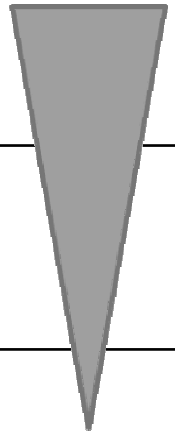
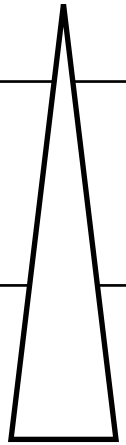
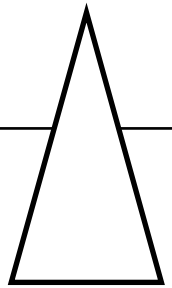
medizinische fakultät
Westfälische Wilhelms-Universität Münster

WS 2009/10

Nuklearmedizinische Diagnostik in der Gastroenterologie

Univ.-Prof. Dr. med. Burkhard Riemann
Klinik für Nuklearmedizin

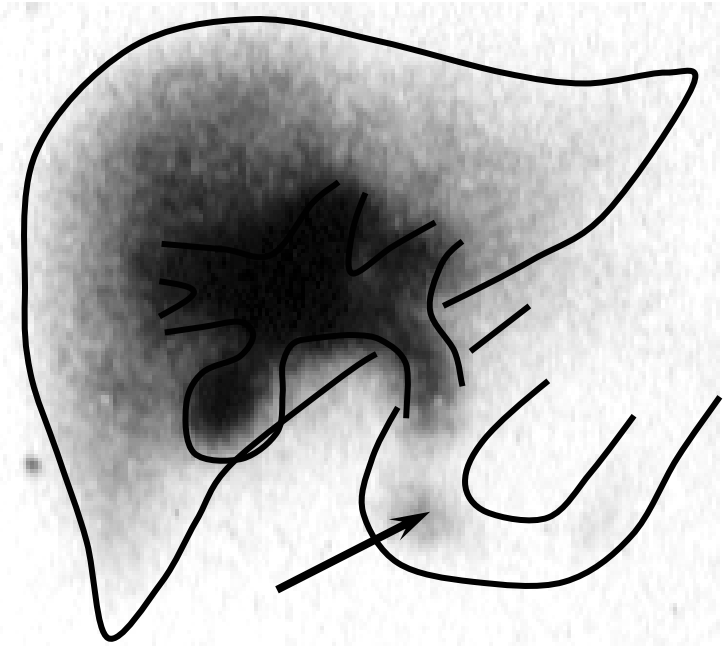
Nuklearmedizinische Diagnostik

	Konventionelle Diagnostik	**PET**	**Hybridsysteme**
Gestern			
Heute			
Morgen			

Konventionelle Diagnostik

- Leberfunktions-Szintigraphie
  - Gallengangsstenose / -atresie
  - Fokal-noduläre Hyperplasie (FNH)
- Blutpool-Szintigraphie
  - Hämangiom
  - GI-Blutung
- Kolloid-Szintigraphie
  - Metastasen

Leberfunktions-Szintigraphie



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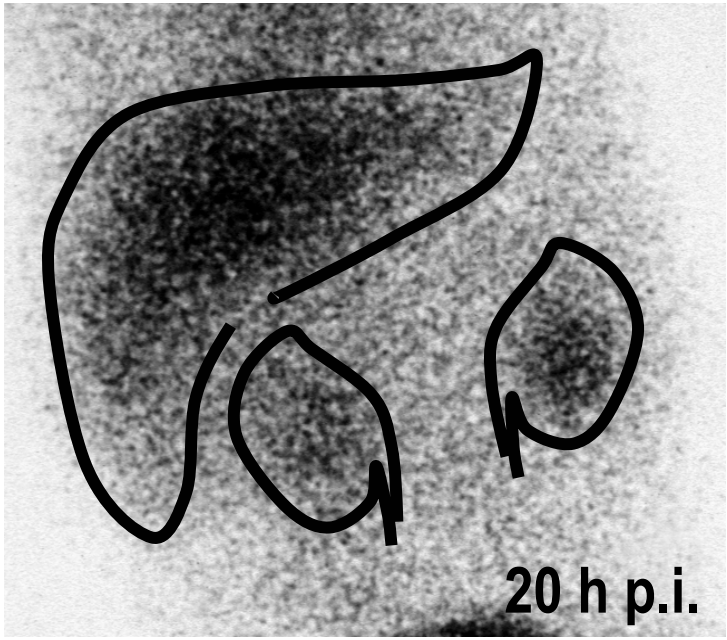
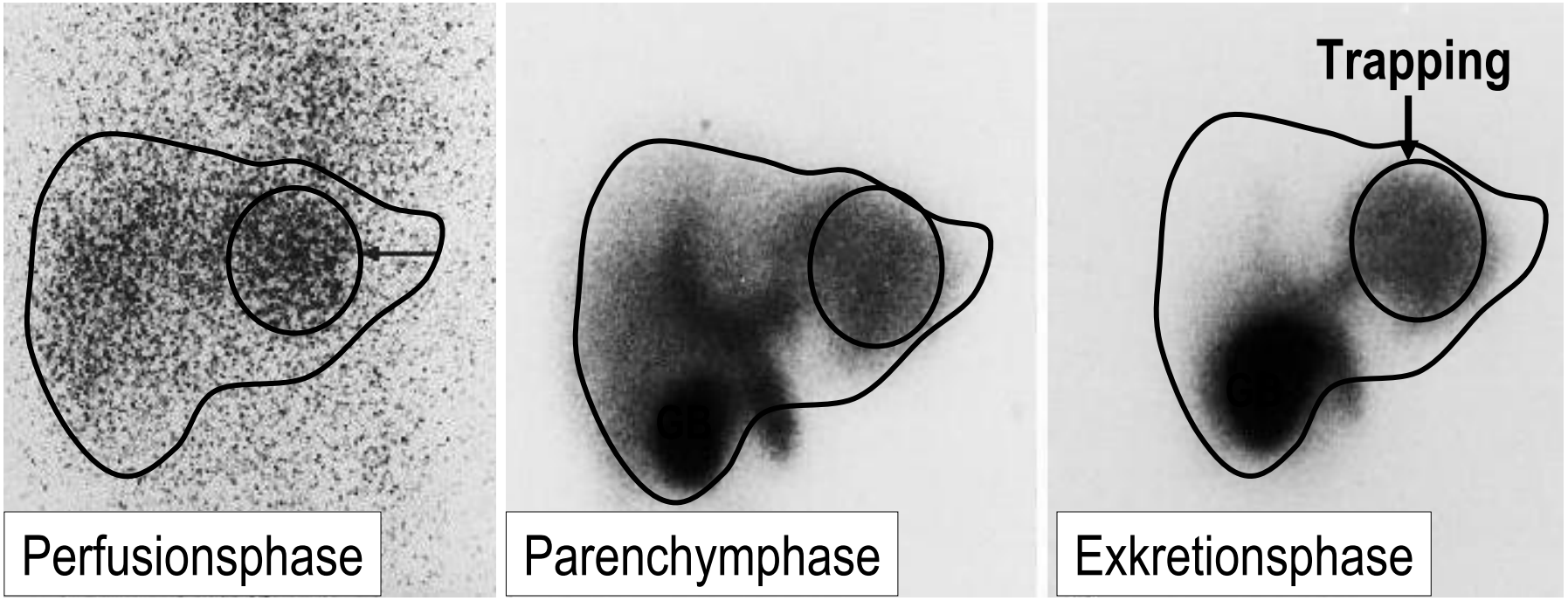


Gallengangsatresie

Fokal-noduläre Hyperplasie

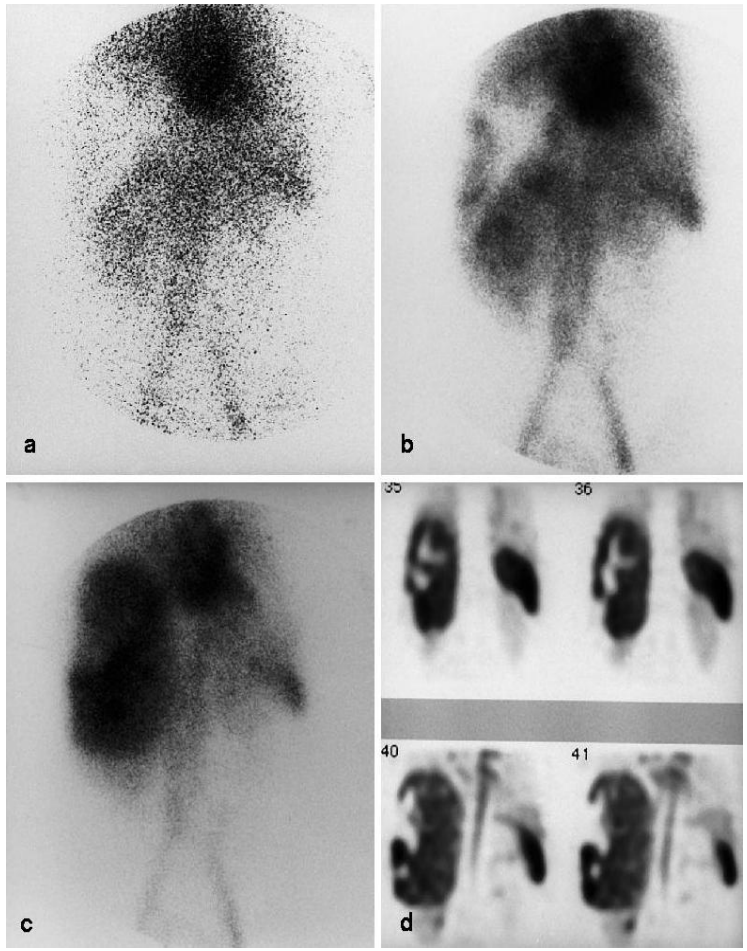


Leberfunktions-Szintigraphie mit ^{99m}Tc-Iminodiazetat:
Verzögerte Ausscheidung aus der FNH (“Trapping”)

