

Inzidentalome – wenn weniger mehr ist

Stefan Bilz

stefan.bilz@kssg.ch

Victim of modern imaging technology
Overdetection

Diagnostic testing

Overuse

Screening

SPEW

low value care

VOMIT

Mild autonomous cortisol excess

Incidentaloma

Overdiagnosis

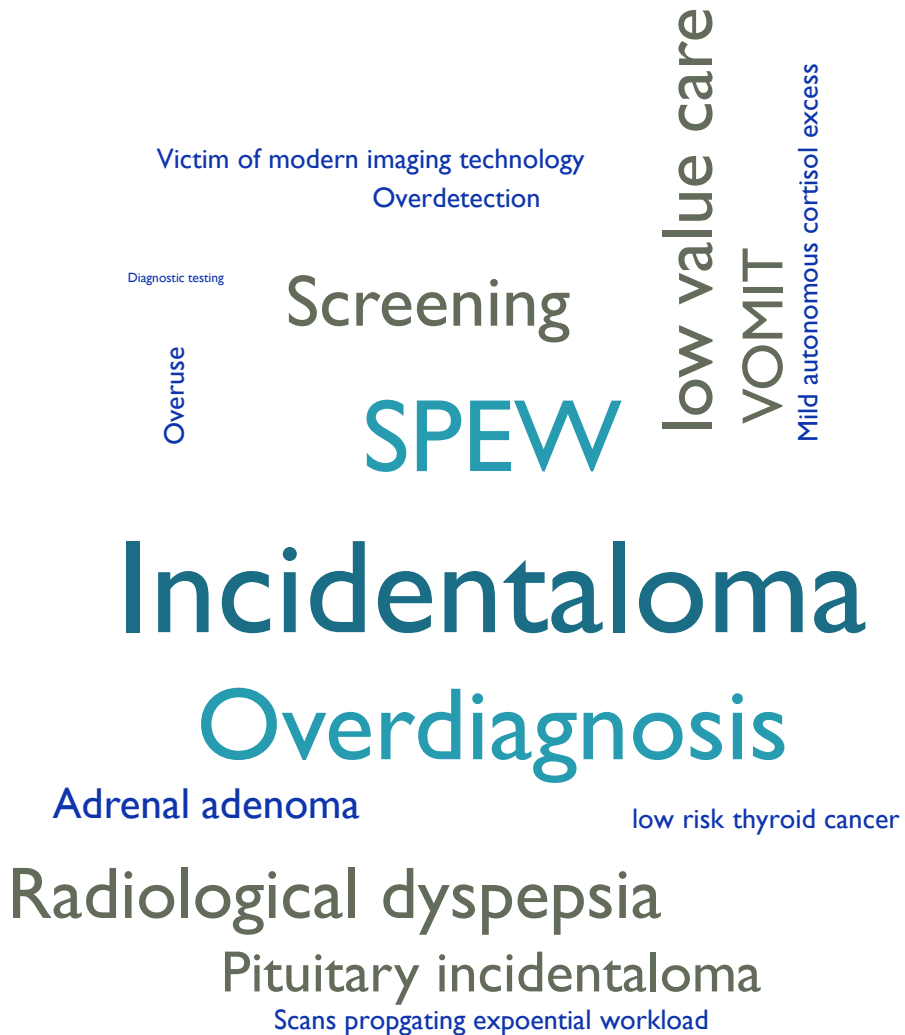
Adrenal adenoma

low risk thyroid cancer

Radiological dyspepsia

Pituitary incidentaloma

Scans propgating expoential workload



US Preventive Task Force Services

- 105 Empfehlungen; 77 zum Screening
- Nur 3 empfehlen eine bildgebende Untersuchung
- Lungencarcinom: jährliches low dose CT Thorax bei 50-80j mit > 20py Rauchern oder Rauchstopp < 15j
- Einmaliges US-Screening für abdominales Aortenaneurysma bei 65-75j Männern, die einmal geraucht haben
- Mammographie alle 2 Jahre bei 50-74j Frauen

(viele Empfehlungen, etwas nicht zu tun)

Prävalenz von Inzidentalomen

Untersuchung	Prozent	95% CI
CT Thorax	45	36 - 55
CT Koloskopie	38	21 - 57
MRI Herz	34	22 - 46
MRI Wirbelsäule	22	19 - 26
MRI Kopf	22	14 - 31
LE-CT	2	1 - 4
PET-CT	2	1 - 4

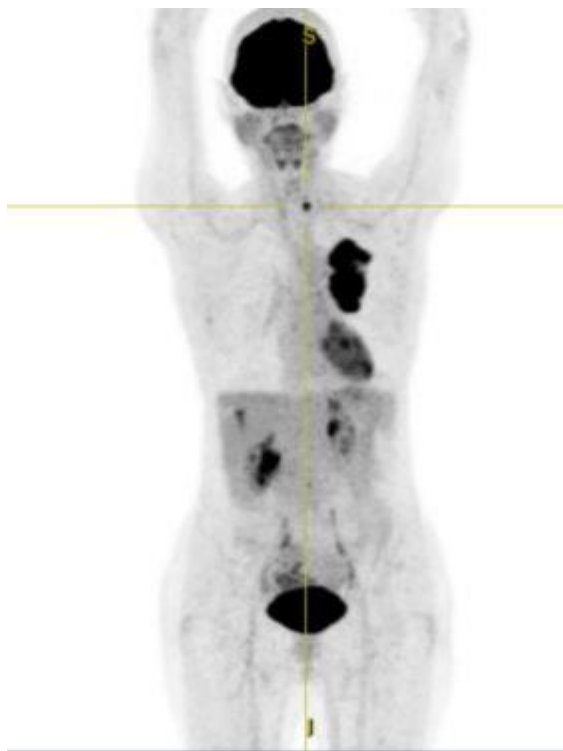
12.2% aller radiologischen Befunde enthalten eine Empfehlung für eine weitere Untersuchung

Häufigkeit **maligner** Inzidentalome

Organ	Prozent	95% CI
Brust	42	31 - 54
Ovar	28	11 - 48
Niere	25	16 - 34
Schilddrüse	19	15 - 24
Colon	17	12 - 21
Prostata	11	1 - 28
Nebenniere	0.0007	0 – 0.5
Hirn	0	0 – 0.0001

Schilddrüseninzidentalome

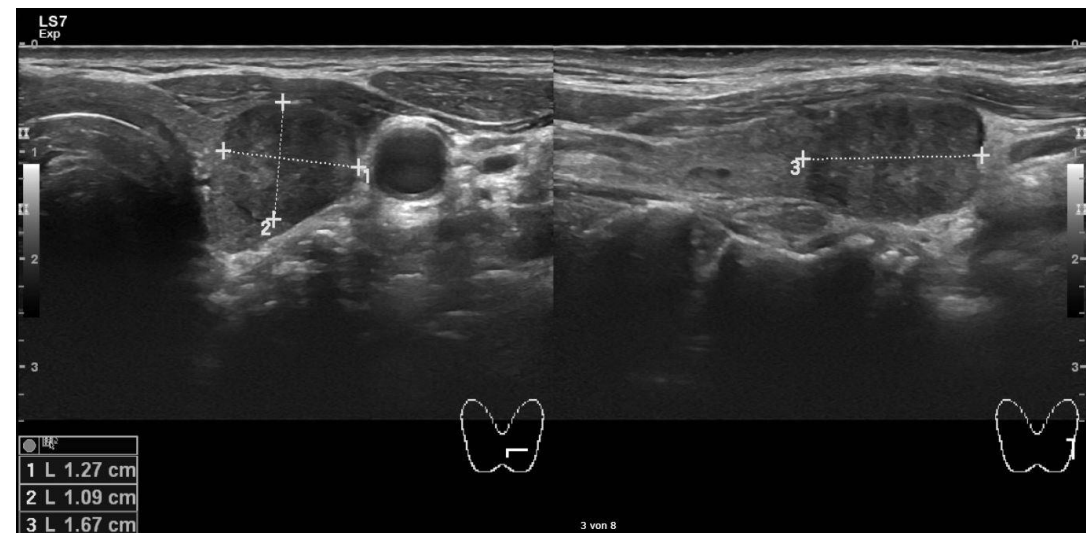
FDG-PET-CT



70J Patientin

Nicht kleinzelliges Bronchuscarcinom St. IV

Invasives Mammacarcinom



Sonographie Schilddrüse

Neck US, including the thyroid gland and the central and lateral cervical compartments, should be performed **in all patients suspected of nodular thyroid disease** (Strength of recommendation: I; quality of evidence: $\emptyset\emptyset\emptyset\emptyset$. Agreement: 9/9 (100%); round: I)

