A patient with ‘epilepsy’

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Mr. J

- 34 years old, no past medical history
- Referred to neurologist, main complaint:

  ‘attacks of impaired consciousness’
- Conclusion neurologist:

  complex partial epilepsy, start carbamazepin
- Few months later….
  - Increase amount of attacks → referral internal medicine

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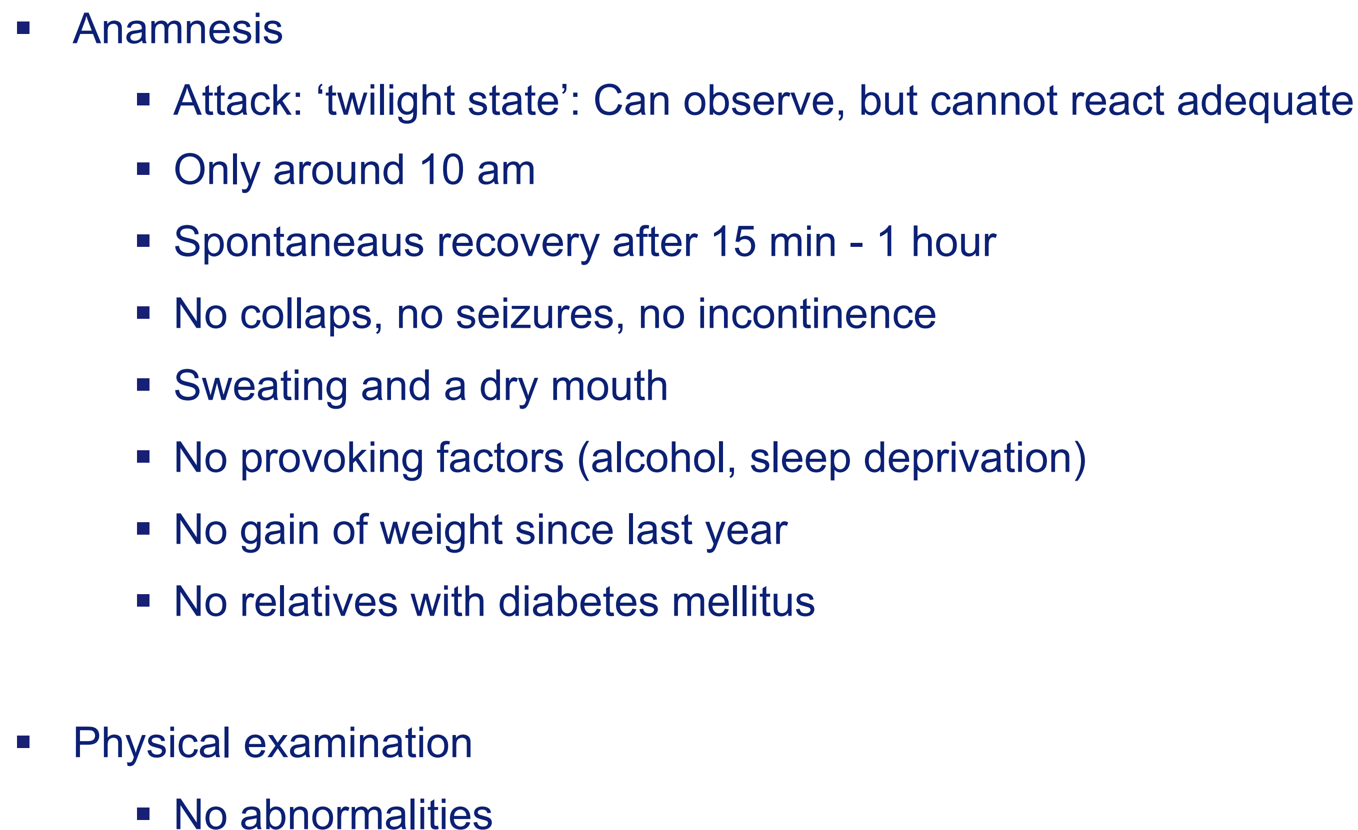
Anamnesis and physical examination



- Anamnesis
  - Attack: ‘twilight state’: Can observe, but cannot react adequate
  - Only around 10 am
  - Spontaneaus recovery after 15 min - 1 hour
  - No collaps, no seizures, no incontinence
  - Sweating and a dry mouth
  - No provoking factors (alcohol, sleep deprivation)
  - No gain of weight since last year
  - No relatives with diabetes mellitus

- Physical examination
  - No abnormalities

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Differential diagnosis Mr. J