Hämangiom

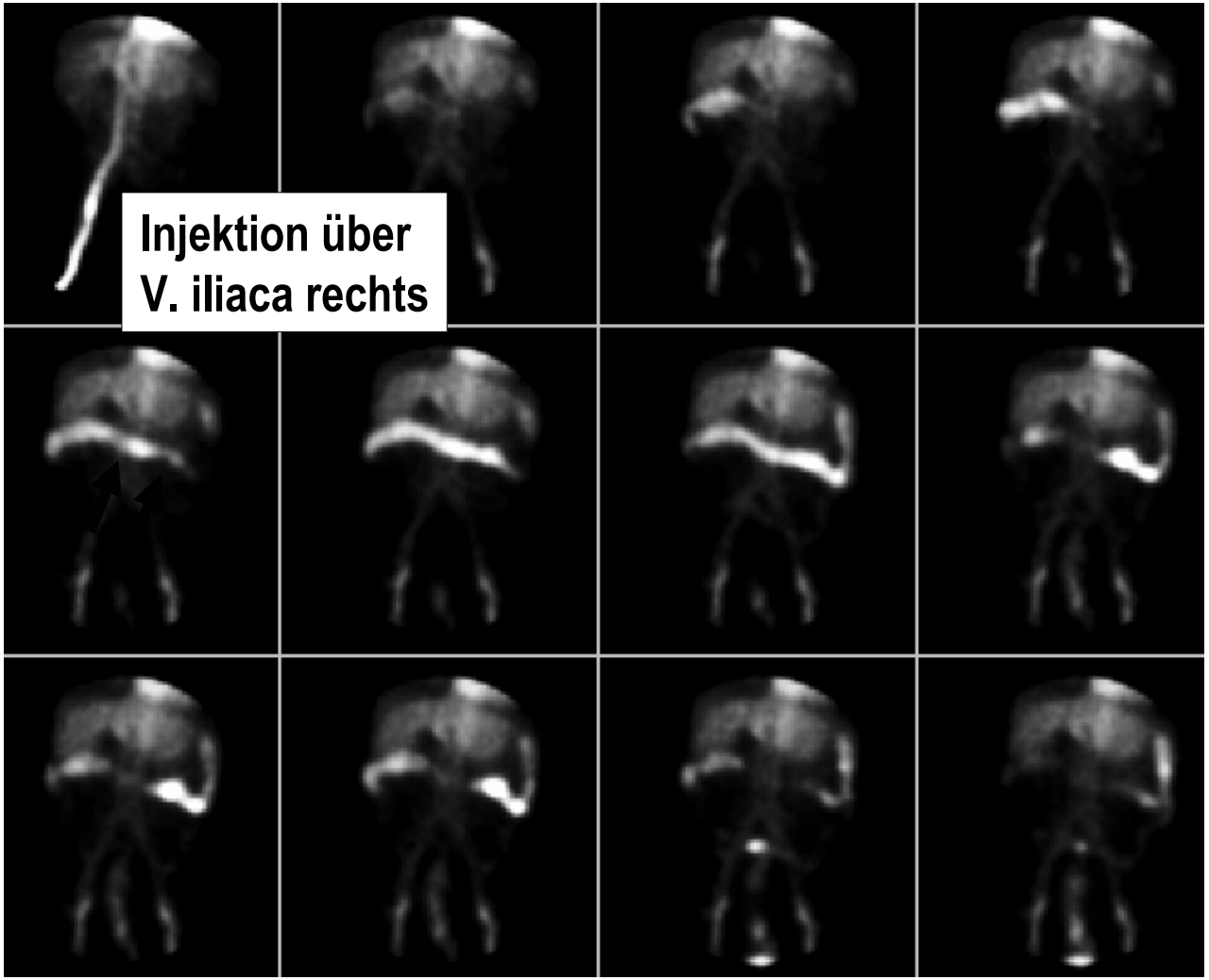
<u>Blutpool-Szintigraphie</u>

- [^{99m}Tc]-markierte Erythrozyten
- (a) Perfusionsphase
- (b) Frühphase
- (c) Spätphase: „Fill-in“
- (d) SPECT



Sciuk, Schober Internist 1997

Blutungsquellensuche



Tc-99m-markierte Eigenerythrozyten

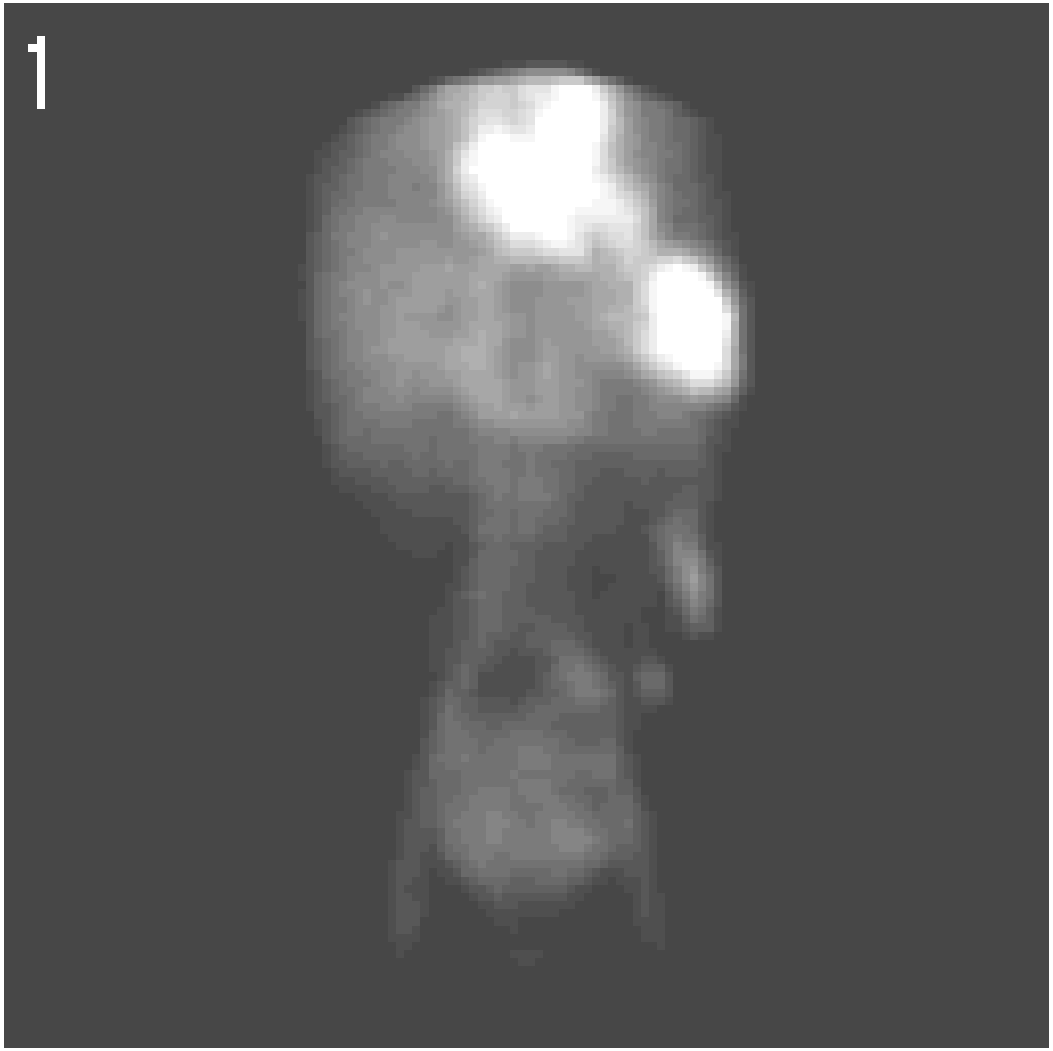
GI-Blutung nach Hirn-OP (Meningeom)