Durante et al.: 2023 European Thyroid Association Clinical Practice Guidelines for thyroid nodule management. Eur Thy J 12: 230067, 2023

Scenarios and recommendations for thyroid ultrasound use

Routine ultrasound strongly discouraged

- Screening for thyroid cancer
- Thyrotoxicosis
- Hypothyroidism
- Euthyroid Hashimoto thyroiditis
- Suspected painless thyroiditis or subacute thyroiditis

Balancing potential for overdiagnosis vs underdiagnosis

Considerations:

- Ultrasound unnecessary for diagnosis of primary condition
- Large potential to identify clinically non-significant disease

Recommendations:

- Examine for palpable thyroid nodules
- Educate on potential harms of incidental diagnosis

Ultrasound reasonable, but caution advised in interpreting incidental findings

- Equivocal or possible thyroid nodules on examination
- Thyroid nodules found in unrelated imaging

Considerations:

- Ultrasound defines extent and characteristics of known nodule
- Large potential to identify clinically non-significant disease

Recommendations:

- Discuss potential for incidental findings
- Educate on potential harms of incidental diagnosis

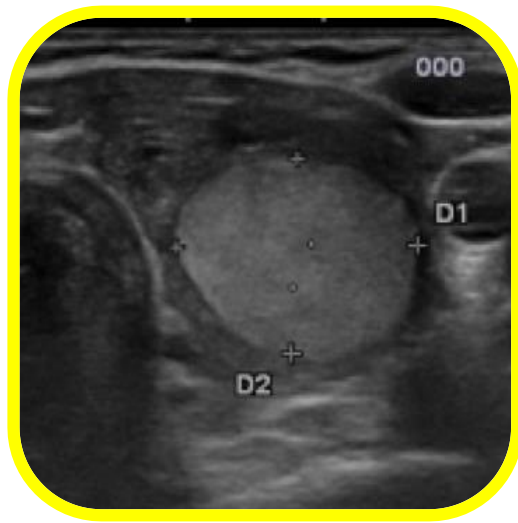
... Ultrasound is the recommended initial imaging modality to assess palpable thyroid nodules or thyroid nodules documented by other imaging techniques ...

- Palpable thyroid nodule or neck mass with examination findings of:
 - Objective voice change
 - Hard, palpable thyroid nodule
 - Fixed neck mass
 - Lymphadenopathy
- Low serum thyrotropin concentration with functional imaging findings of:
 - Focal thyroid uptake (to confirm diagnosis of an autonomous nodule)
 - Hypofunctional area in thyroid gland (to confirm presence of nodule)

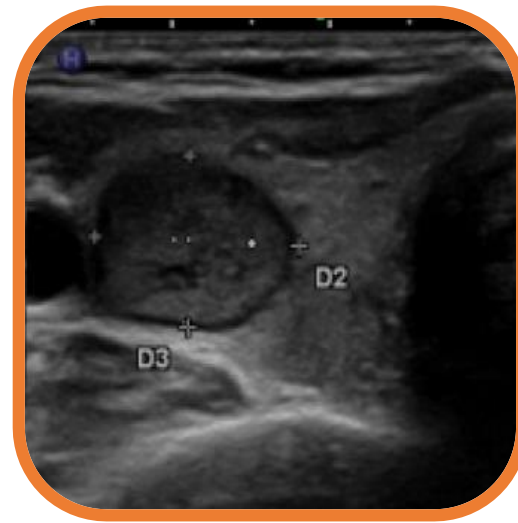
Sonographie – Thyroid Imaging Reporting And Data System



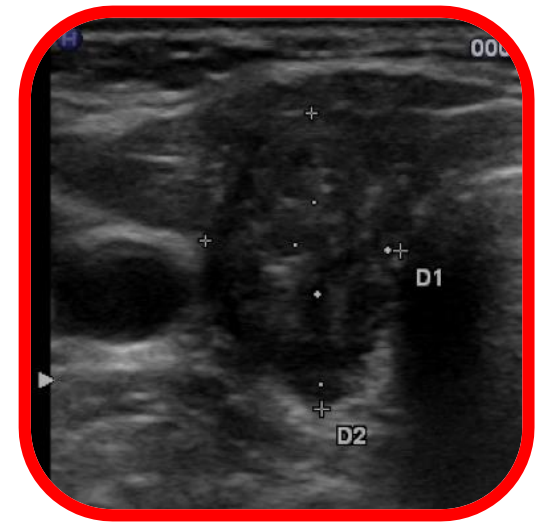
TIRADS 2
Benigne
0% maligne
Keine FNP



TIRADS 3
Niedriges Risiko
< 3% maligne
FNP > 2 cm



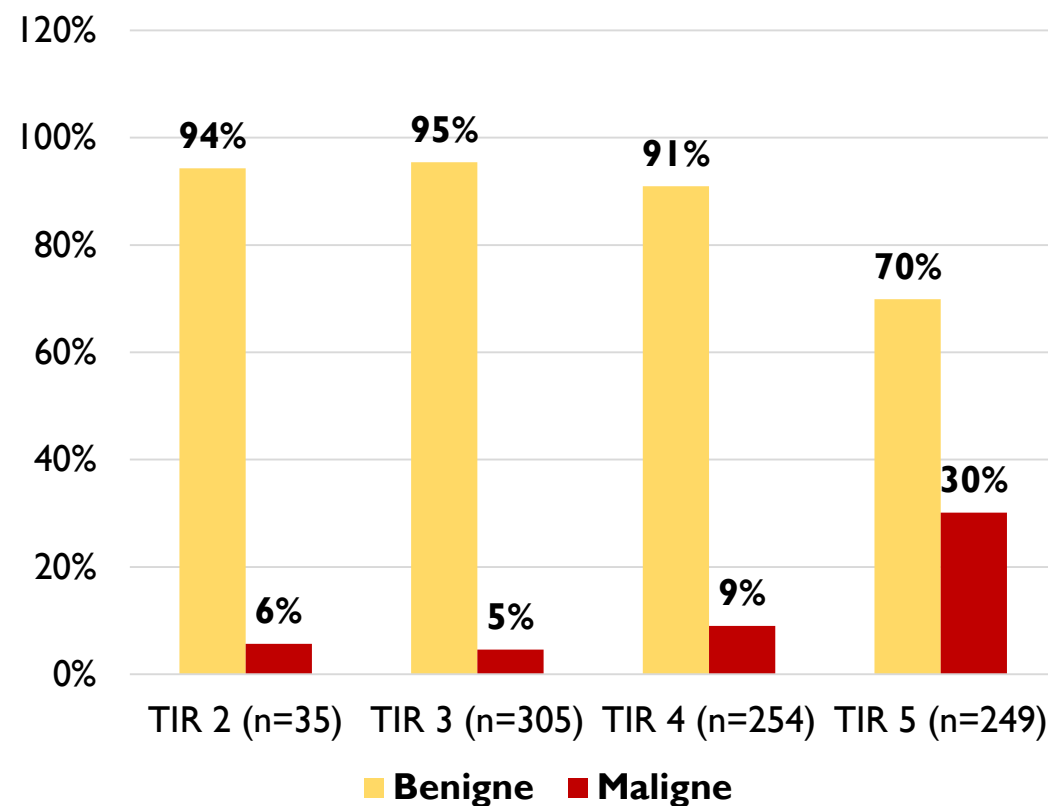
TIRADS 4
Intermediäres Risiko
5-10% maligne
FNP > 1.5 cm