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TABLE 1. Causes of hypoglycemia in adults

Ill or medicated individual

1. Drugs
   Insulin or insul
   Alcohol
   Others (Table
2. Critical illnesse
   Hepatic, renal
   Sepsis (includi
   Inanition
3. Hormone defic
   Cortisol
   Glucagon and
   diabetes me
4. Nonislet cell tu

Seemingly well

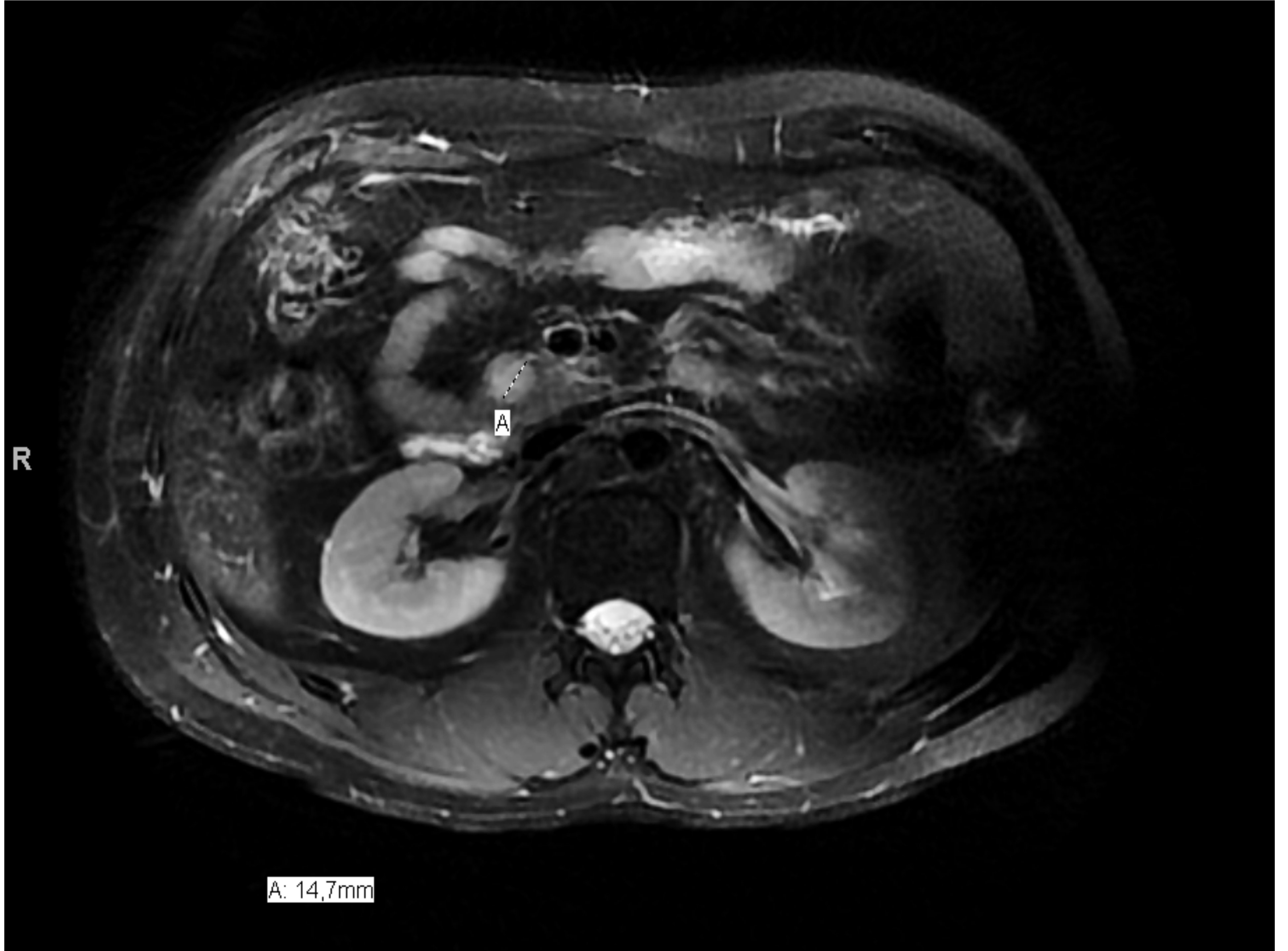
5. Endogenous h
   Insulinoma
   Functional β-c
   Noninsulino
   Post gastric
   Insulin autoim
   Antibody to
   Antibody to insulin receptor
   Insulin secretagogue
   Other

