

Traumatic brain injuries Risk factors for insurers?

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TBI

Important for Life insurances?

Possible difficult mixture from social, cognitive & psychiatric factors:

- Increased divorce- rate
- Increased depression- rate
- Increased invalidity rate
- Increased loss of social status
- Increased suicidal- rate

TBI in general

- 1.7 Mio people sustain a TBI every year in America
- 125.000 considered permanently disabled (7,4%)
- Several classifications over the world
 - Grading I- III
 - Categories mild, moderate, severe
 - Categories open & closed
 - Common use to classify the actual mental situation: GCS (Glasgow- Coma- Scale)
 - 13-15 → Grade I, mild, cerebral concussion
 - 9-12 → Grade II, mild- severe, cerebral contusion, Contre- Coup- Injuries
 - 3-8 → Grade III, severe, cerebral compression,

TBI

General symptoms

Cerebral concussion:

- GCS 13-15
 - Immediately unconsciousness for seconds to minutes
 - after awakening dizziness, retrograde amnesia, sometimes global amnesia
 - Sickness, vomiting, headache, vision disorders
 - 15% do have symptoms lasting longer than 1 year
- “post concussive syndrome”

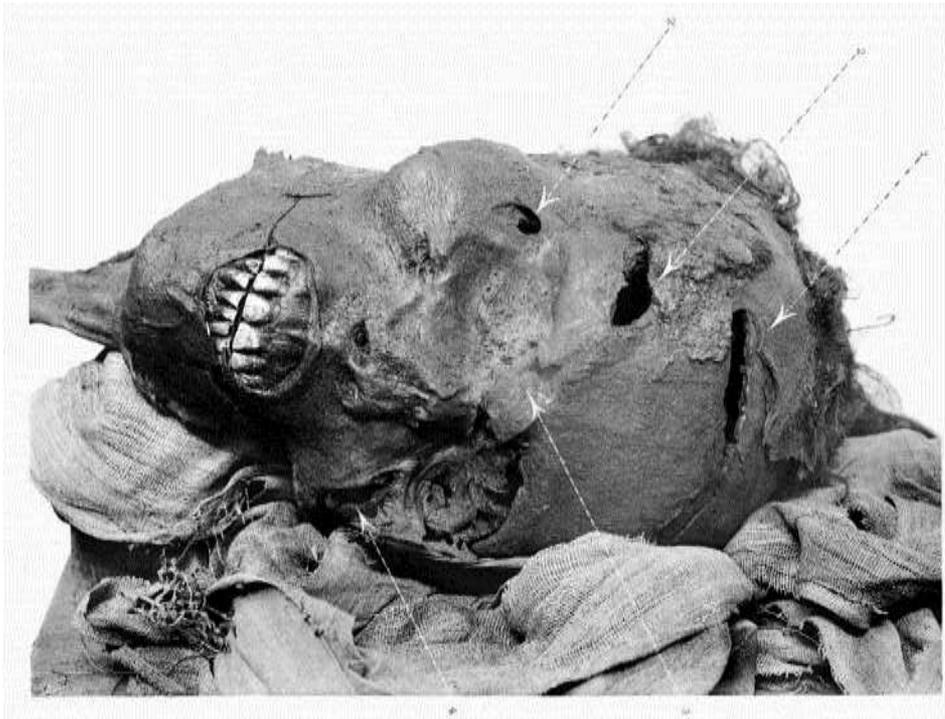
Cerebral Contusion:

- GCS 9-12
- Visible damages of the brain tissue in MRI
- Often Contre- Coup- Injuries
- Symptoms like cerebral concussion but unconsciousness last longer than 15 minutes.