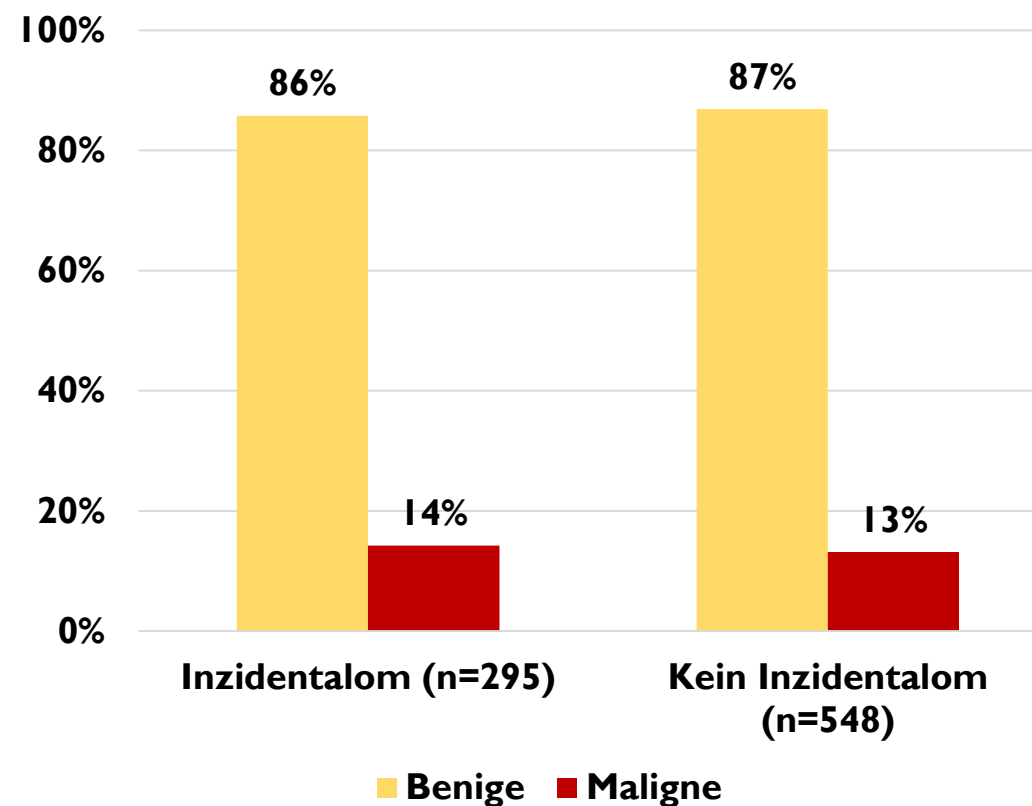
TIRADS 5
Hohes Risiko
26-87% maligne
FNP > 1 cm

