



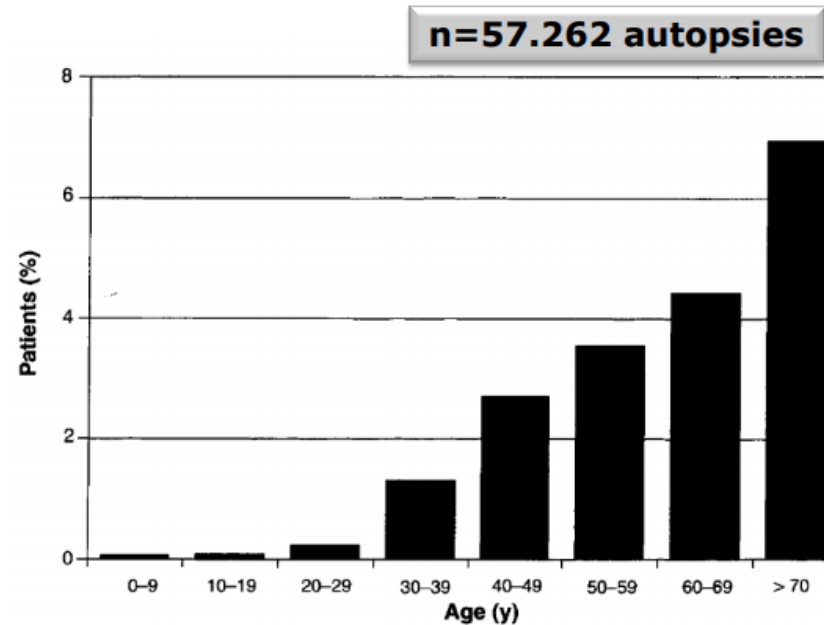
Isala
klinieken

Bij toeval
gevonden
tumoren van de
bijnier

Het bijnier-incidentaaloem

Hoe vaak
komt dit
voor?

PREVALENCE OF ADRENAL INCIDENTALOMA



Mean prevalence AI:

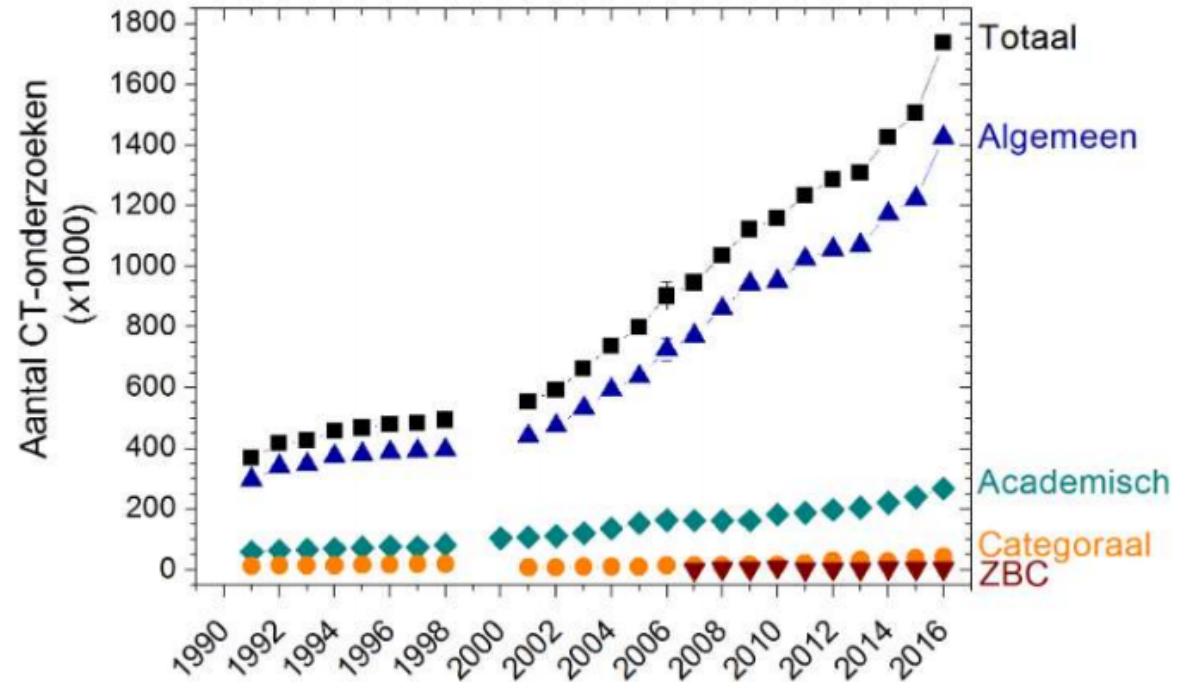
- autopsy: 6%
- CT series: 4%

Young. *Endocrinol Metab Clin North Am* 2000
Zeiger *et al.* *J Clin Endocrinol Metab* 2011



Hoe komt het
dat er steeds
vaker
gezwellen van
de bijnier(en)
worden
gevonden?

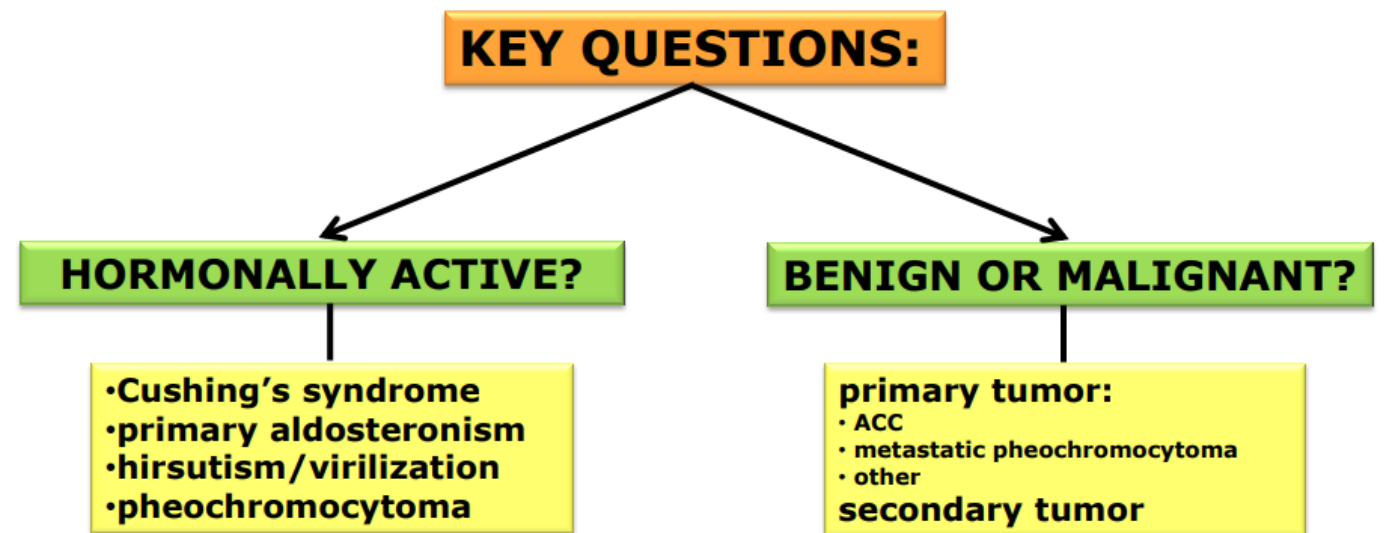
ANNUAL NUMBER OF CT SCANS





Wat zijn de belangrijkste vragen die moeten worden beantwoord?

EVALUATION OF ADRENAL INCIDENTALOMA





Hoe kunnen we
die 2
sleutelvragen
beantwoorden?