6. Accidental, surreptitious, or malicious hypoglycemia

Seemingly well individual

5. Endogenous hyperinsulinism
   - Insulinoma
   - Functional β-cell disorders (nesidioblastosis)
     - Noninsulinoma pancreatogenous hypoglycemia
     - ~~Post gastric bypass hypoglycemia~~
   - Insulin autoimmune hypoglycemia
     - Antibody to insulin
     - Antibody to insulin receptor
   - ~~Insulin secretagogue~~
   - Other

6. Accidental, surreptitious, or malicious hypoglycemia

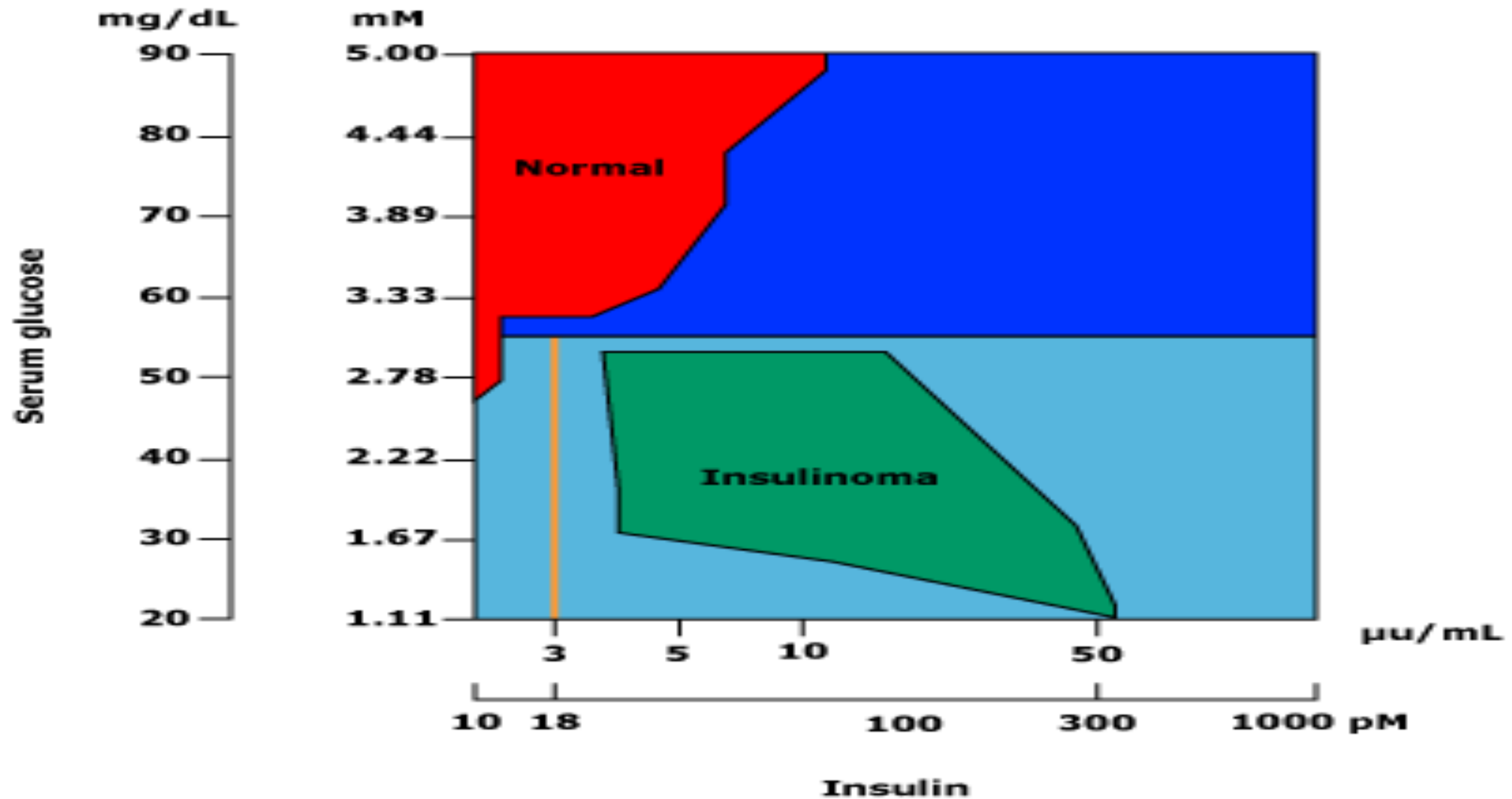

R
A
A: 14,7mm

Insulinoma – a few facts

- Clinical presentation
  - Hypoglemic symptoms
    - Changed consciousness, blurred vision, amnesia, seizures, coma
  - Symptoms resulting from the ANS
    - Sweating, weakness, hunger, palpitations
  - Point of time complaints
    - 73% only after fast
    - 21% after fast and postprandial
    - 6% only postprandial
  - Weight gain in 18% of cases