35% aller Schilddrüsenknoten sind Inzidentalome

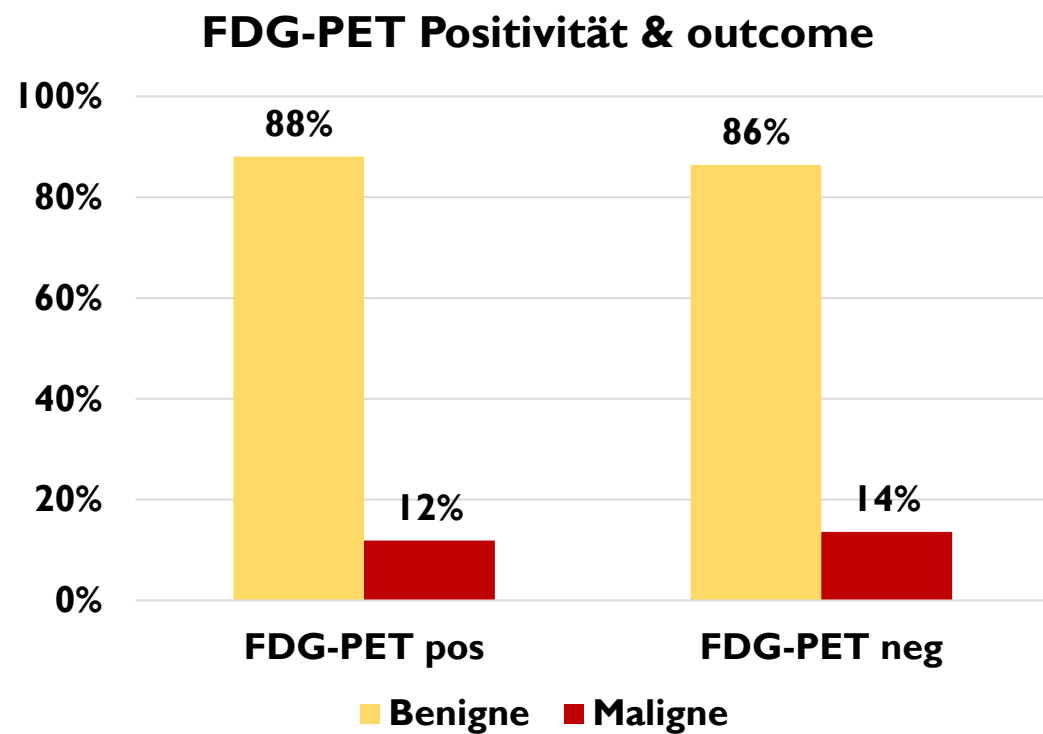
EU-TIRADS-Kategorie & Outcome



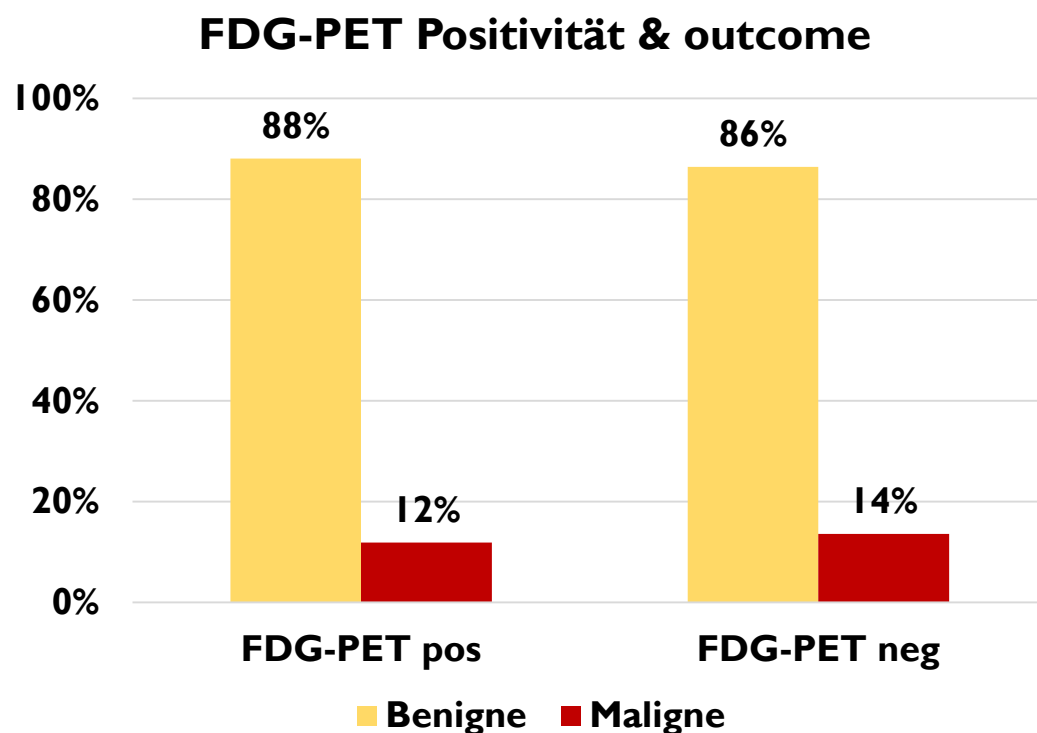
Inzidentalome & Outcome



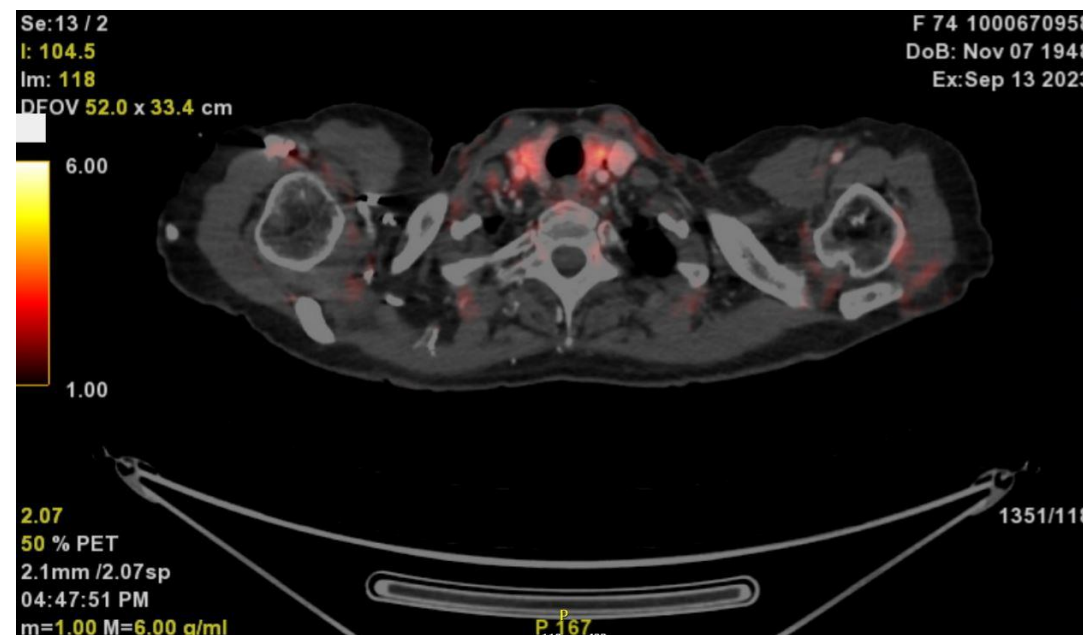
FDG-PET positive SD-Knoten



FDG-PET positive SD-Knoten

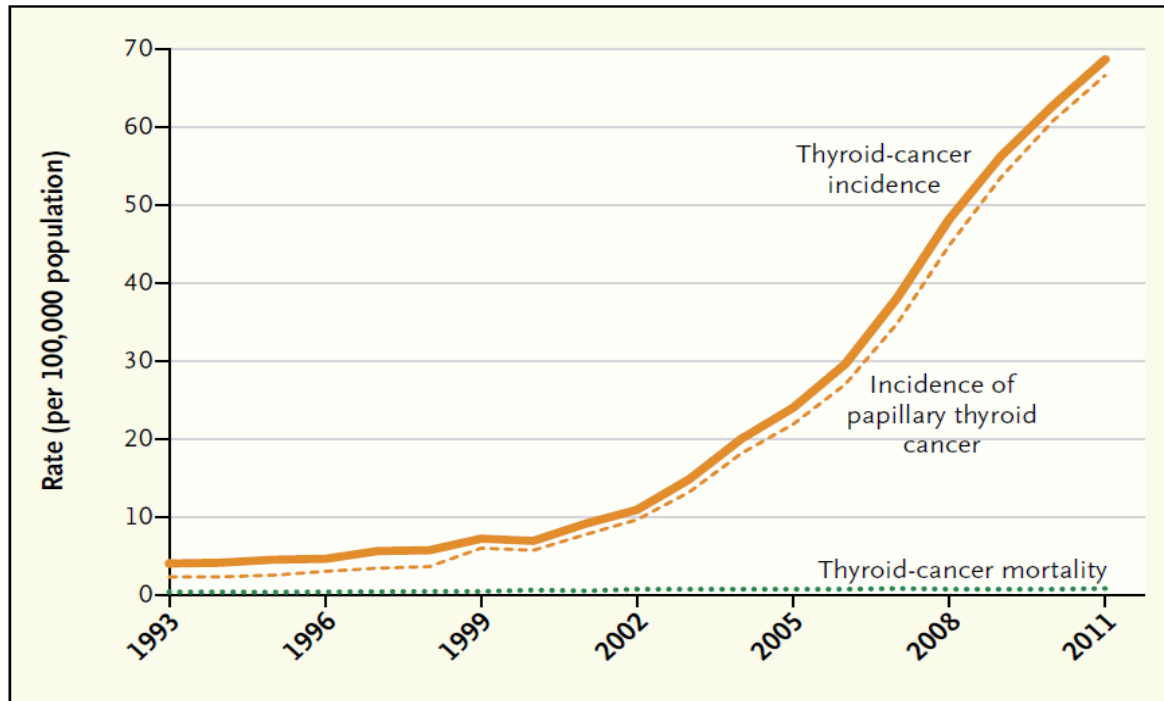


Diffuser FDG-Uptake der SD



Chronische Autoimmunthyreoiditis

Schilddrüsenkarzinom-Screening, Inzidenz und Mortalität: Südkoreanisches Experiment



Thyroid-Cancer Incidence and Related Mortality in South Korea, 1993–2011.

Data on incidence are from the Cancer Incidence Database, Korean Central Cancer Registry; data on mortality are from the Cause of Death Database, Statistics Korea. All data are age-adjusted to the South Korean standard population.

Grosses Reservoir von klinisch bedeutungslosen Schilddrüsenkarzinomen (papilläre Mikrokarzinome)

- 1. Keine Abklärung von Knoten < 1 cm**
- 2. Grosse Zurückhaltung bei Bildgebung !**

Untersuchung I. Wahl !!!



Removing the Thyroid From Images, Not From Patients

H. Gilbert Welch, MD, MPH

Clinically Silent Thyroid Cancers: Drop Those Needles and Scalpels!