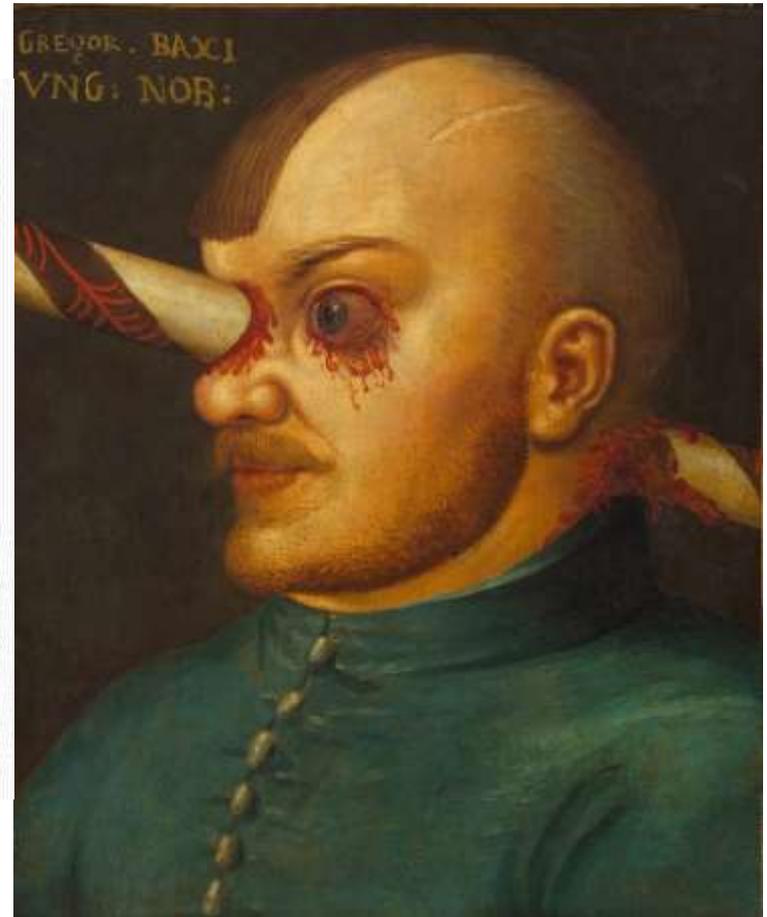
Cerebral Compression:

- GCS 3-8
- Visible damages of the brain tissue
- Symptoms like concussion and contusion but unconsciousness lasts days to weeks

