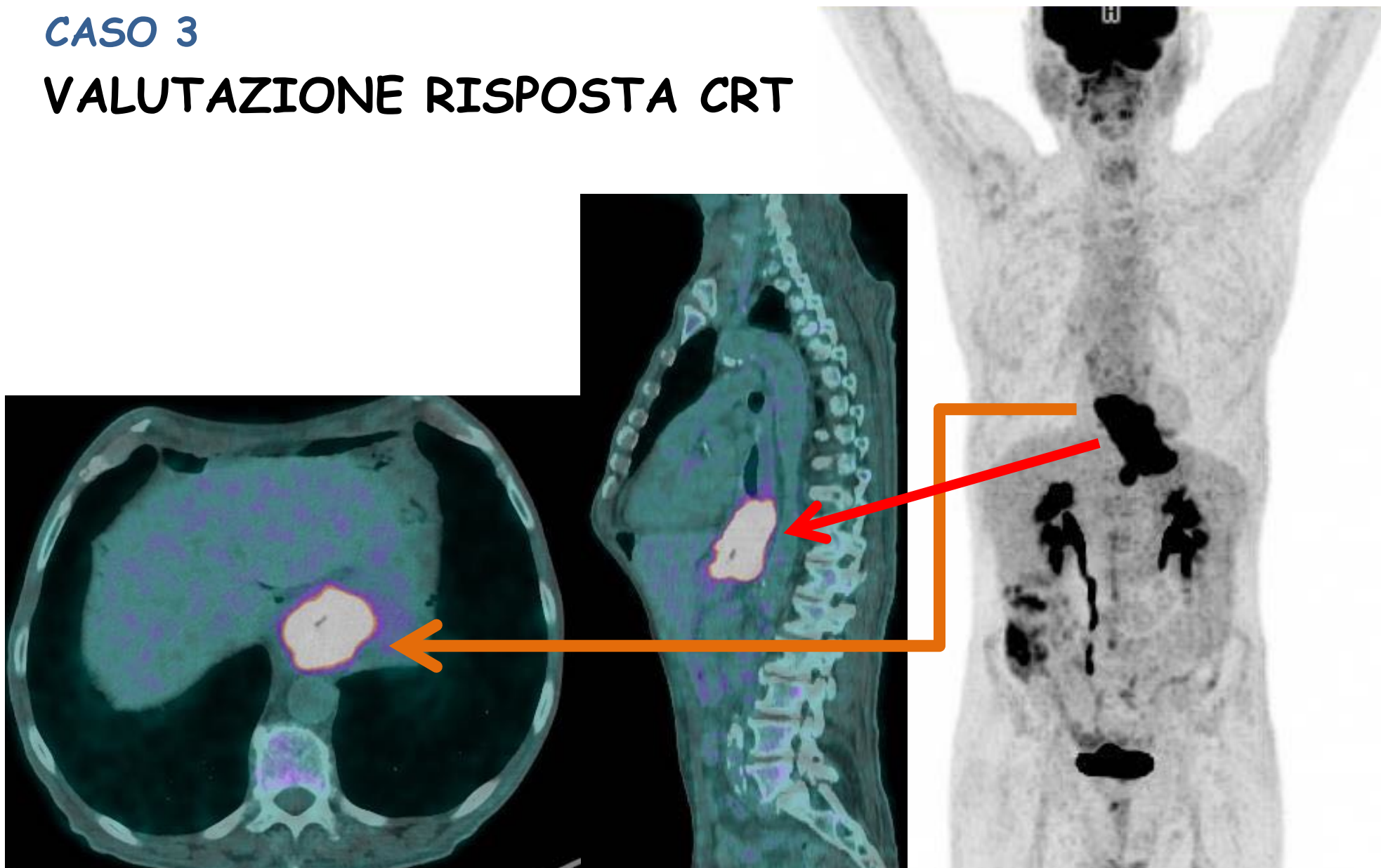
VALUTAZIONE RISPOSTA CRT