Postoperativer Hb-Abfall

Gastro- und Coloskopie ohne Quellennachweis

Anastomosenblutung

- Z.n. Pankreas-teilresektion nach y-Roux vor 2 Jahren
- Hb-Abfall von 9 auf 3 g/dl in wenigen Stunden



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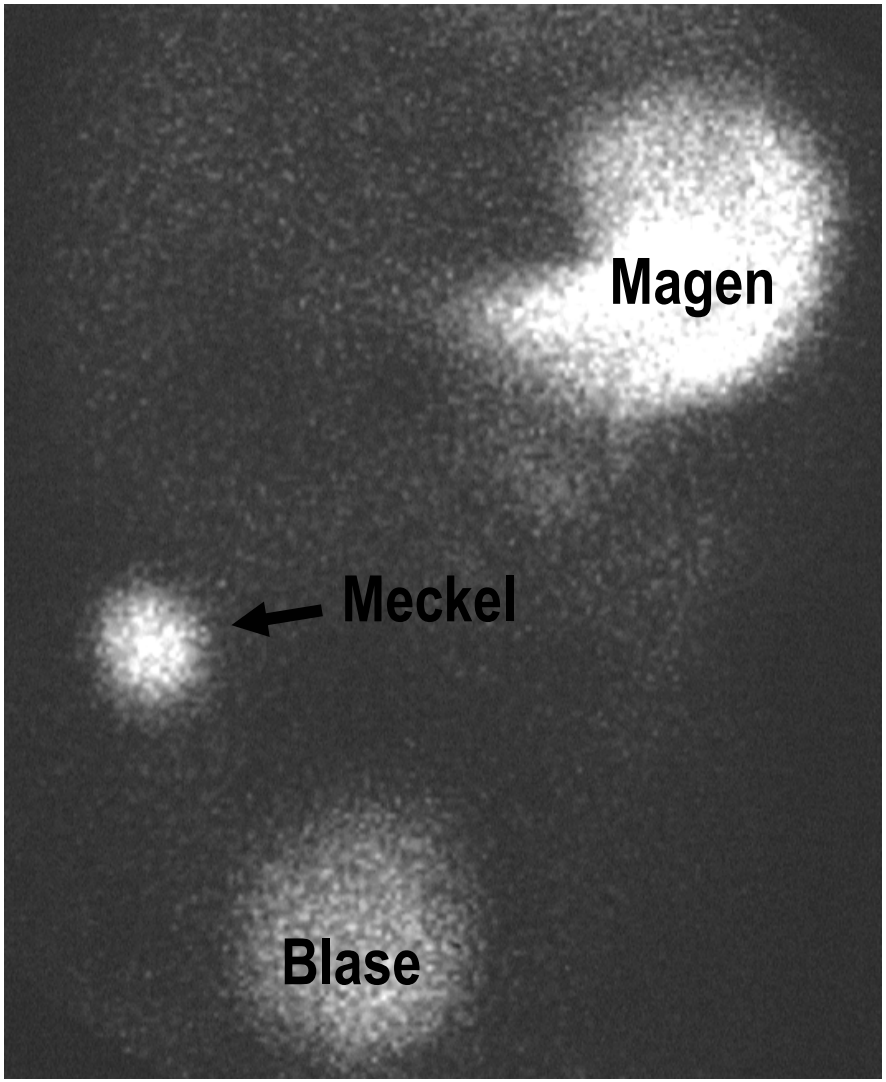

2-jähriger Junge mit Erbrechen und Teerstuhl

Szintigrafie mit Tc-99m-Pertechnetat

Physiologische Darstellung des Magens und der Harnblase

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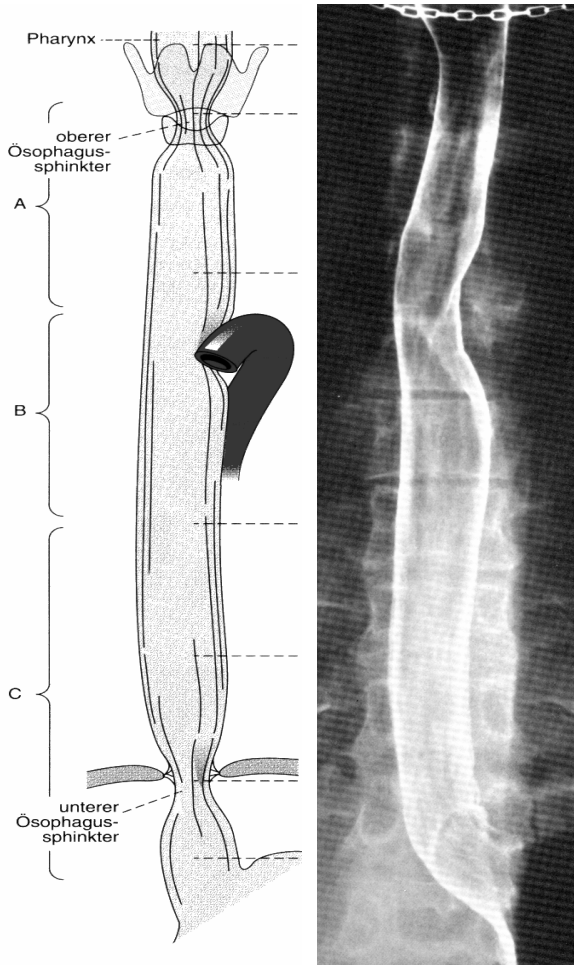
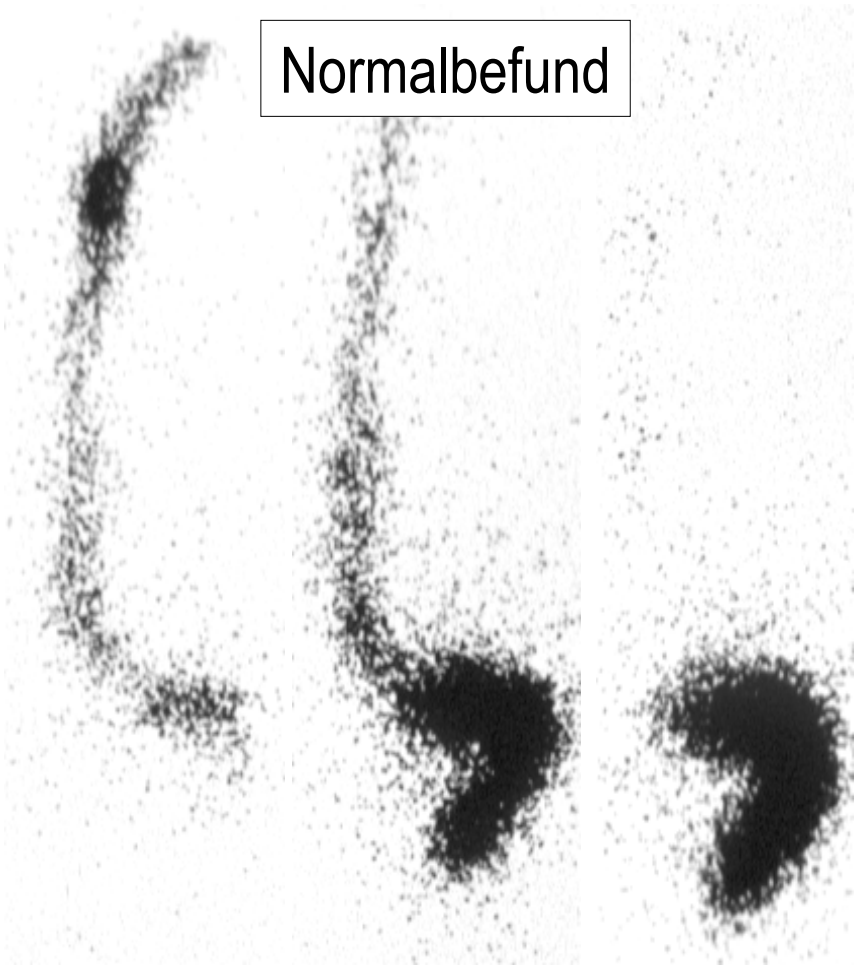
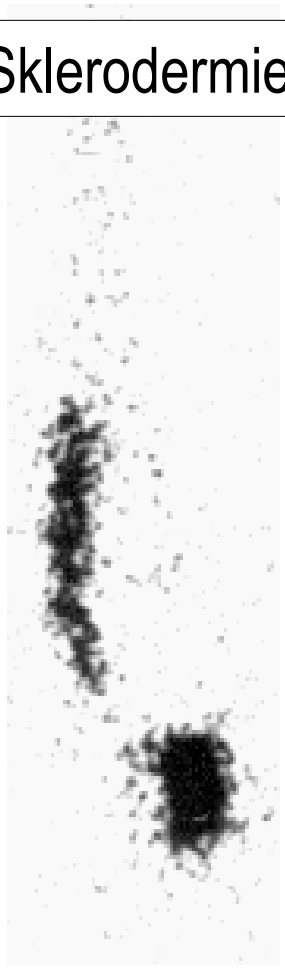