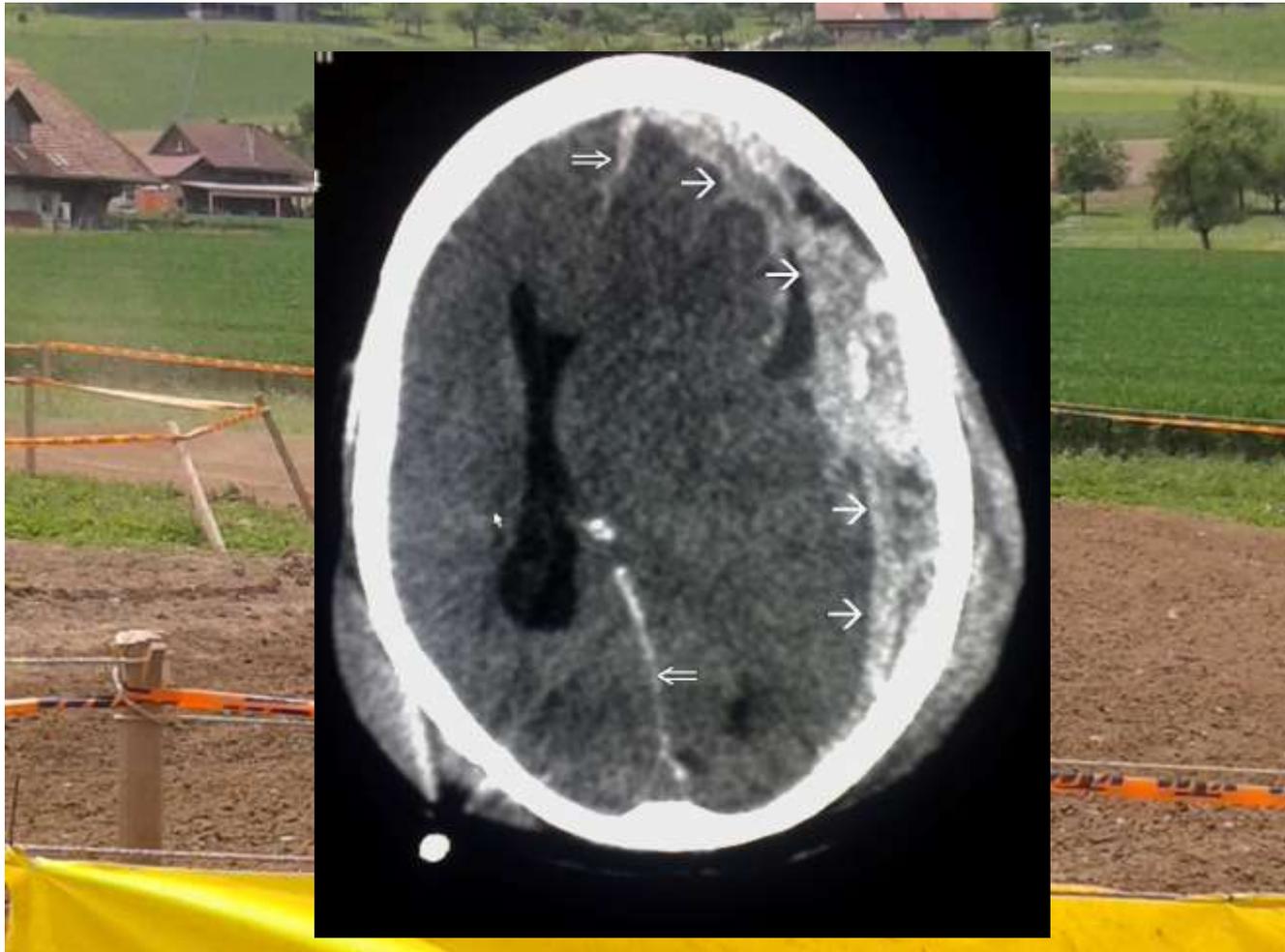
Seqenere



Gregor baci



Today



Therapie?

Brain needs to rest

TBI

Symptoms- its getting difficult...

- **Common Symptoms of TBI**

- Fatigue
- Headaches
- Visual disturbances
- Memory loss
- Poor attention/concentration
- Sleep disturbances
- Dizziness/loss of balance
- Irritability-emotional disturbances
- Feelings of depression
- Seizures

- **Other Symptoms Associated with TBI**

- Nausea
- Loss of smell
- Sensitivity to light and sounds
- Mood changes
- Behavioural changes (social, sexual, motivation)
- Getting lost or confused
- Slowness in thinking
- Fear, phobia and other psychiatric disorders

It is easy to diagnose a GSC 3 patient but mild symptoms are often not seen...

Not all patients realizes their symptoms if they are part of their personality



Swiss Re

Time is brain Stroke

Dr. Ienje Jasmin Gatz, L&H Underwriting

Background

- Effects visible in every age
- Top 10 worldwide in death causes
- Number 1 in middle and severe disabilities

- Increase of risk with specific risk factors world wide
 - Smoking, overweight, nutrition, arterial hypertension (metabolic syndrome)
 - Fine dust (10% industrial)
 - Familial predispositions

- Decrease of risk not feasible in the studies- what about prevention

Different forms
Same result

Ischemic

„A stroke occurs when blood flow is cut to a specific area in the brain. Brain cells deprived of oxygen and glucose die.“

Hemorrhagic

Ischemic:

80- 85%

clot blocks blood flow

thrombosis/ embolism

microangiopathy

vasculopathy

coagulopathy

Hemorrhagic

10- 15%

blood seeping into brain tissue

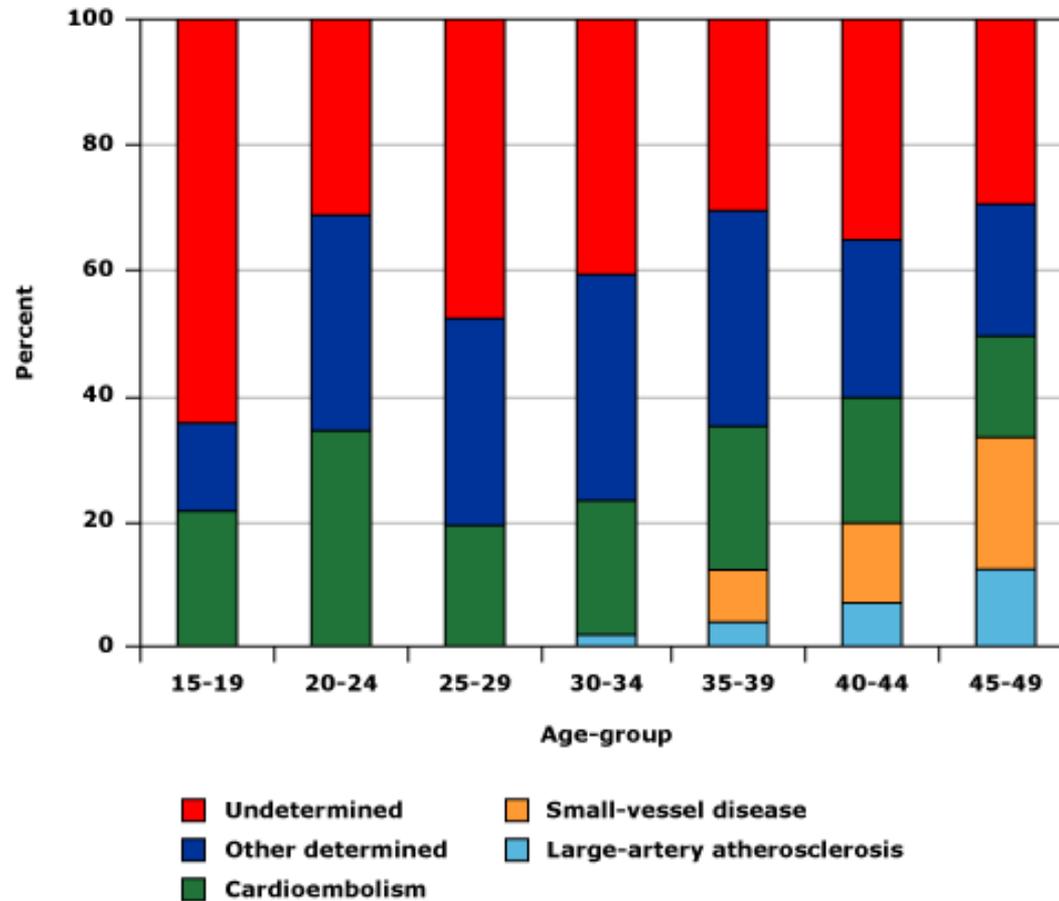
arterial hypertension

arteriosklerosis

subarchnoidal haemorrhage

aneurysm

Relative proportions of etiologic subgroups (TOAST) in age-groups



An emergency call

23:40

Alarm: NRP

23:45

Start ambulance station

00:15

Arrival



52 year old patient
lying in front of his desk/ found by his wife

Last chat 21:15
Left living room to prepare something for his company

pre- existing conditions:
unknown, last GP visit years ago

Our patient

Vital signs:

Hypoventilation

Oxygen saturation 90%

Heart frequency 101/min

Blood pressure 160/110mmHg

GCS 9, reflexes right ++, left (+)

Left half of the body without proper motion

Pupil left widend, not reaction on light

Run & Play

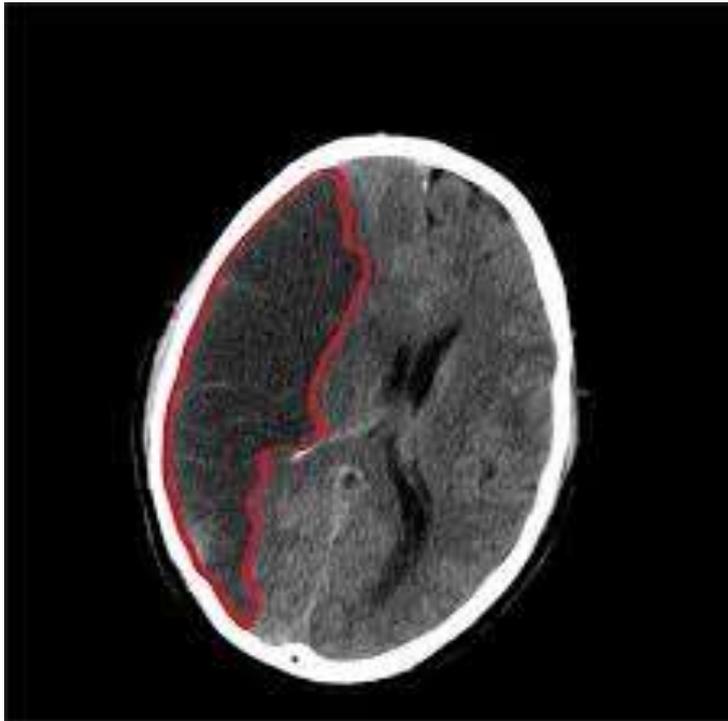
- Oxygen
- Upper body up
- Infusion
- Analgesia
- Sedation
- No active decrease of the blood pressure