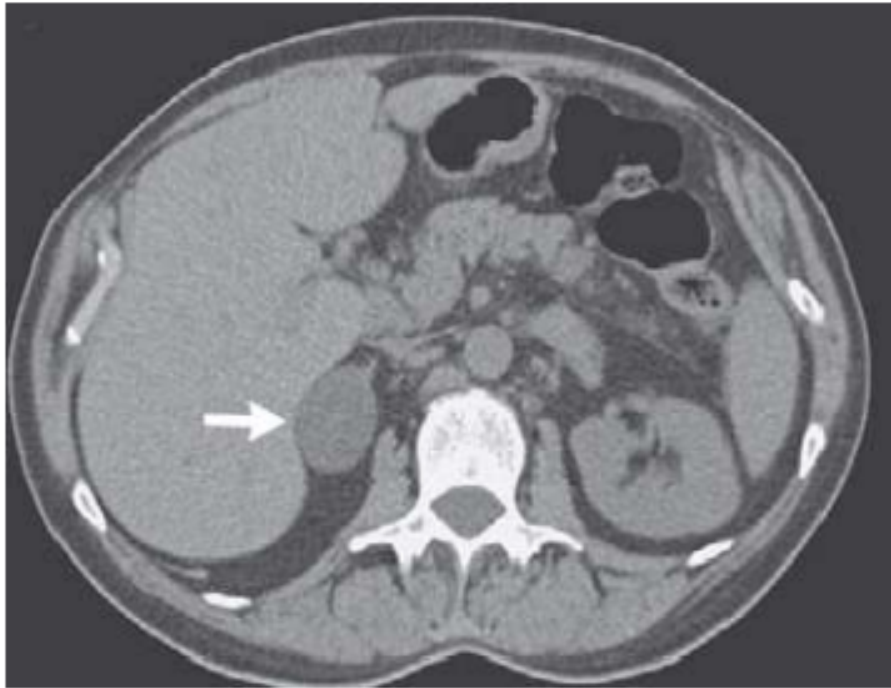
Hormonaal onderzoek

- Is er overproductie van bijnierschors hormoon?
- Is er overproductie van stress-hormonen? (adrenaline, noradrenaline)

Afbeelden onderzoek met CT-scan

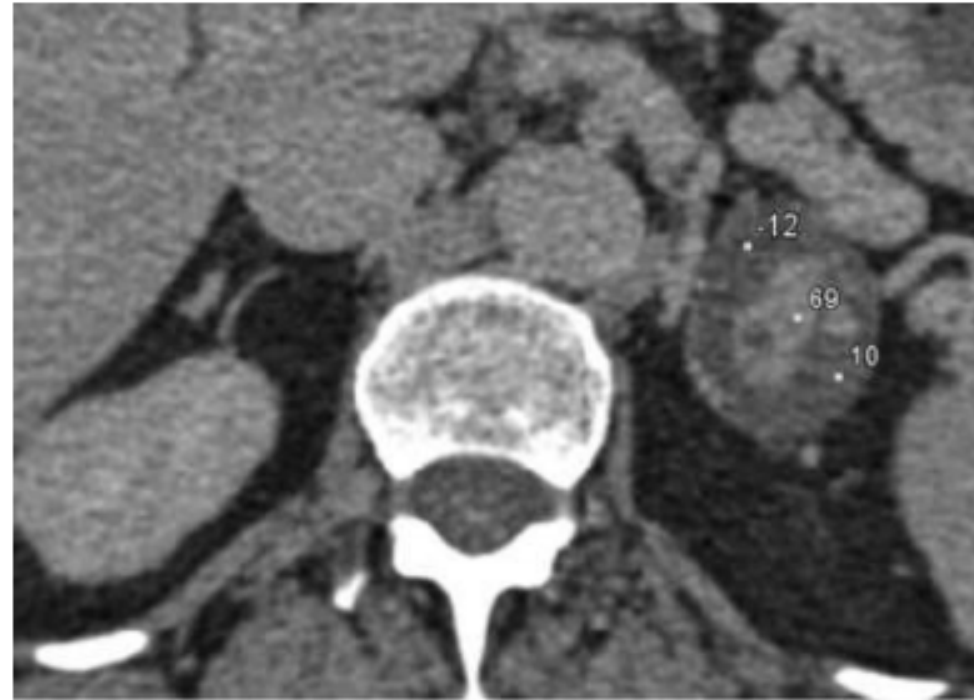
- Hoe ziet de vergrote bijnier eruit op de CT scan? Bepaalde kenmerken?
- Is er sprake van groei?