Cosimo Durante¹ and Giorgio Grani¹

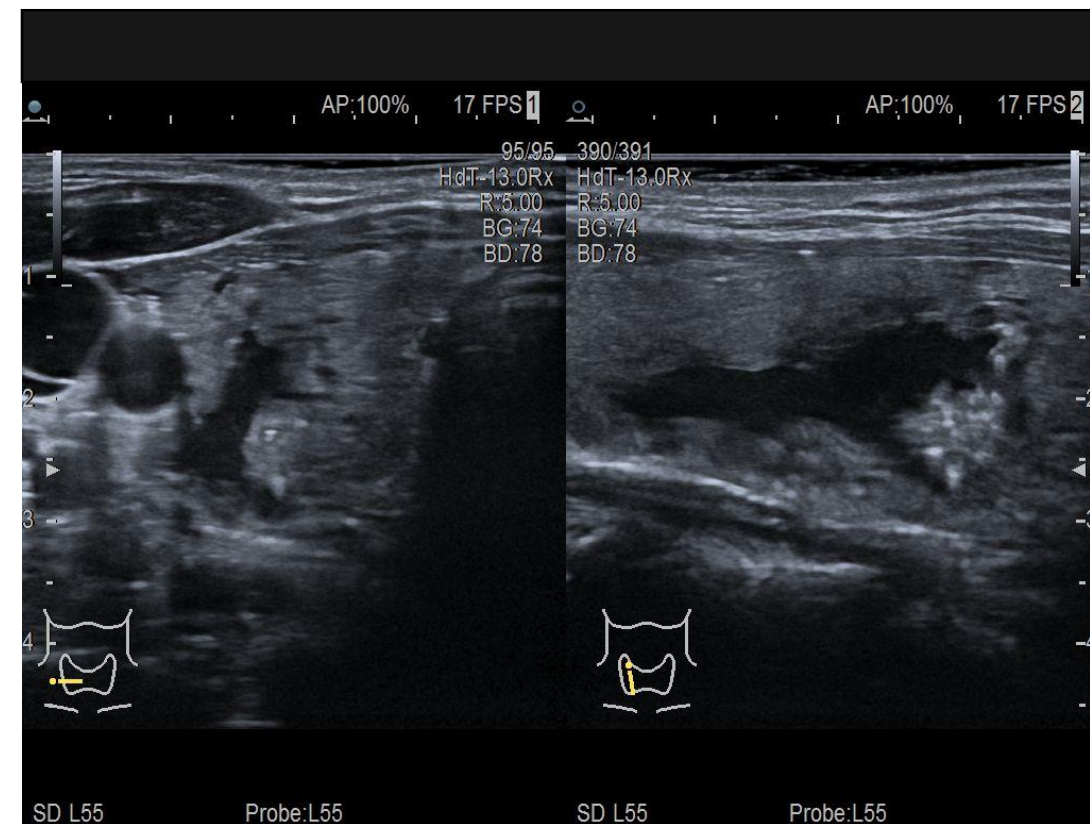
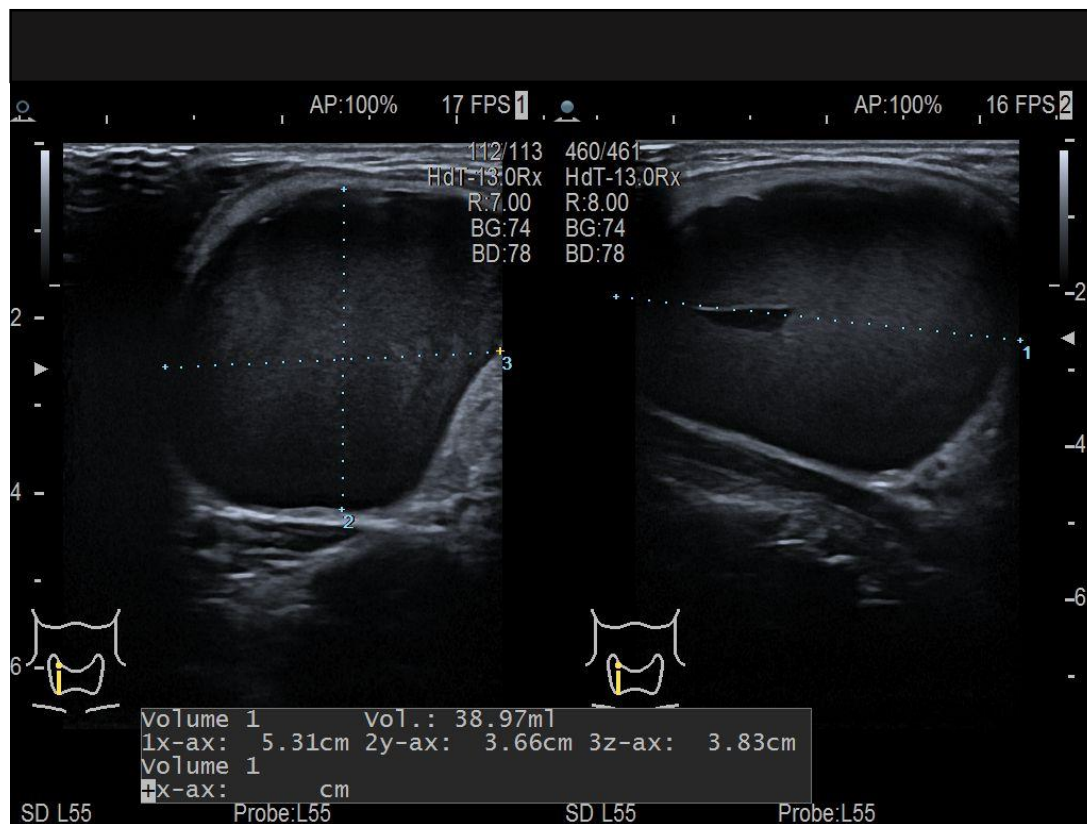
¹Department of Translational and Precision Medicine, Sapienza University of Rome, Viale del Policlinico 155, 00161 Rome, Italy

ORCID numbers: [0000-0002-1791-5915](https://orcid.org/0000-0002-1791-5915) (C. Durante); [0000-0002-0388-1283](https://orcid.org/0000-0002-0388-1283) (G. Grani).

Key Words: papillary thyroid carcinoma, microcarcinoma, incidentaloma, screening, management