departure 00:36

Crash- Intubation on the way

Contact by phone to the next Stroke Unit

MRI



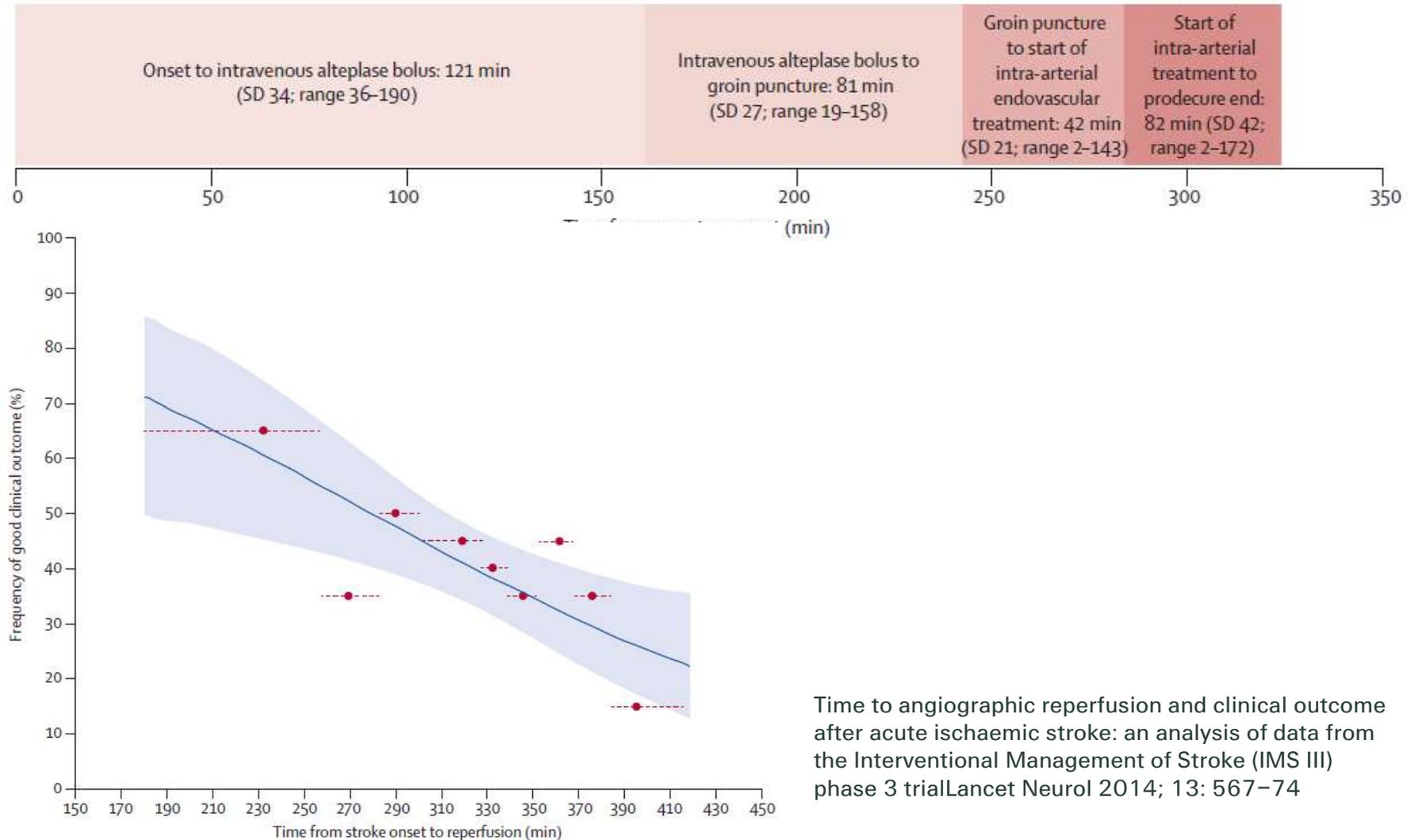
Distinctive Stroke of the right half related to a thrombo- embolic event

→ Immediate local lysis

Begin lysis at 01:36

Time is brain

Mean time from symptom onset to different stages of treatment in the 182 patients who achieved reperfusion



Time to angiographic reperfusion and clinical outcome after acute ischaemic stroke: an analysis of data from the Interventional Management of Stroke (IMS III) phase 3 trial *Lancet Neurol* 2014; 13: 567-74

Our patient

The next day on intensive care:

- GCS 5 without sedation
- Missing reflexes on the left side of the body
- Artificial respiration
- Begin of organ failure for liver and kidney
- Intermittend tachyarrythmia absoluta

Intensive chat with relatives

Our patient

After 6 months

After 12 months?

→ Independent in all ADL

→ Slightly paralysis of the left arm and the left leg

→ Slightly concentration issues

Full professional activity

TIME IS BRAIN

Time → Lack of oxygen is linked to the death of brain cells

Time → Diagnose

Time → Fast and intensive Therapie

Time → Intensive long term rehabilitation

Time → patience and value of social contacts

Time → support by the health system

Time → life long therapy



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