CT SCAN: ADENOMA VS. CARCINOMA



Adenoma

- sharp margins
- homogeneous
- diameter ≤ 4 cm
- density ≤ 10 HU
- APW $> 60\%$; RPW $> 40\%$



Carcinoma

- irregular margins
- heterogeneous
- diameter > 4 cm
- density > 10 HU
- APW $< 60\%$; RPW $< 40\%$

Een bij toeval
gevonden
gezwel in de
bijnier is
slechts
zelden
kwaadaardig.

KEY QUESTION: BENIGN OR MALIGNANT?

Primary malignancies adrenal gland

- adrenocortical carcinoma
- malignant pheochromocytoma
- neuroblastoma

very rare:

- primary adrenal lymphoma
- primary malignant melanoma
- adrenal leiomyosarcoma
- adrenal angiosarcoma

Secondary malignancies adrenal gland

- ~ 1/3 of patients with cancer
- 40-50% bilateral disease
- > 90% are carcinomas
- primary tumors:
 - breast } ~ 80%
 - lung }
 - GI tract
 - kidney
 - skin (melanoma)
 - ovary

Wat is de beste aanpak?

Experts opinion	Endocrine tests	Tests and frequency	Duration	Imaging	Frequency
NIH Consensus statement 2002 ⁴	1 mg DST, plasma free metanephrines, K and PRA/aldo in hypertensive patients	Annual	4 years	Monitor mass <4 cm. In addition to size use additional criteria in 4-6 cm mass	Two CTs, at least 6 months apart, no data to support continued imaging if size remain stable
Young, 2007 ¹³	1 mg DST, urinary metanephrines and catecholamines, K and PRA/aldo in hypertensive patients	Annual	4 years	Monitor mass <4 cm	CT at 6, 12 and 24 months
French Society of Endocrinology Consensus, 2008 ⁶²	1 mg DST, glycemia, plasma and urinary metanephrines, K and PRA/aldo in hypertensive patients	1 mg DST, plasma and urinary metanephrine at 6 months then 1 mg DST at 2 and 5 years	5 years	Monitor mass <4 cm	CT at 6 months and then at 2 and 5 years
AACE/AAES Medical Guidelines, 2009 ²³	1 mg DST, plasma and urinary metanephrines/catecholamines and PRA/aldo in hypertensive patients	Annual	5 years	Monitor mass <4 cm	Imaging reevaluation at 3-6 months and then annually for 1-2 years.
Nieman, 2010 ²⁷	1 mg DST or late-night cortisol test, plasma and urinary metanephrines/catecholamines and PRA/aldo in hypertensive patients	Annual No repeat screening for aldosteronism if previously excluded	4 years if mass <3 cm, nonfunctional and benign at imaging 1-2 years (or more)	Monitor mass <4 cm, in addition to size use additional criteria	Imaging reevaluation at 1-2 years (or more) and for intermediate mass at 3-12 months.
AME Position ³	1 mg DST, urinary metanephrines or plasma free metanephrines, PRA/aldo in hypertensive and/or hypokalemic patients	To be judged on individual basis after clinical monitoring	To be judged on individual basis after clinical monitoring	Monitor 2-4 cm mass; in addition to size use additional criteria	CT or MRI at 3-6 months. No further imaging if mass is <2 cm with clear benign features. If mass >2 cm judge on individual basis
Authors	1 mg DST, urinary metanephrines or plasma free metanephrines, PRA/aldo in hypertensive patients	Annual No repeat screening for aldosteronism if previously excluded	5 years	Monitor mass <4 cm; in addition to size use additional criteria	CT or MRI at 6 months (before if suspect mass) then after 3 and 5 years



Serendipity-studie

- *Serendipity = toevallige vondst terwijl je op zoek bent naar iets anders.*
- *Structured Evaluation of adRENal tumors Discovered Incidentally – Prospectively Investigating the Testing Yield)*
- Doel van deze studie: Hoe kunnen we op de meest doelmatige wijze bijnier-incidentalomen onderzoeken



Take home messages

De meeste bijnier-
incidentalomen zijn niet
hormonaal actief en zijn
goedaardig

De meest doelmatige wijze
van diagnostiek en follow-
up is nog steeds onderwerp
van studie