- Diagnosis
  - Clinical suspection hyperinsulinism: Whipple's triad
    1. Symptoms of hypoglycemia
    2. Plasma glucose level < 2.2 mmol/L (<40mg/dl) during symptoms;
    3. Relief of symptoms with administration of glucose

Insulinoma – final diagnosis



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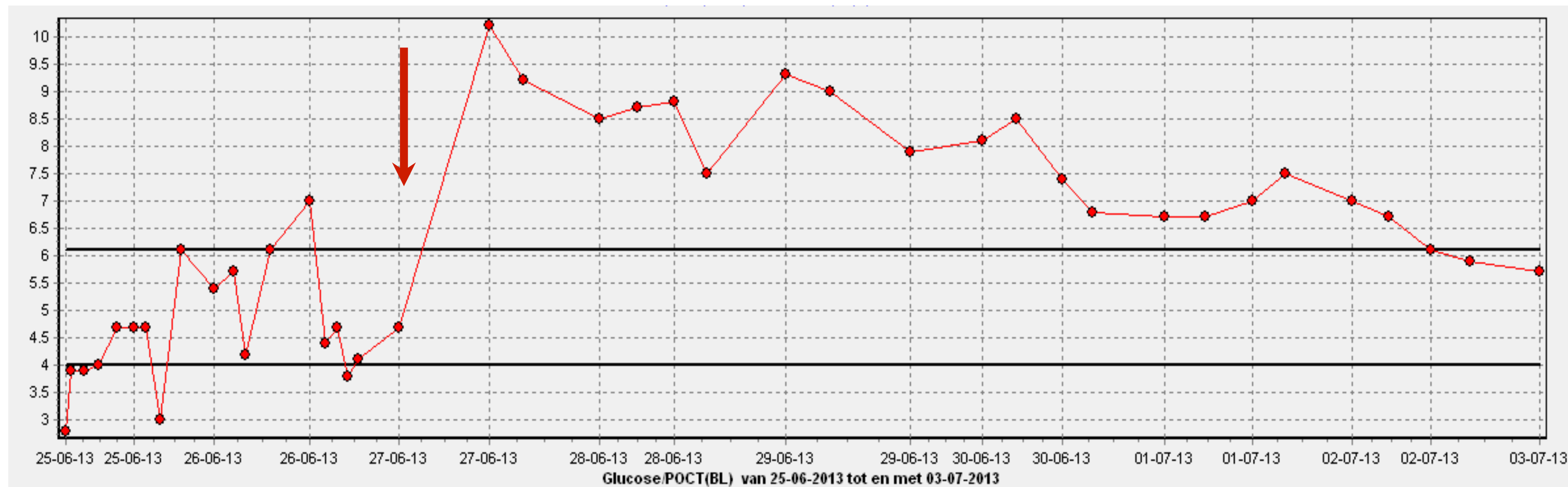
Insulinoma -treatment

- Avoid hypoglycemia: eat frequently
- Surgical therapy
  - Enucleation often possible
  - Rarely: Whipple, total pancreatectomy
- Medical therapy:
  - In inoperabel patients or non-resectable lesion
  - Diazoxide
  - Octreotide

Treatment Mr. J

- June 2013: Enucleation insulinoma. Solitary lesion.
  - PA: neuroendocrine tumor 1.7 cm