mts LFN ascellari a dx



CASO 3

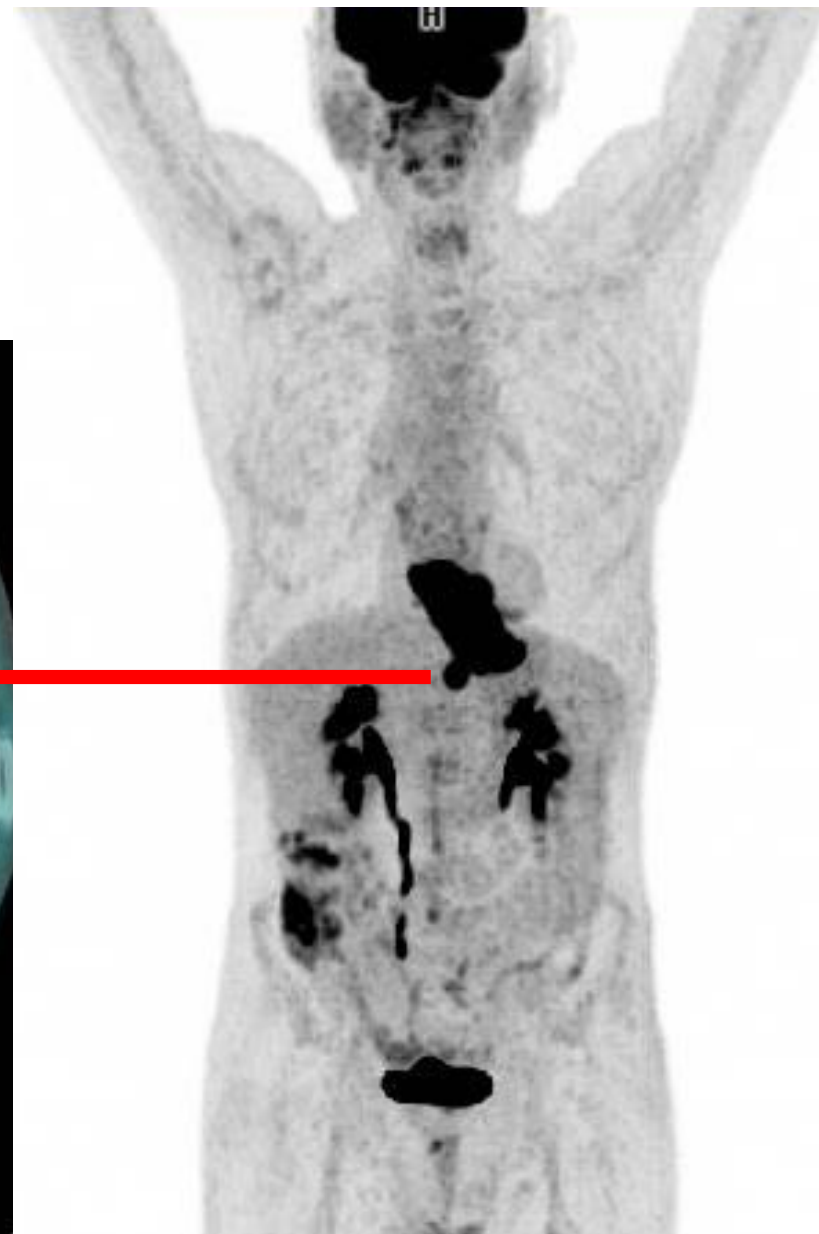