Normalbefund

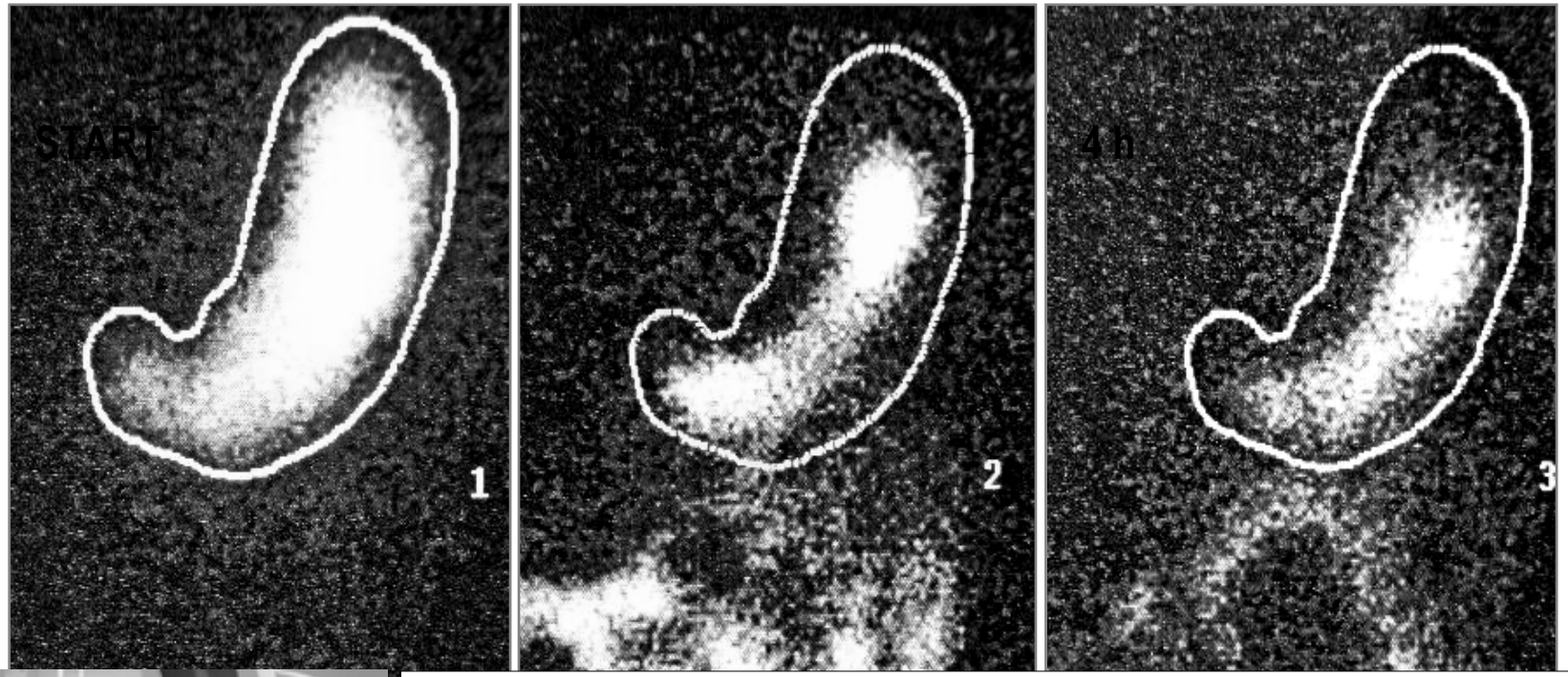


Sklerodermie



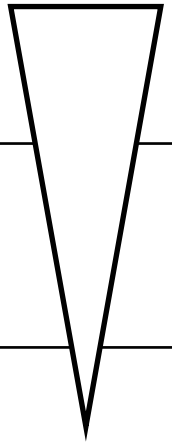
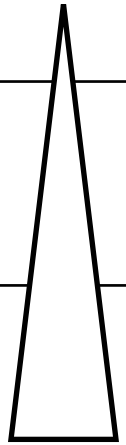
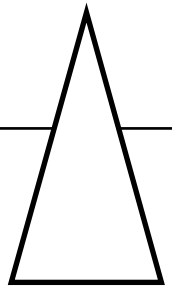
Quantifizierbar, kleine Substratmenge (1 TL Apfelbrei), kurze Untersuchungs-zeit (1`), geringe Strahlenexposition, Indikation: V.a. Achalasie, Sklerodermie

Magenszintigraphie: Diabetische Gastroparese

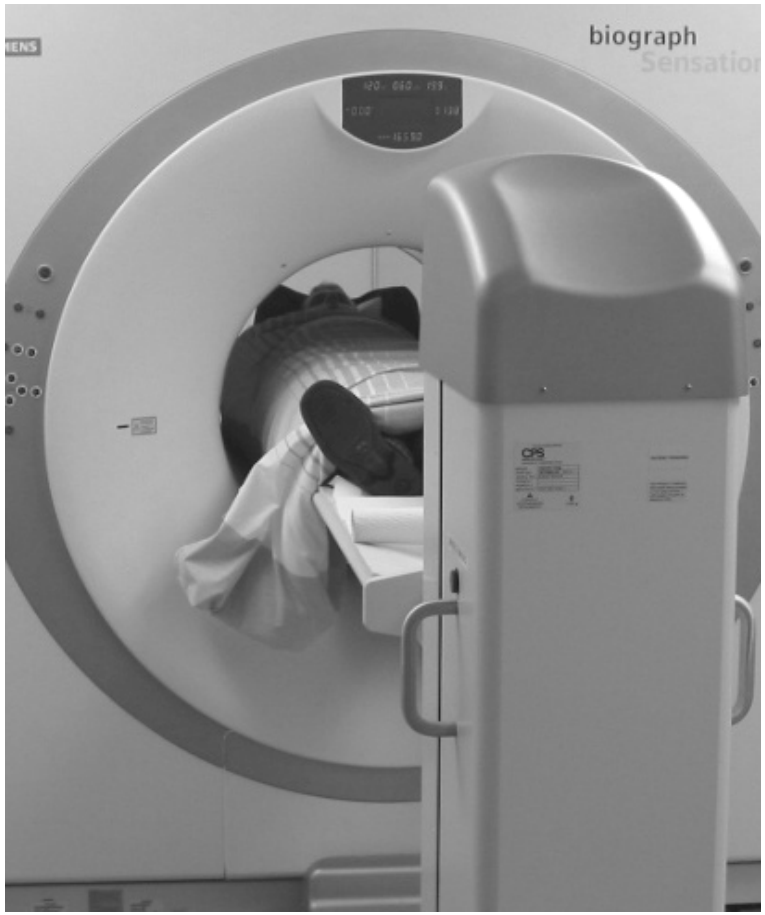


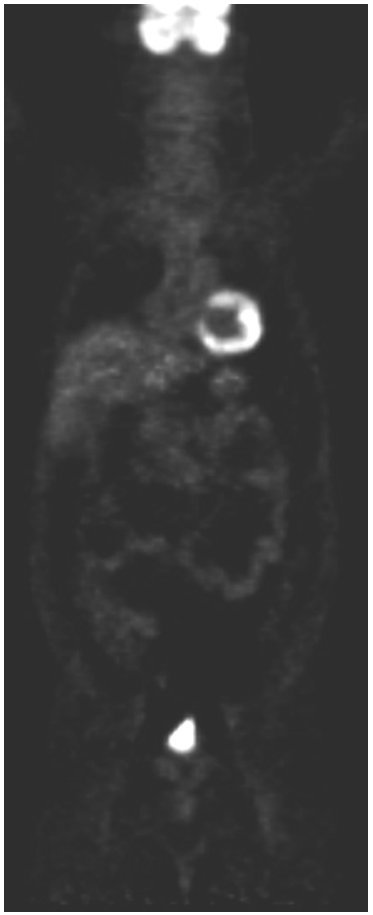
- Völlegefühl, Übelkeit, Erbrechen
- 50% der Diabetiker betroffen (w : m, 80 : 20%)
- *Flüssige Speisen:* meist normal

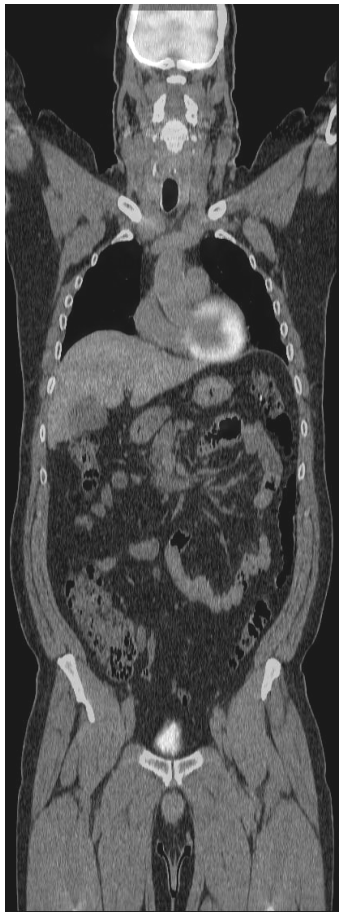
Nuklearmedizinische Diagnostik

	Konventionelle Diagnostik	**PET**	**Hybridsysteme**
Gestern			
Heute			
Morgen			

PET-CT: Funktion + Morphologie







PET - „Konsensus-Konferenz“ 2001

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Table 2. Grading of PET indications (adopted from [12])