- Since enucleation no more attacks

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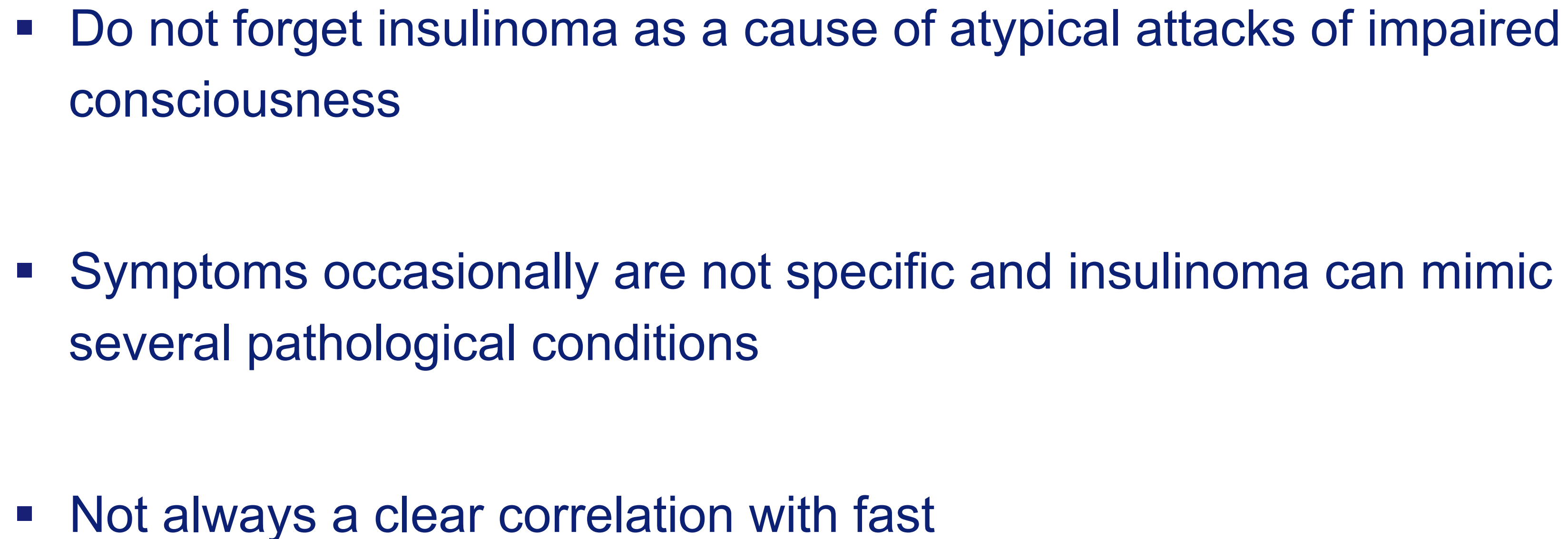