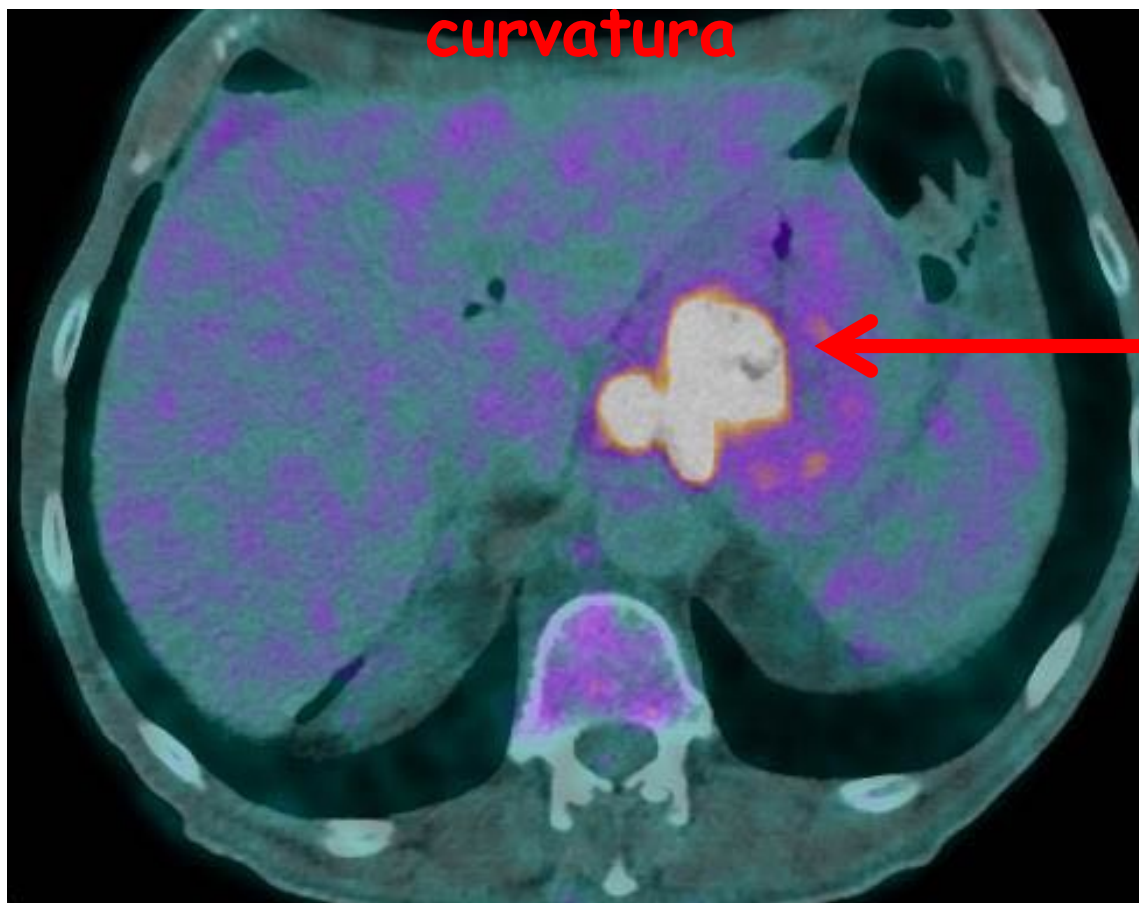
VALUTAZIONE RISPOSTA CRT