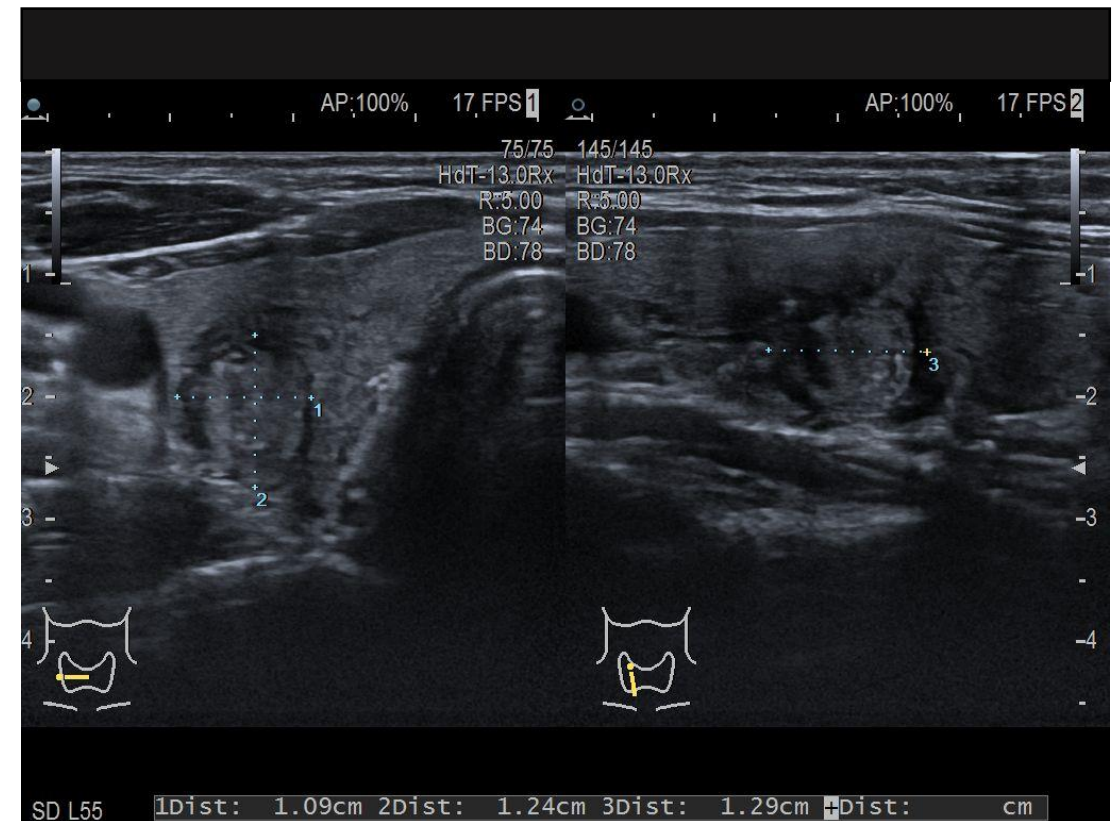
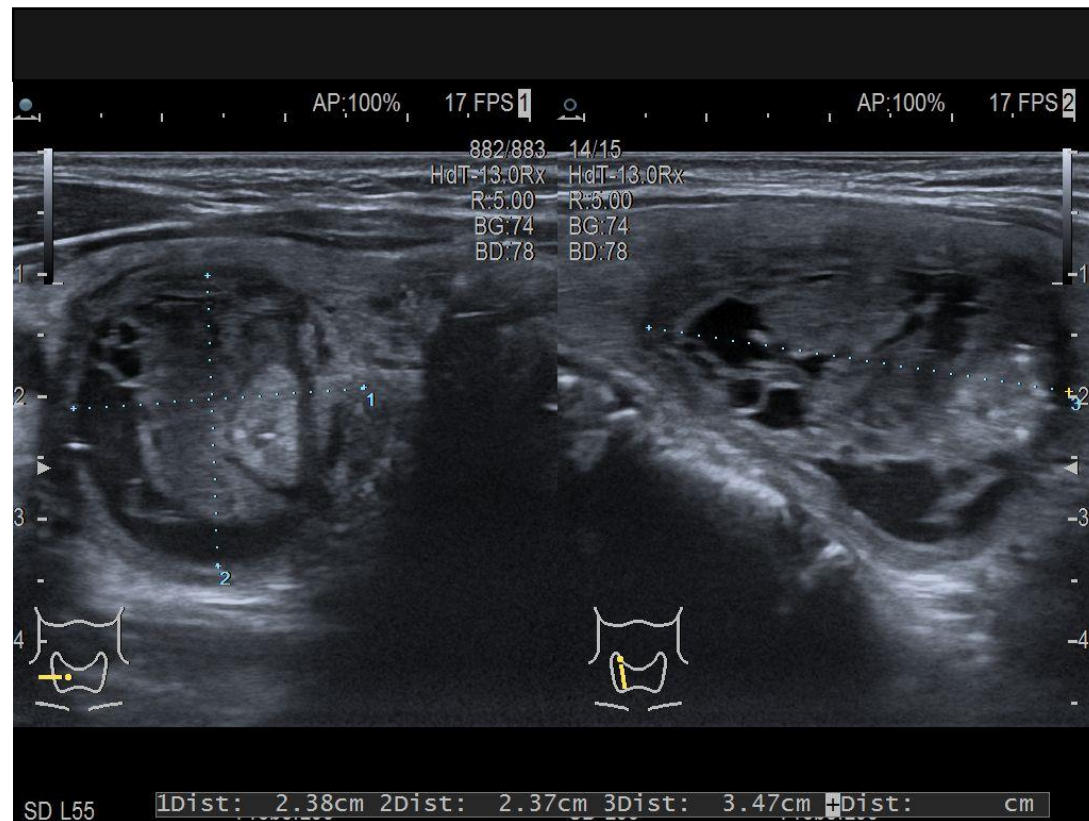
Symptomatische Schilddrüsenzyste (EU-TIRADS 2)

Entleerung von 35 ml dunkelbrauner Flüssigkeit (Bethesda I)