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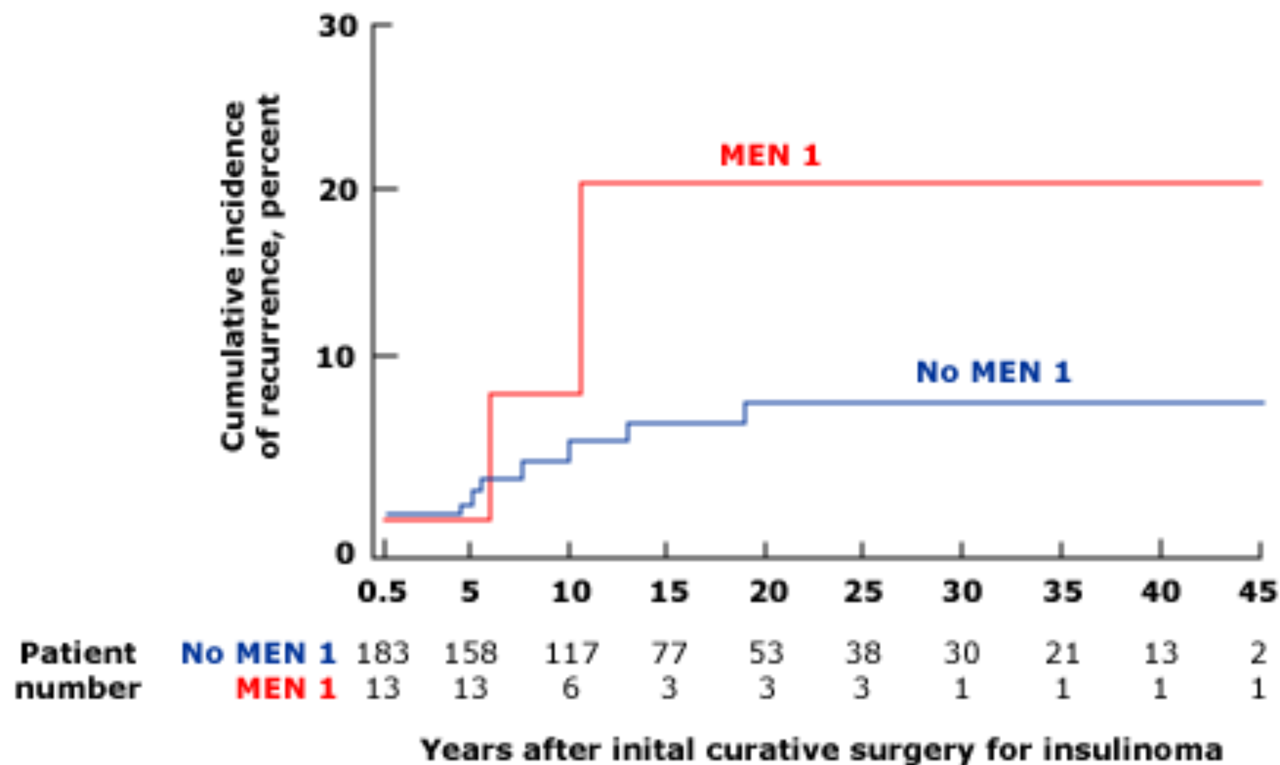
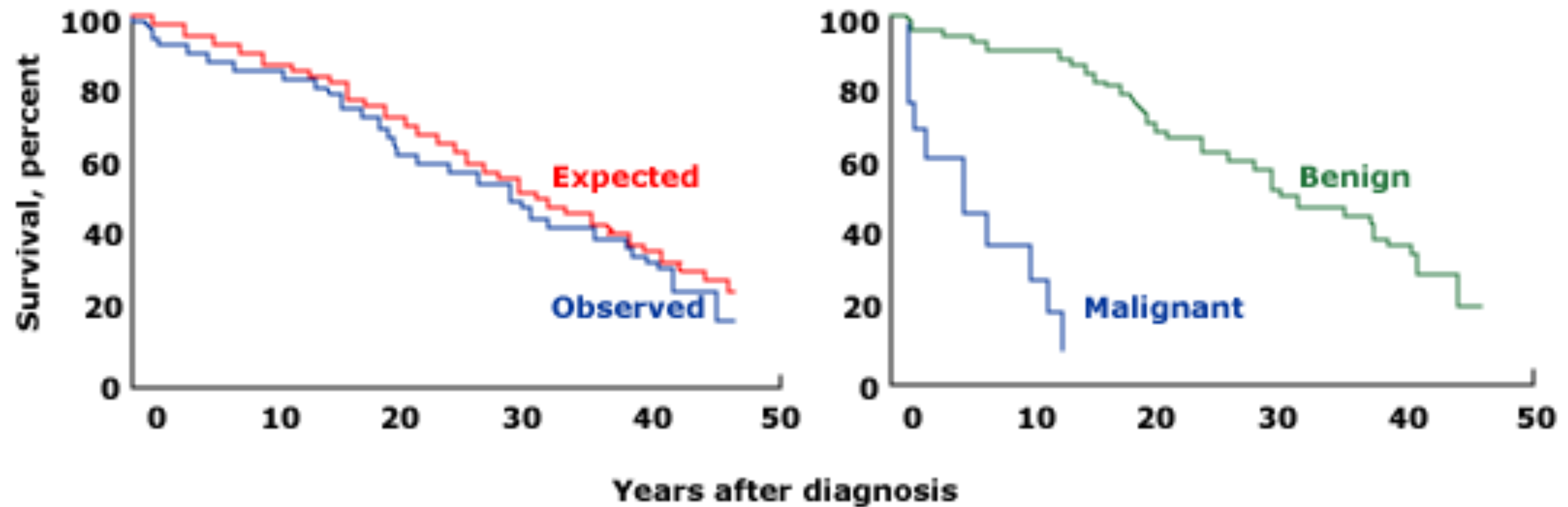
Insulinoom

- Recidiefkans



Insulinoom

- Overleving



Mr. J

- Insulinoma?

- Atypical presentation?
  - No clear correlation between meals and attacks
  - No gain of weight

- Extremely long doctors delay?
  - Yet complaints since 15 months and treated for epilepsy