Grade	Description
1a	Established clinical use
1b	Clinical use probable
2	Useful in individual cases
3	Not yet assessable owing to missing or incomplete data
4	Clinical use rare (as inferred from theoretical considerations or as demonstrated by published studies)

PET – „Konsensus-Konferenz“ 2001

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Gastrointestinal tumours	
Oesophageal cancer	
Differential diagnosis (benign/malignant)	3
Staging of lymph nodes and distant metastases	1a
Therapy control	3
Diagnosis of relapse	3
Pancreatic carcinoma	
Differential diagnosis (inflammation vs. malignancy)	1a
Staging of lymph nodes and distant metastases	3
Diagnosis of relapse	1b
Colorectal cancer	
Therapy control	1b
Restaging in suspected relapse (e.g. increased tumour marker in blood)	1a

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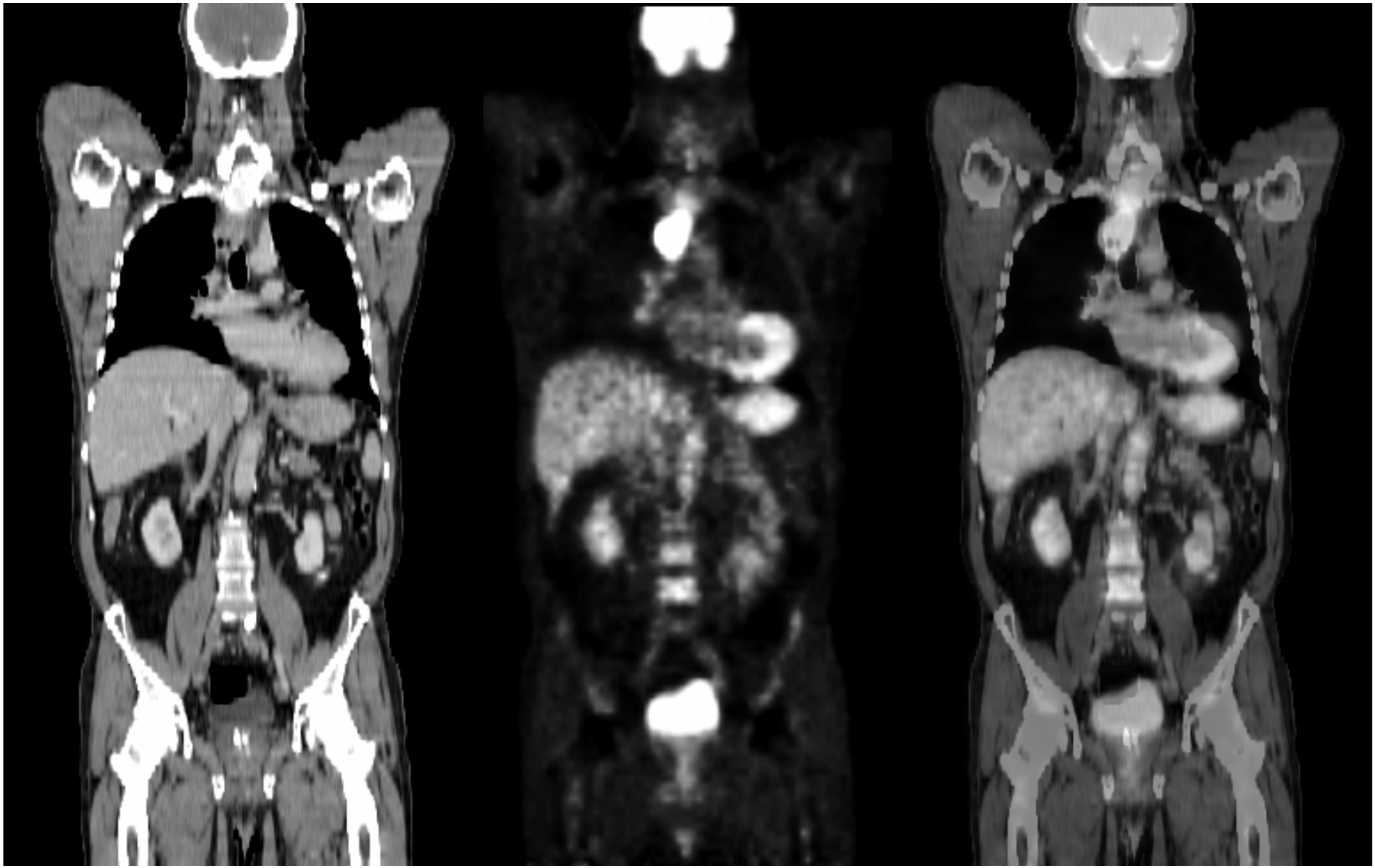
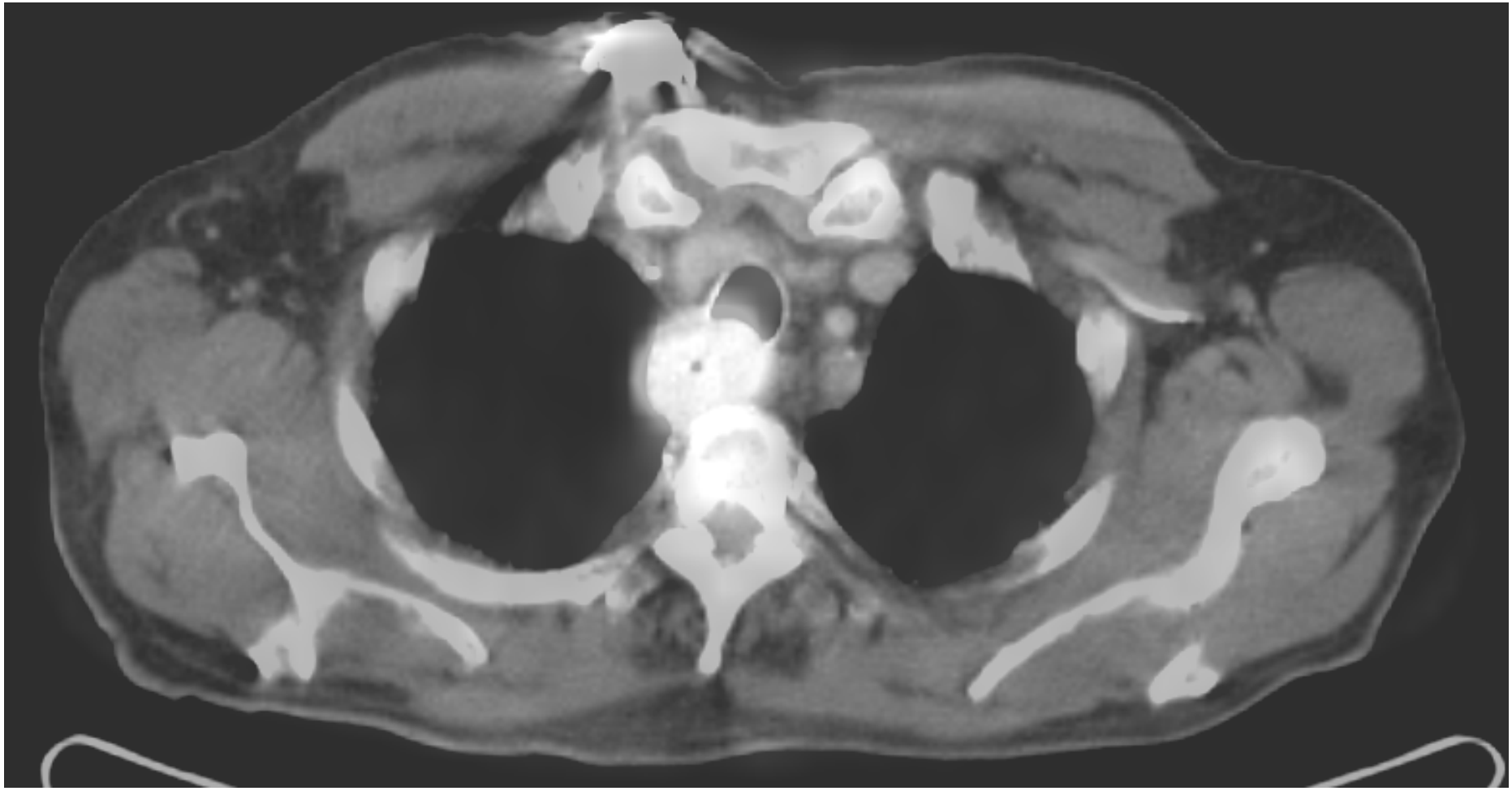
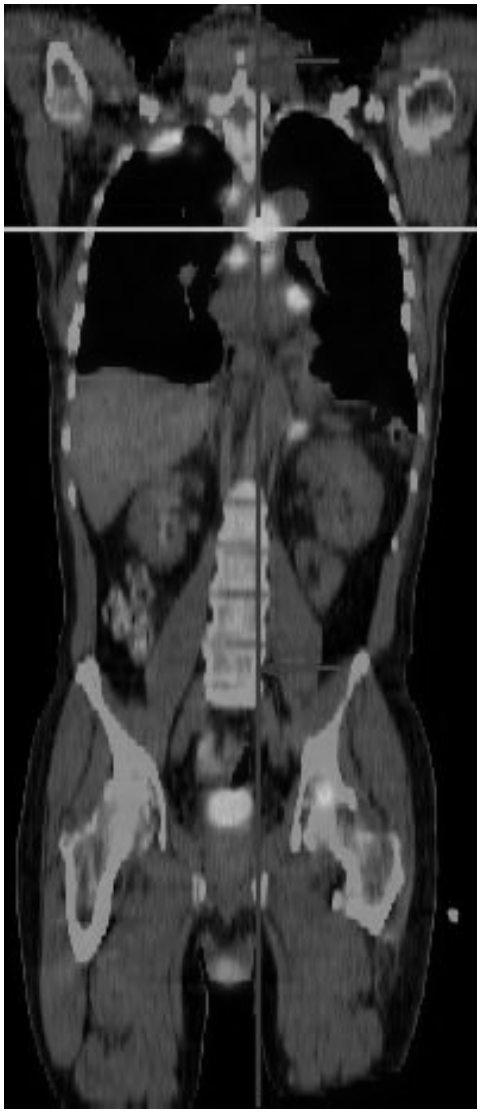
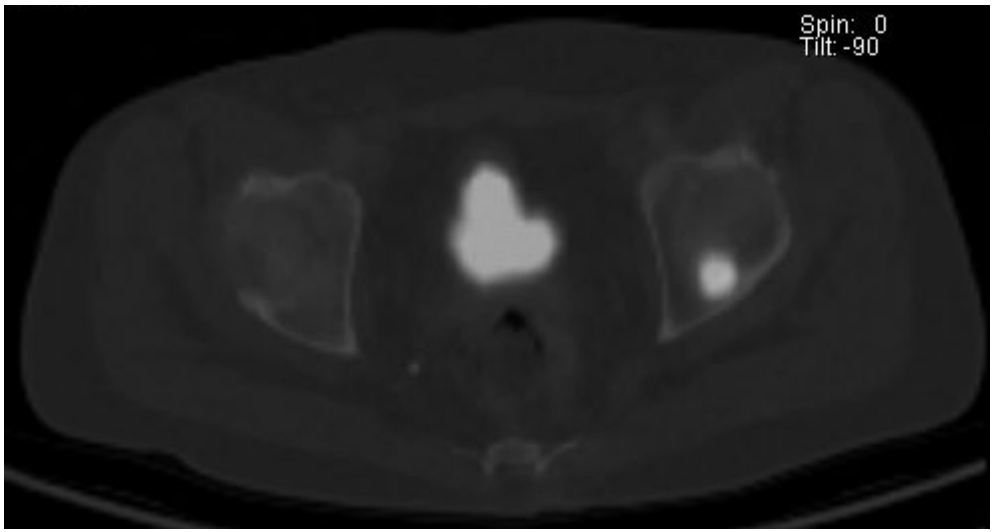