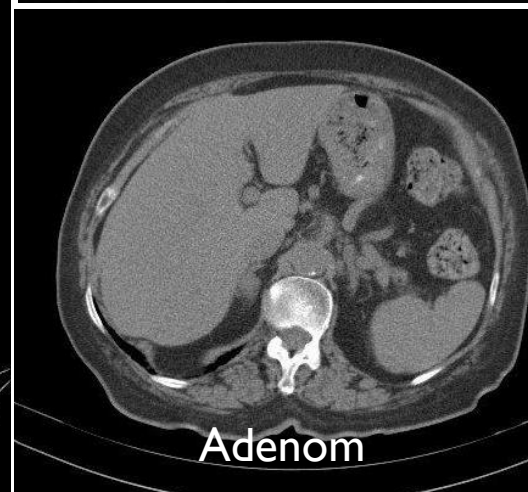
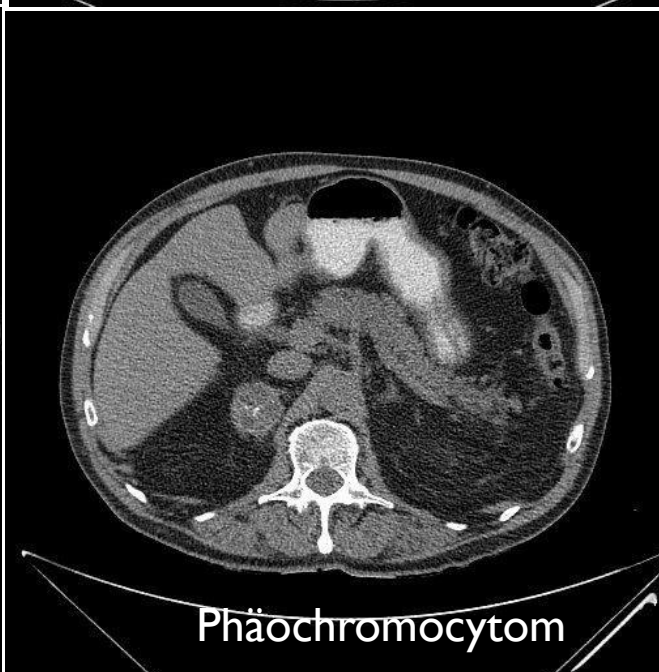
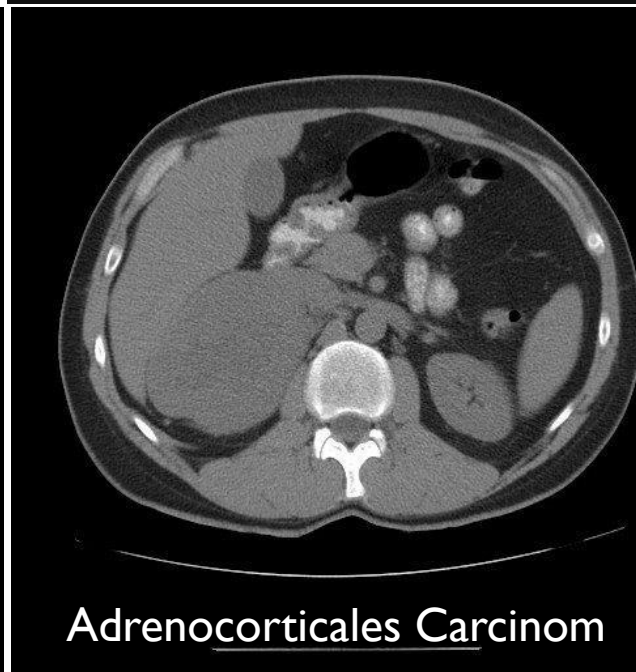
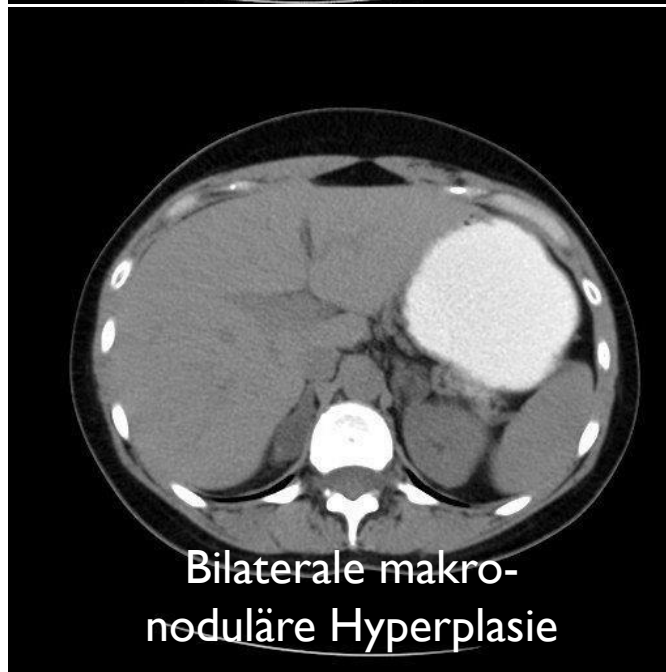
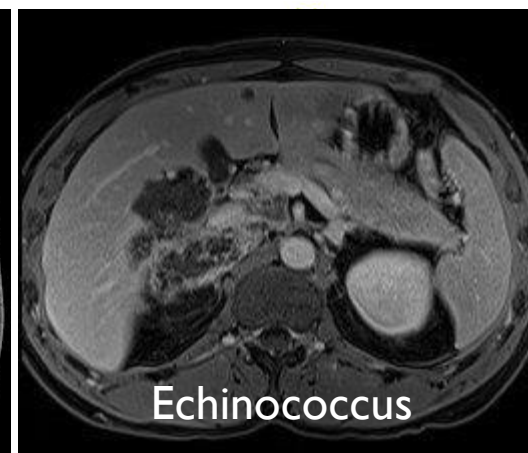
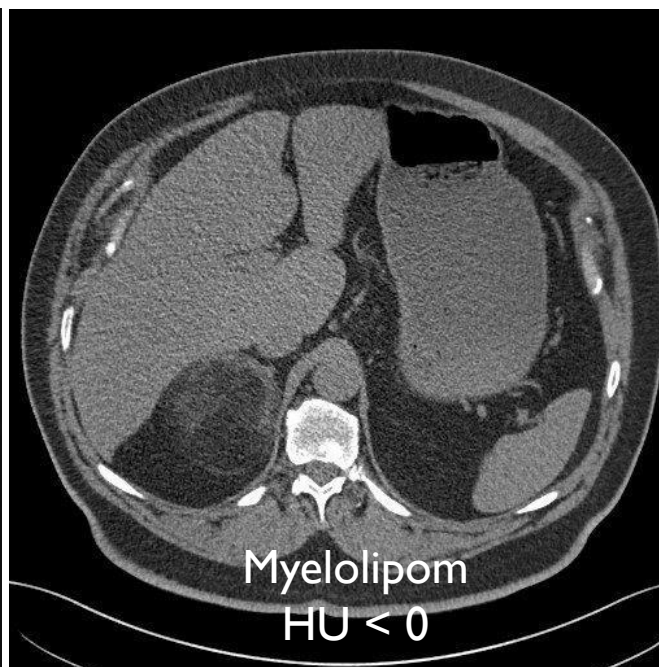
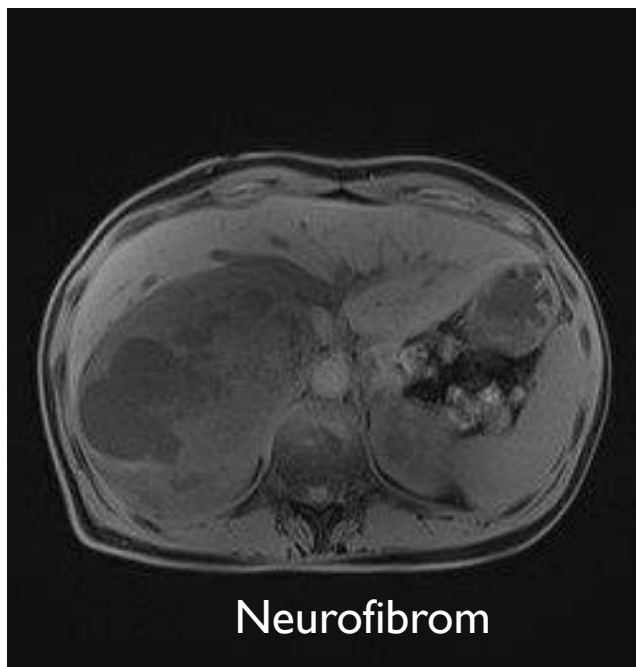
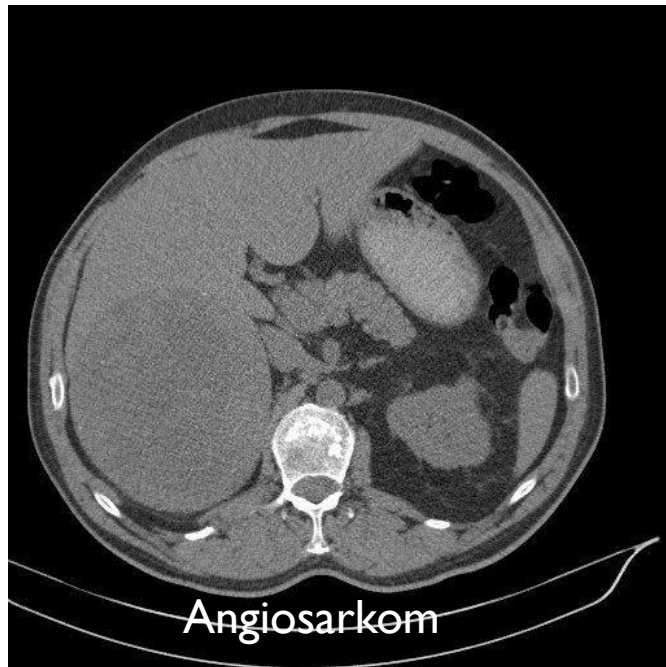


Erneute Zystenentleerung und Instillation von Ethanol: Verlauf nach 1 Mo und 1 Jahr

(im Rahmen der ambulanten Sprechstunde, ca. 15 min)



**Consider EA as the first-line treatment for pure, or dominantly cystic, thyroid lesions
(Strength of recommendation: I; quality of evidence: $\emptyset\emptyset\emptyset\emptyset$. Agreement: 9/9 (100%); round: I)**



Kombinierte Teststrategie zur Risikoprädiktion: Grösse und CT-Charakteristika

	Imaging negative (cutoff HU <10)	Imaging positive (cutoff HU ≥10)
Tumour diameter <4 cm	N=1080 0 ACC	N=449 2 ACC
Tumour diameter ≥4 cm	N=210 0 ACC	N=278 96 ACC

	Imaging negative (cutoff HU ≤20)	Imaging positive (cutoff HU >20)
Tumour <4 cm	N=1306 0 ACC	N=223 2 ACC
Tumour ≥4 cm	N=241 1 ACC	N=247 95 ACC

European Society of Endocrinology clinical practice guidelines on the management of adrenal incidentalomas, in collaboration with the European Network for the Study of Adrenal Tumors (2023)

- R.2.2 We recommend that all adrenal incidentalomas undergo an imaging procedure to determine if the mass is homogeneous and lipid-rich and therefore benign ($\oplus\oplus\oplus\circ$). For this purpose, we recommend the use of **noncontrast CT as the first imaging modality** if not yet performed ($\oplus\oplus\oplus\circ$).
- R.2.3 We recommend that if the noncontrast CT is consistent with a **benign adrenal mass** (homogenous appearance and Hounsfield units [HU] ≤ 10), **no further imaging** is required ($\oplus\oplus\oplus\circ$)
- **Häufige Situation: ED iR Kontrast-CT**
- **Weiterabklärung mit Nativ-CT ausreichend !!**

Zuweisung

Ich möchte Ihnen Herrn xxx zur konsiliarischen Untersuchung zuweisen.