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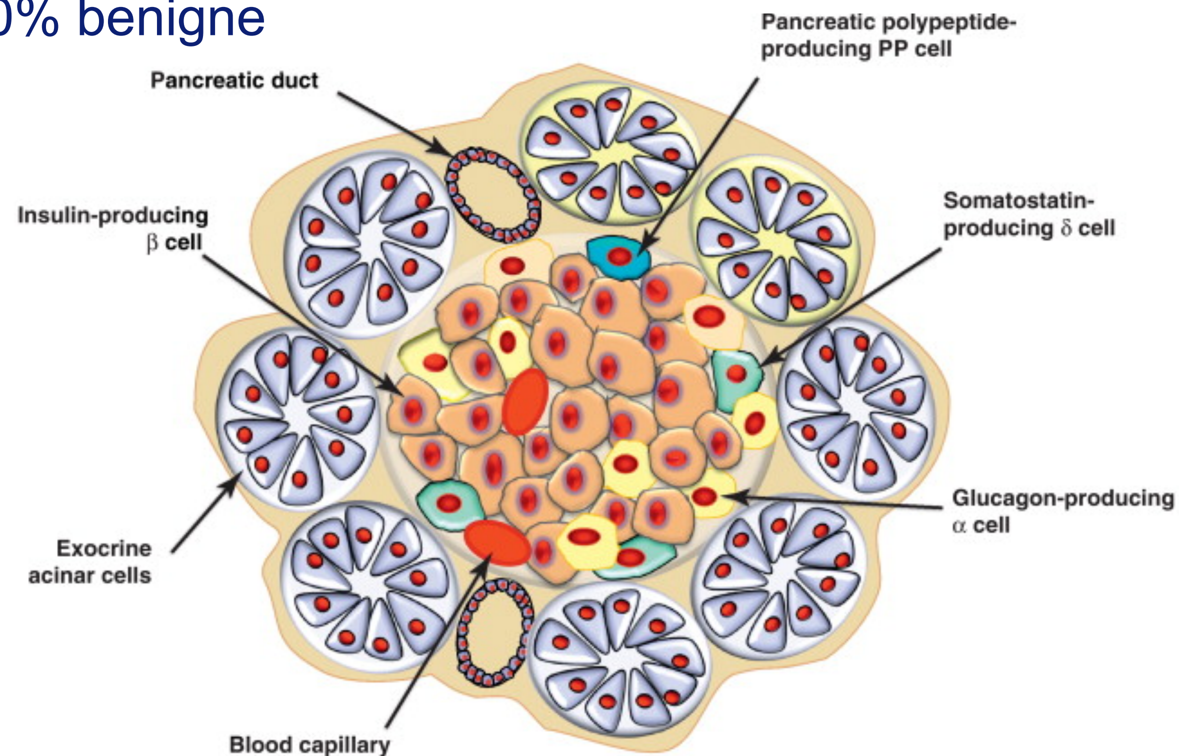
Insulinoma

- Neuro-endocrine tumor, rare
  - Uitgaande van β-cel in Eilandjes van Langerhans
  - > 90% benigne



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Insulinoom

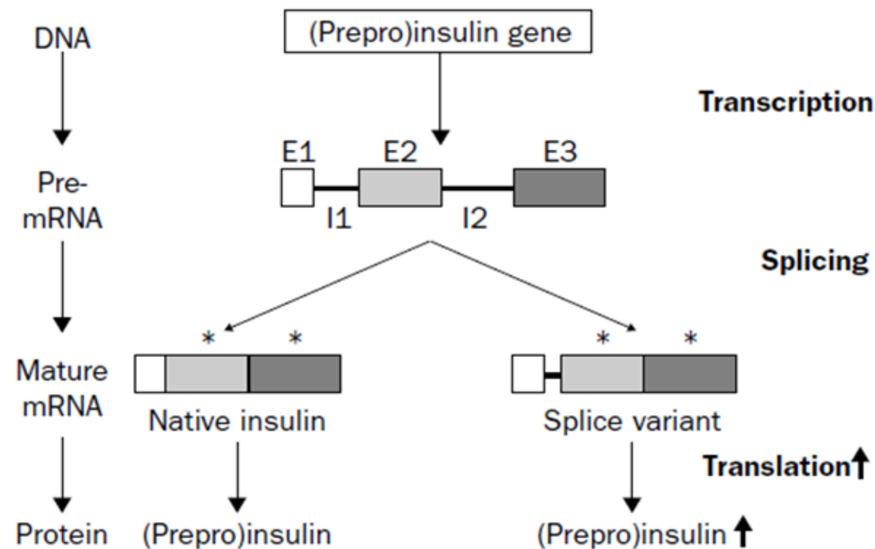
- Geschatte incidentie 1-3 / miljoen per jaar
    - Mayo Clinic series: 237 patiënten in cohort 1987-2007
    - Mediane leeftijd 50 jr, 56% vrouw