PET-CT: Ösophagus-Karzinom



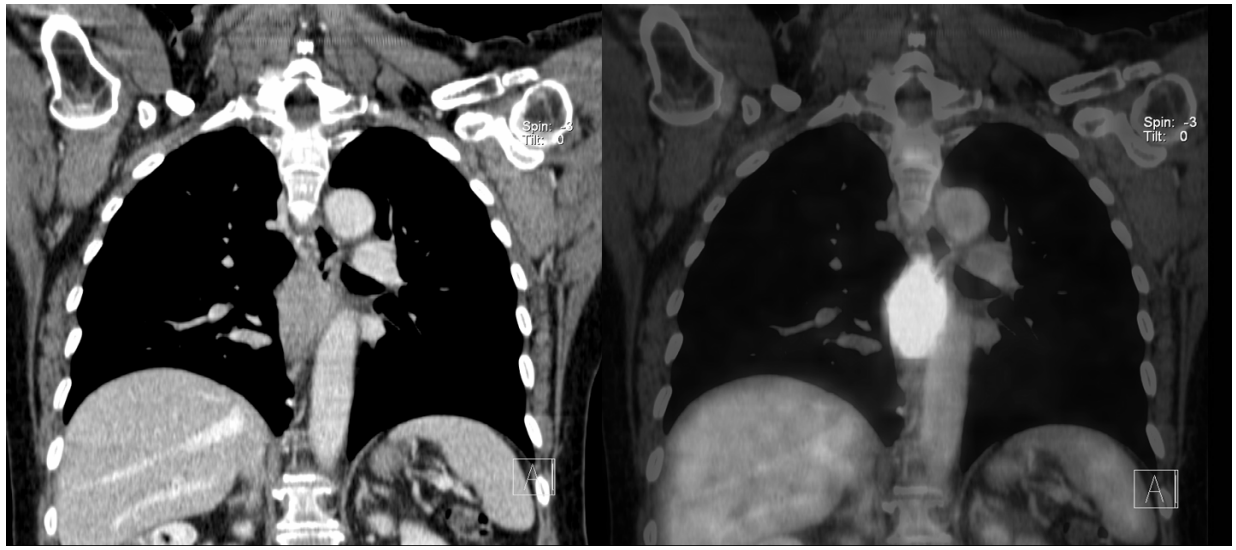
PET-CT: Ösophaguskarzinom



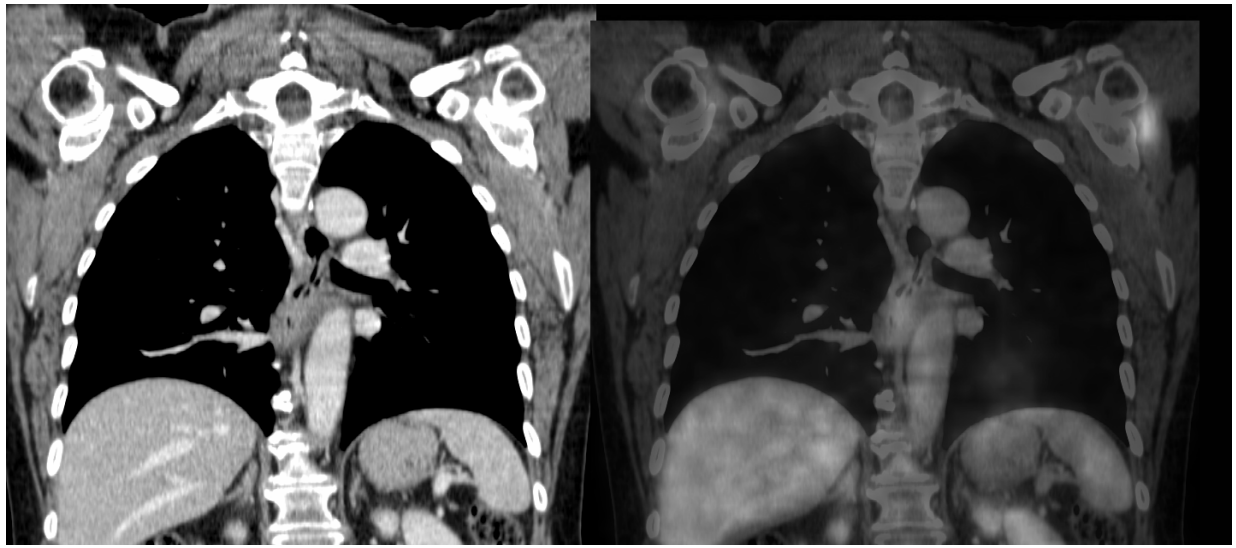


PET-CT: Ösophagus-Ca - Therapiekontrolle

63 j. Pat.:
Plattenepithel-Ca.
mittleres Drittel



Z.n. Radiochemo-
therapie



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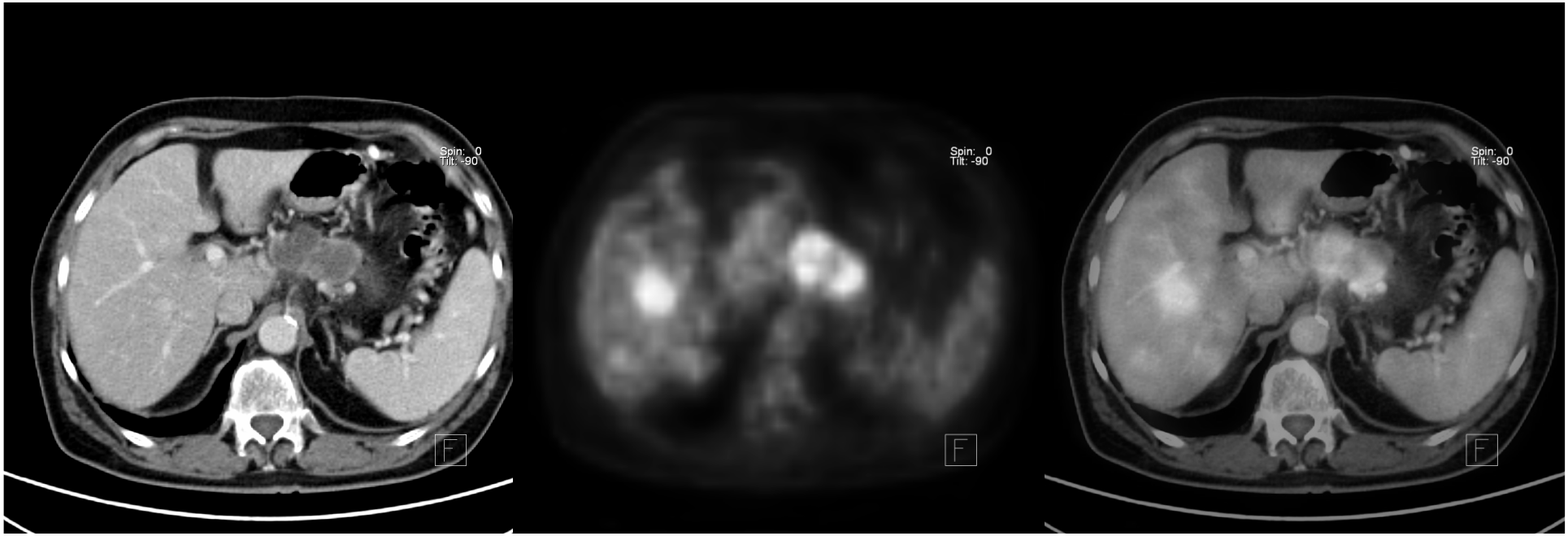