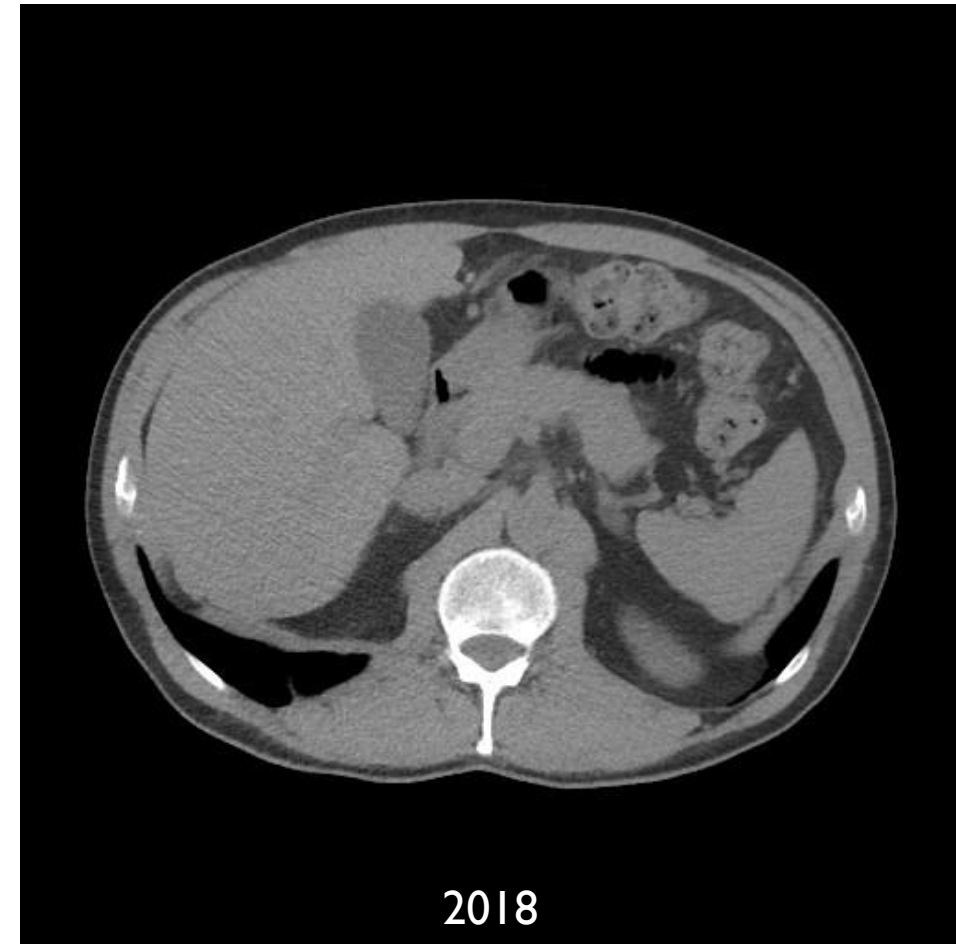
Diagnose: Inzidentalom linke Nebenniere medialer Schenkel

Im Rahmen einer länger andauernden Divertikulitis wurde ein Abdomen-CT durchgeführt (siehe CT-Befund). Als Nebenbefund fand sich ein Inzidentalom der linken Nebenniere, das weiter abgeklärt werden sollte.

Darf ich Sie bitten, den Patienten direkt zur ambulanten Untersuchung im neuen Jahr anzubieten

**64 jähriger Patient, Grösse 178 cm, Gewicht 80 kg, BMI 25.3 kg/m², KOF 2.0 m²,
Blutdruck 145 / 85 mmHg (rechts sitzend), Blutdruck 127 / 79 mmHg (links sitzend),
Puls 57 /min (rhythmisch)**

PA: kein DM, keine Hypertonie, muskuloskelettale Beschwerden, normale Knochendichte



European Society of Endocrinology clinical practice guidelines on the management of adrenal incidentalomas, in collaboration with the European Network for the Study of Adrenal Tumors (2023)

- R.3.2 We recommend that **patients with adrenal incidentalomas undergo a 1-mg overnight dexamethasone suppression test to exclude autonomous cortisol secretion** ($\oplus\oplus\oplus\circ$). In frail patients with limited life expectancy, this test may not be warranted.
- R.3.4 ...A repeat DST to confirm cortisol secretory autonomy is recommended ...



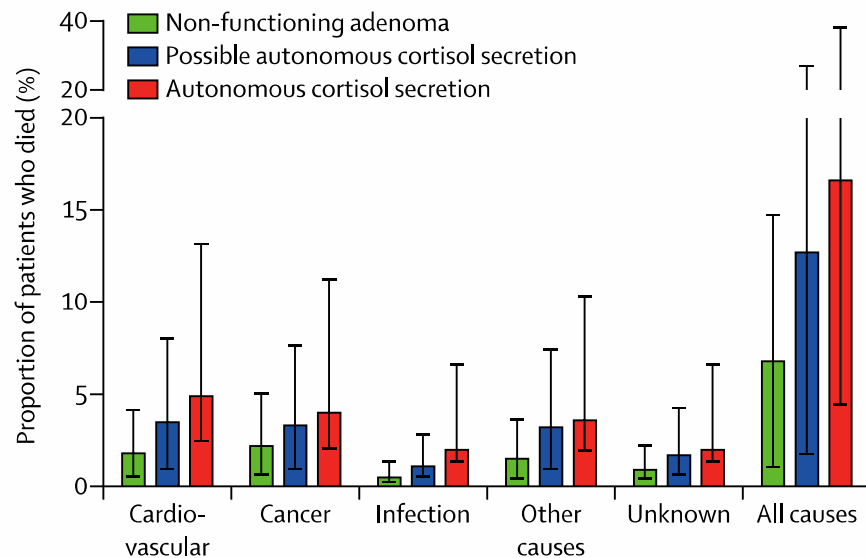
KSSG:

13'000 CT Thorax/Abdomen/Jahr

5% = 650 pot. NN-Adenome

-> 1300 1 mg Dex-Hemmtests !!!

Assoziation von mildem autonomem Cortisolexzess mit Mortalität



	Age, years	All patients, n	All events, n	Possible autonomous cortisol secretion				Autonomous cortisol secretion			
				Patients, n	HR	95% CI	p value	Patients, n	HR	95% CI	p value
Women	<65	1424	51	472	1.82	0.99–3.31	0.052	96	4.39	1.93–9.96	<0.001
	≥65	723	108	302	1.99	1.31–3.01	0.001	57	1.80	0.86–3.76	0.12
Men	<65	734	43	222	1.35	0.70–2.59	0.37	34	1.77	0.59–5.33	0.31
	≥65	479	94	200	1.26	0.81–1.97	0.31	36	1.09	0.55–2.16	0.81

The analysis was adjusted for hypertension, any diabetes, dyslipidaemia, and previous cardiovascular events. Patients with missing data for these variables were excluded from the analysis. Patients with non-functioning adenoma were the reference cohort. HR=hazard ratio.

Table 2: Multivariable Cox regression analysis of all-cause mortality by sex and age

European Society of Endocrinology clinical practice guidelines on the management of adrenal incidentalomas, in collaboration with the European Network for the Study of Adrenal Tumors (2023)

- R.3.8 We **recommend discussing the option of surgery with the patient who has MACS** in addition to relevant comorbidities and a unilateral adrenal mass ($\oplus\circ\circ\circ$). Age, sex, general health, degree and persistence of nonsuppressible cortisol after dexamethasone, severity of comorbidities, and patient's preference should be taken into account ($\oplus\circ\circ\circ$). In all cases, the proposal to perform surgery should be established within an expert multidisciplinary group

Inzidentalome

- Relevanter Anteil endokrinologischer Konsultationen
- Grosses Potential für “low value care“ mit „Radiologischer Dyspepsie“ und verängstigten Patienten
- Abklärungen nach „shared decision making“ im Gesamtkontext der Situation des Patienten
- Verzicht ist whs. oft ein Gewinn