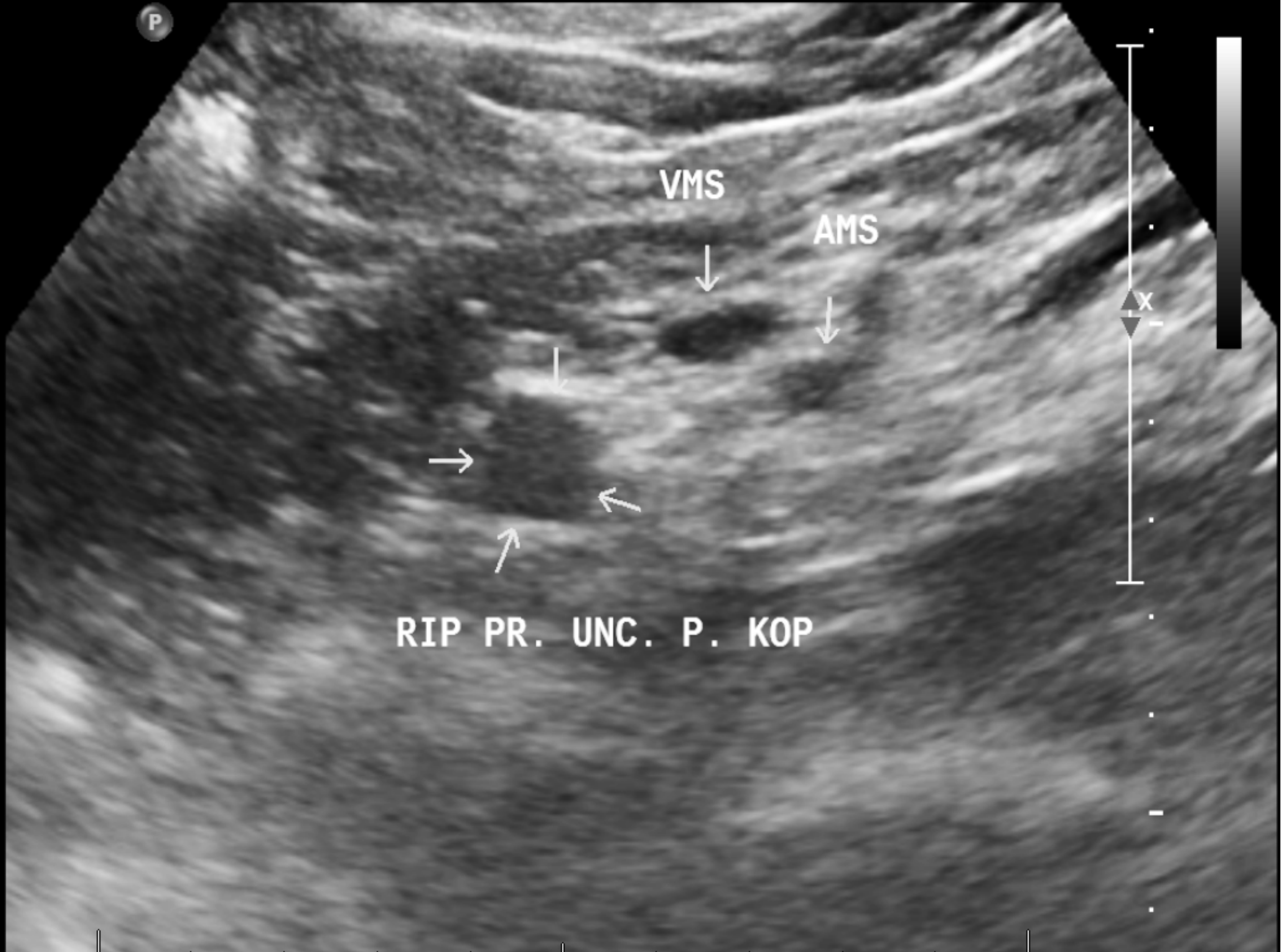
- Localisatie
    - 90% intrapancreatisch vs 10% extrapancreatisch
    - 90% solitair vs 10% multipele laesies

- 5-10 % MEN-1 geassocieerd
    - Vaker maligne (tot 25%) en vaker multipele laesies

Insulinoom

- Pathofysiologie
  - Ongecontroleerde insulineproductie ondanks hypoglycemie
  - Overexpressie splice-variant mRNA met efficiëntere translatie naar insuline

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Erasmus MC iU22 DyEC02 C5-1/Abd Gen
FR 28Hz
RS
Z 1.7
2D
45%
C 55
P Low
Gen
M2
VMS
AMS
RIP PR. UNC. P. KOP

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Insulinoom

- Beeldvorming

Techniek	Sensitiviteit
Transabdominale echo	Grote variatie
CT	30-85%
MRI	85-95%
Endo-echografie	95%
Octreotidescan	45%
PET	laag