Spin: 0
Tilt: -90
F
Spin: 0
Tilt: -90
F
Spin: 0
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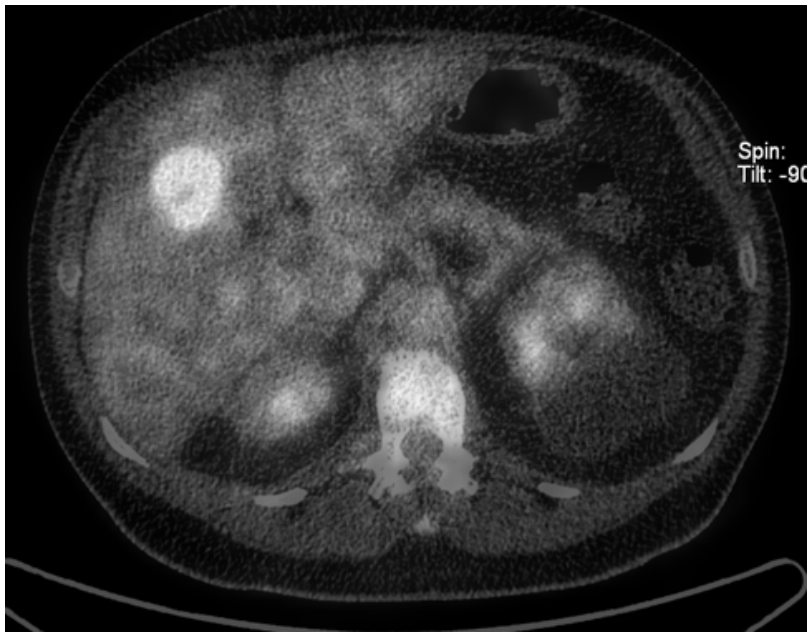
F

Rezidiv ?

- 61 J. Patient
- Hemicolektomie rechts
- Z.n. Metastasektomie Leber und LK-Dissketion
- Anstieg Tumormarker
- Auswärtiges CT (o.B.)

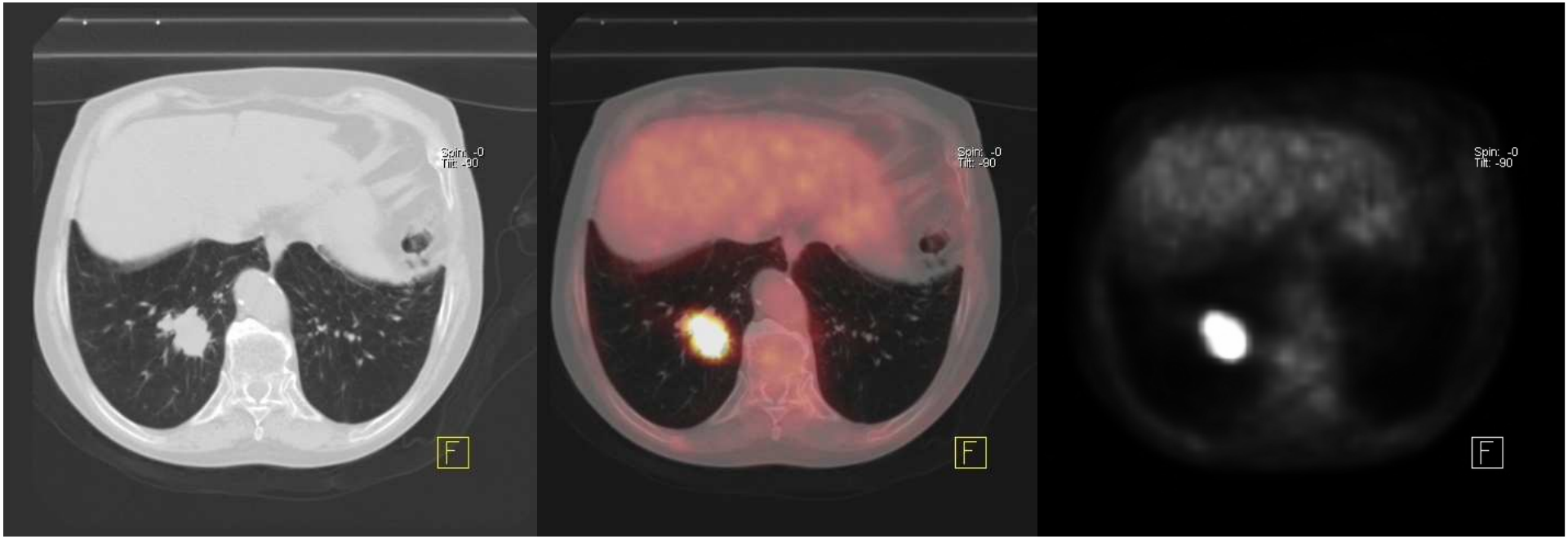
Rezidiv ?

PET-CT: Rezidiv ?