CASO 3

VALUTAZIONE RISPOSTA CRT

mts LFN celiaci e piccola
curvatura



CASO 3

VALUTAZIONE RISPOSTA CRT

- Esegue CRT neoadiuvante**
- FDG PET di ristadiiazione**



CASO 3

VALUTAZIONE RISPOSTA CRT

FDG PET pre CRT
(SUVmax 33)



FDG PET post CRT
(SUVmax 4)



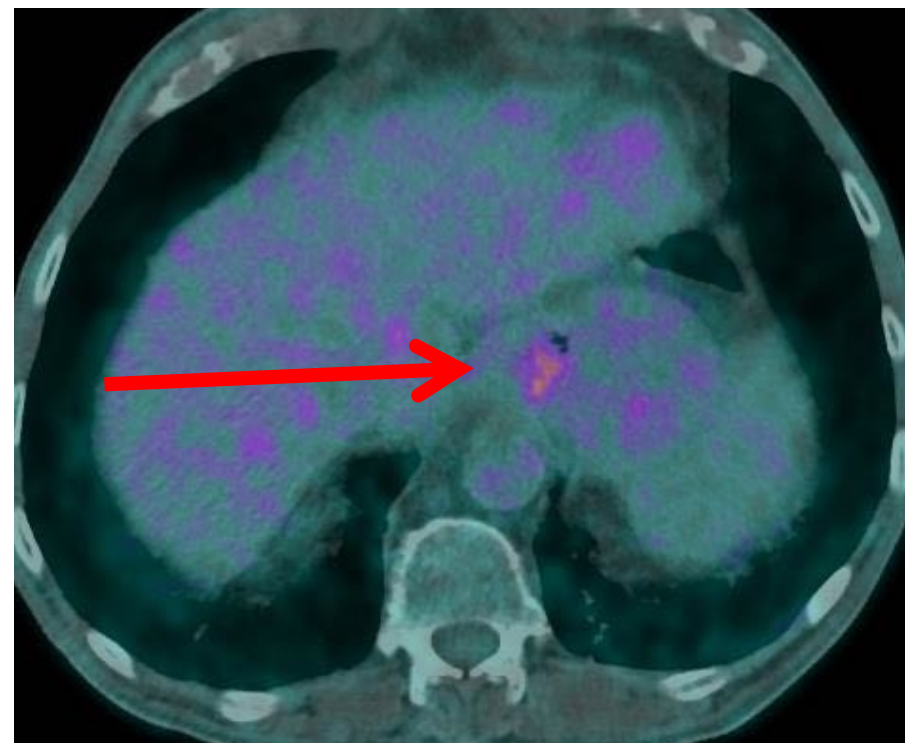
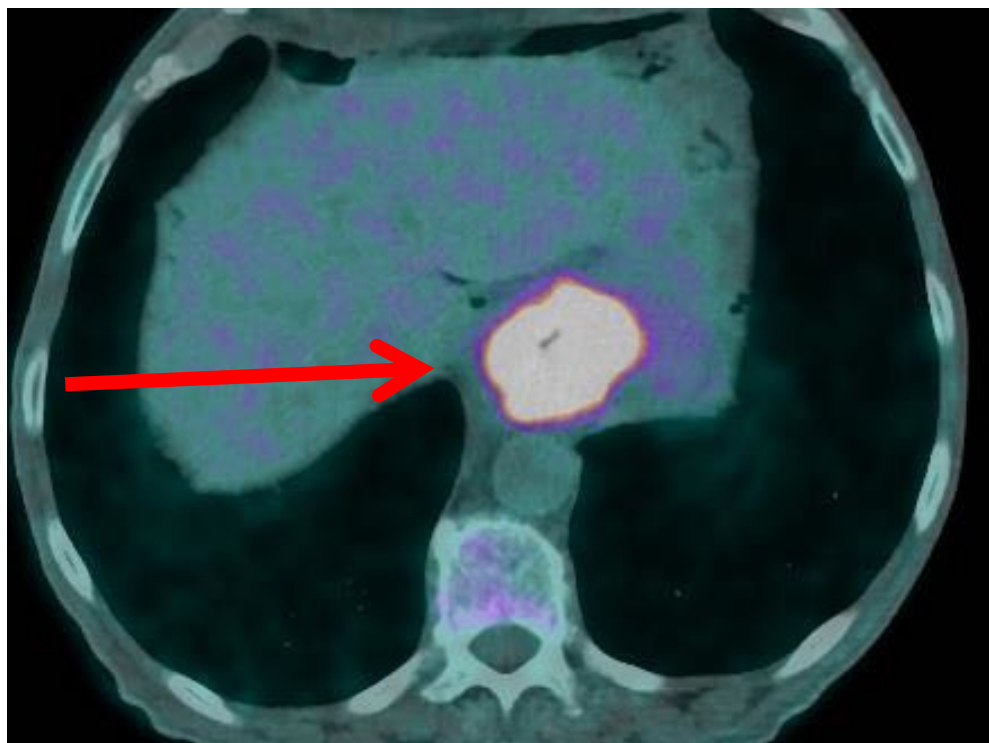
RISPOSTA
METABOLICA
PARZIALE

CASO 3

VALUTAZIONE RISPOSTA CRT

FDG PET pre CRT
(SUVmax 33)

FDG PET post CRT
(SUVmax 4)

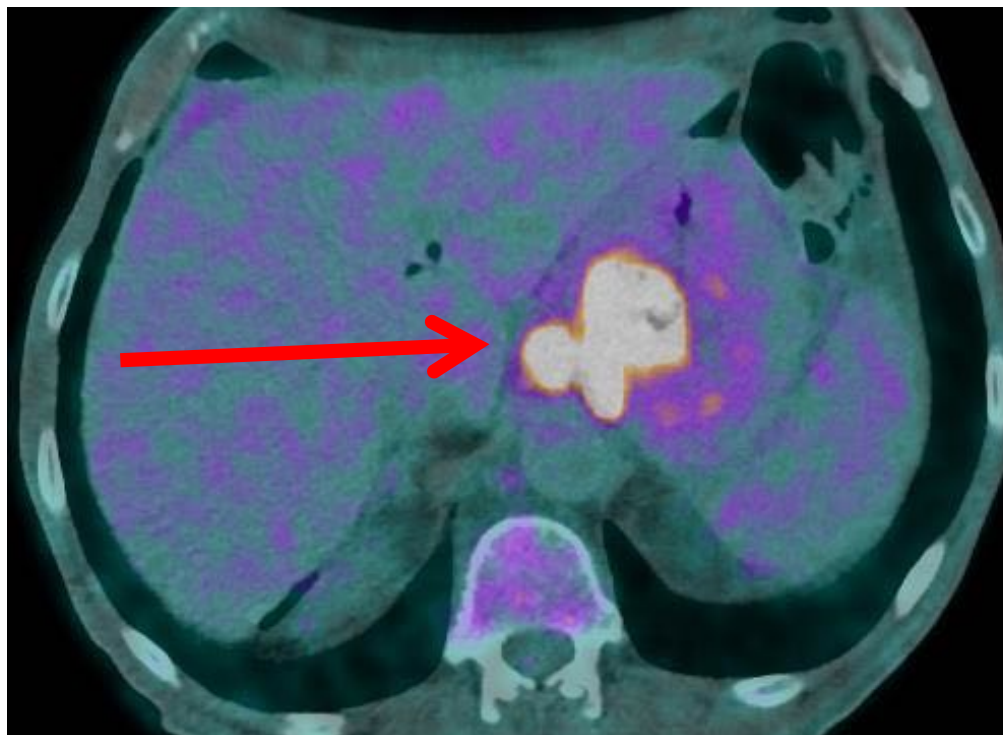


RISPOSTA METABOLICA PARZIALE T

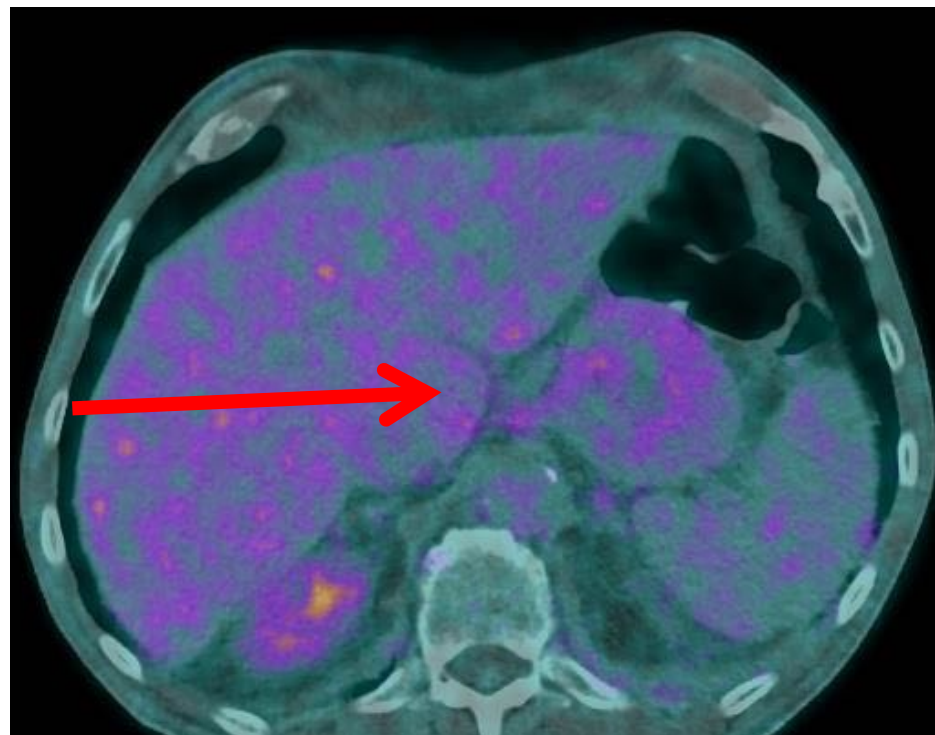
CASO 3

VALUTAZIONE RISPOSTA CRT

FDG PET pre CRT



FDG PET post CRT



RISPOSTA METABOLICA COMPLETA LNF

CASO 3

VALUTAZIONE RISPOSTA CRT

- Eseguita esofagectomia distale
- FDG PET di ristadiazione



CASO 3

VALUTAZIONE RISPOSTA CRT

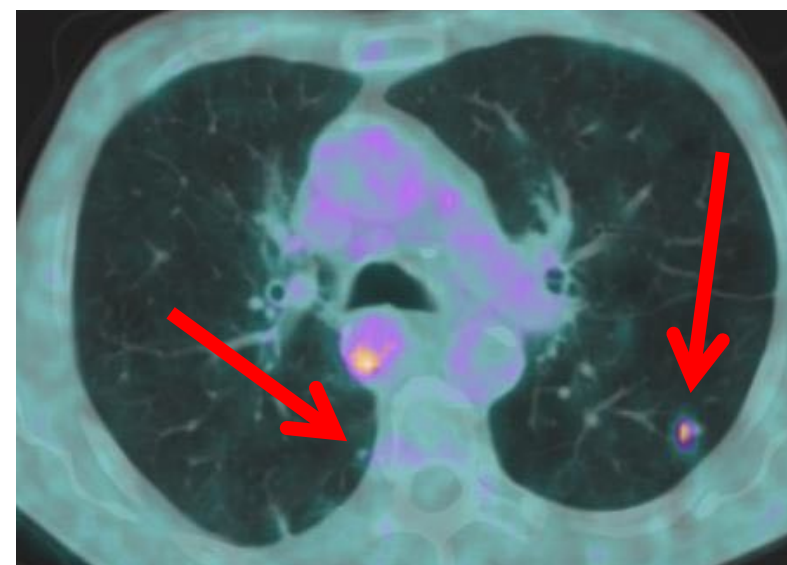
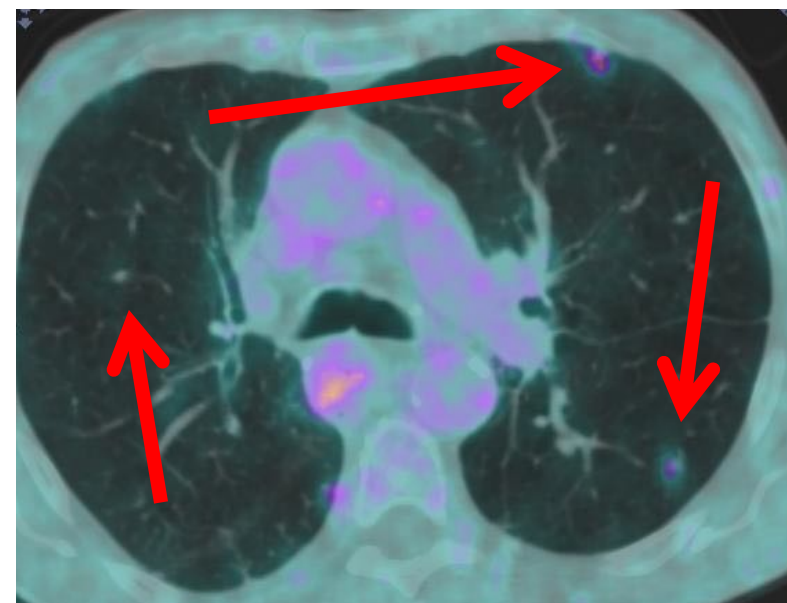
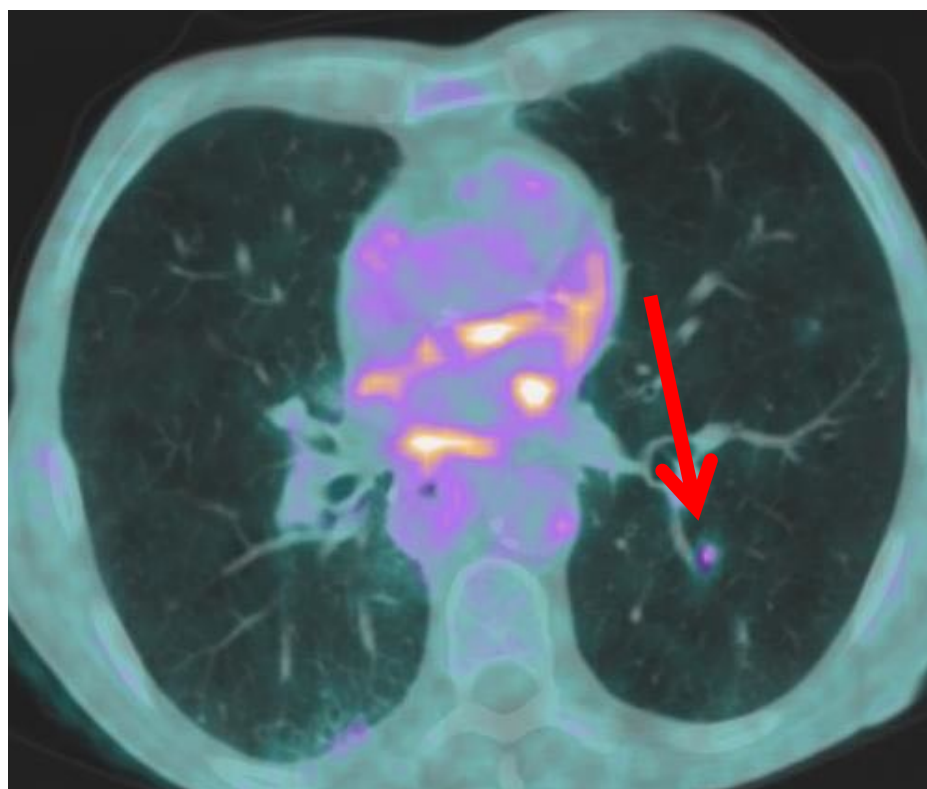
- Eseguita esofagectomia distale
- FDG PET di ristadiiazione



CASO 3

VALUTAZIONE RISPOSTA CRT

mts polmonari



CONCLUSIONI (1)

- **Il ruolo della FDG PET nella stadiazione è limitato alla selezione dei pz candidati a chirurgia per escludere malattia metastatica.**
- **Non è accurata nel definire l'estensione del T.**
- **Può non caratterizzare LNF loco-regionali vicini al T.**
- **Consente di individuare tumori primitivi sincroni.**

CONCLUSIONI (2)

- **FDG PET può essere utile nel predire risposta al trattamento CRT neoadiuvante, in particolare per individuare i pz non responders.**
- **Al momento non vi sono evidenze per modificare il management terapeutico in base ai risultati della FDG PET. In particolare non vi sono evidenze per evitare la chirurgia nei pz con risposta metabolica completa.**

CONCLUSIONI (2)

➤ FDG PET può essere utile nel predire risposta al trattamento CRT neoadiuvante, in particolare per individuare i pz responders.

➤ Al momento non vi sono evidenze per un management terapeutico in base ai risultati di PET. In particolare non vi sono evidenze per la chirurgia nei pz con risposta metabolica.

GRAZIE PER L'ATTENZIONE !!!