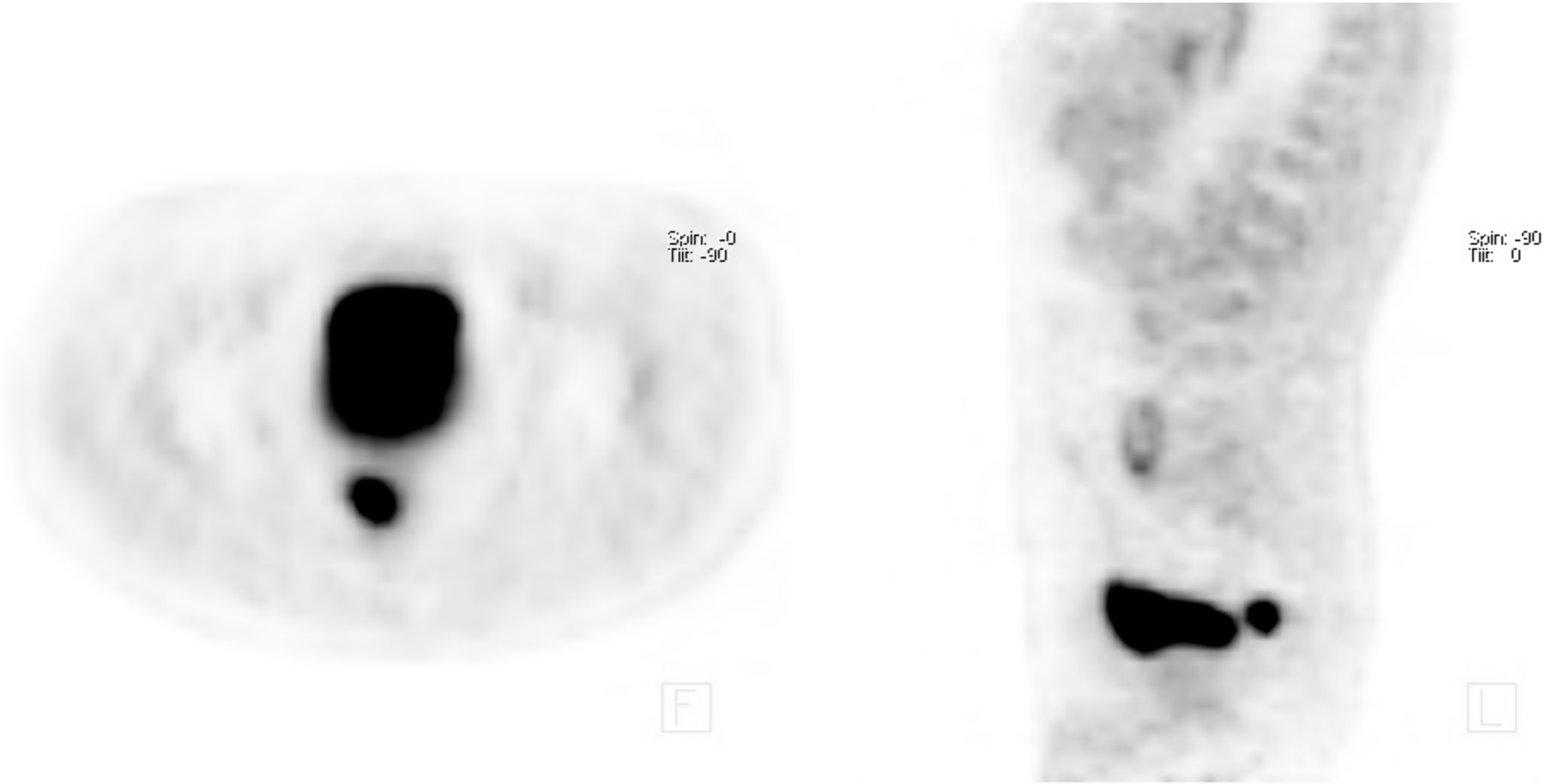
Kolonkarzinom (Niedrigdosis-CT gering hypodens)

PET-CT: Interessanter Fall

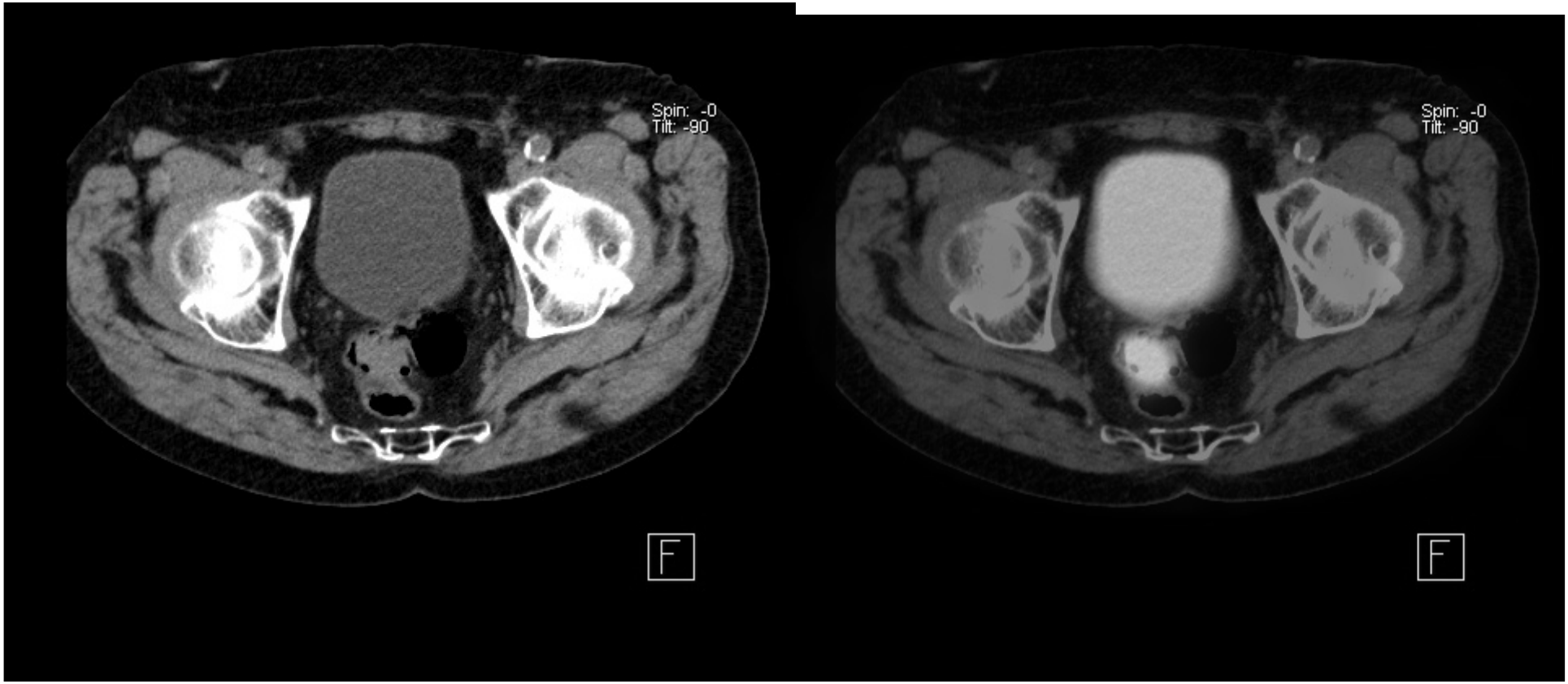


Bronchial-Karzinom zur Radiotherapie

PET-CT: Interessanter Fall ?



PET-CT: Interessanter Fall



Karzinom des Rectosigmoid

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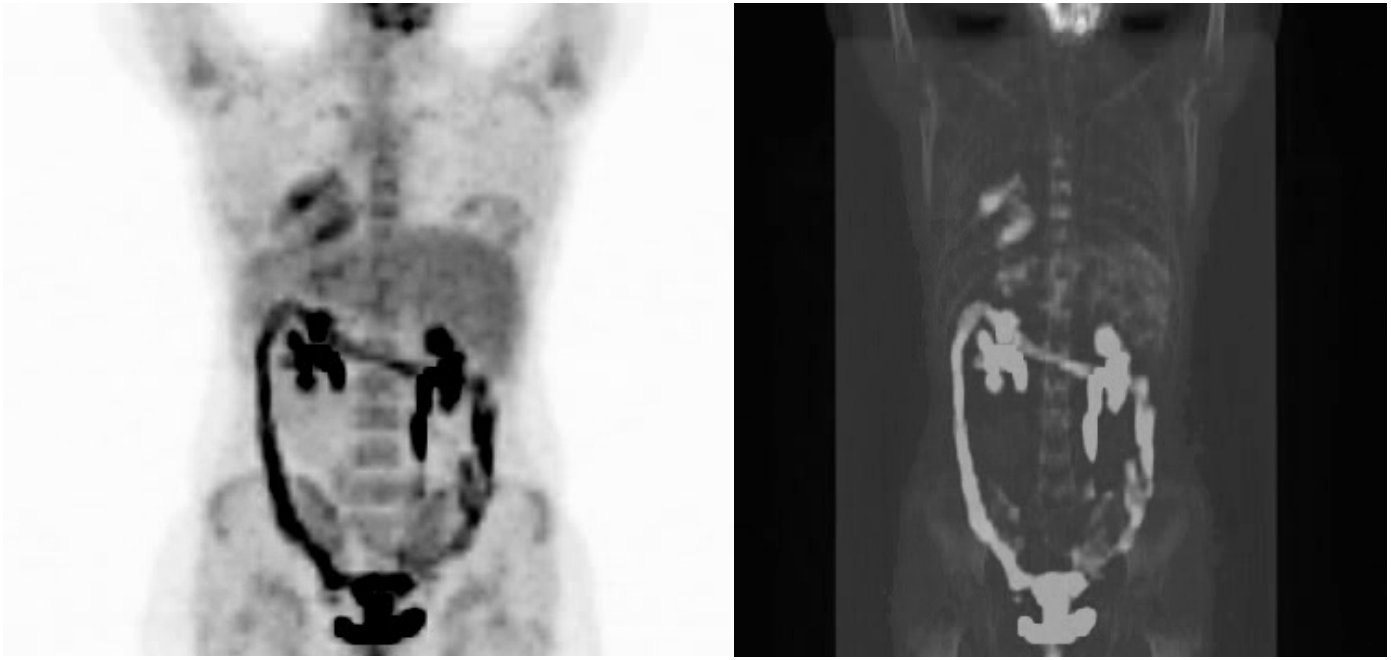

Colitis ulcerosa

PET-CT: HCC

Dias der Vorlesungen

- … Homepage der Nuklearmedizin
  - www.nuklearmedizin.uni-muenster.de
  - Reiter „Lehre“