

Problematika spinálního pacienta - kazuistika



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8.10.2013

- Muž 60 let (DM, HT, HLP)
- Pád z výšky - 4 metry
- 3D CT
- Kontuze mozku F, SDH a SAK, fraktury oblič. skeletu, pneumocephalus
- Kontuze plic
- Zlom. proc. spinosi L3
- Zlomenina hlavice I. radia – SF
- Zlom. dist. tibie (C typ) a fibul. kotníku – SF
- Překlad na krajské pracoviště - spádové



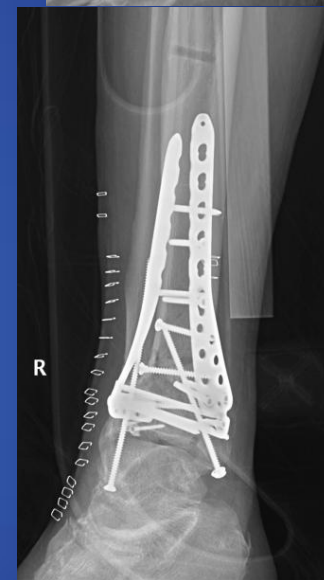
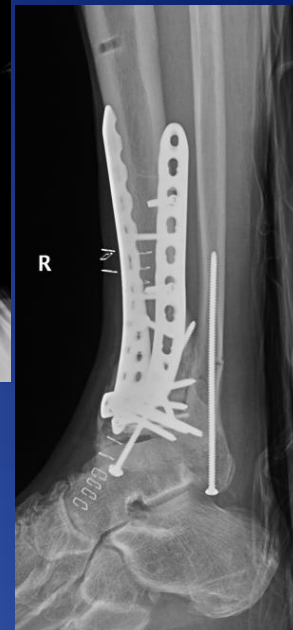
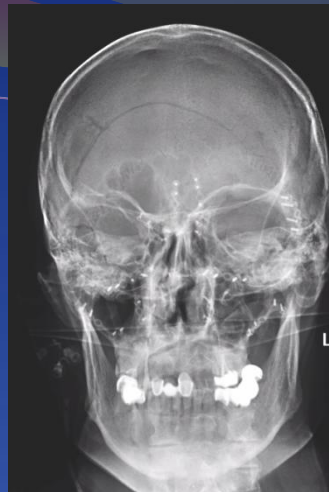
9.10.2013

- Neurol. vyšetření – tetrapostižení
- MR mozku a C míchy
- nález traum. herniace ploténky C5/6 – protruze dorsálně, edém míchy, sekundární spinální stenóza
- Přední diskektomie C5/6, dekomprese páť. kanálu, deliberace dur. vaku, přední fúze
- Naložení ZF zlom. pr. bérce



9.-24.10.2014

- 11.10. - OS oblič. skeletu
- 16.10. CT mozku – regrese SAK
- 17.10. ORIF 2x LCP dlaha tibie, OS fibul. kotníku
- 21.10. UZ břicha negat.
- CRP 167, organický psychosyndrom
- Bolestivé břicho
- 24.10. přeložen na spinální jednotku FN Brno



24.10.2014

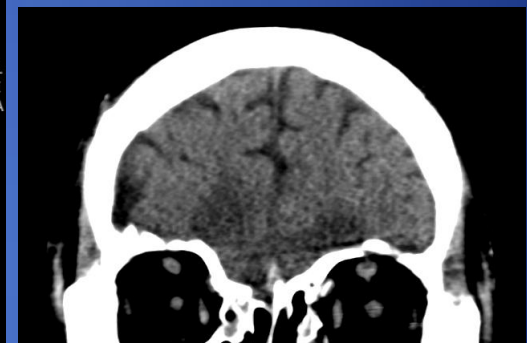
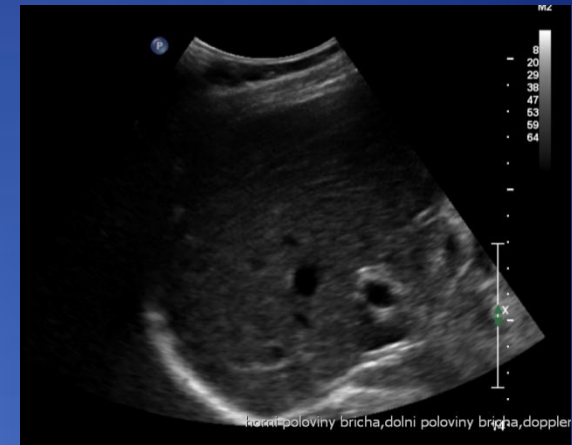
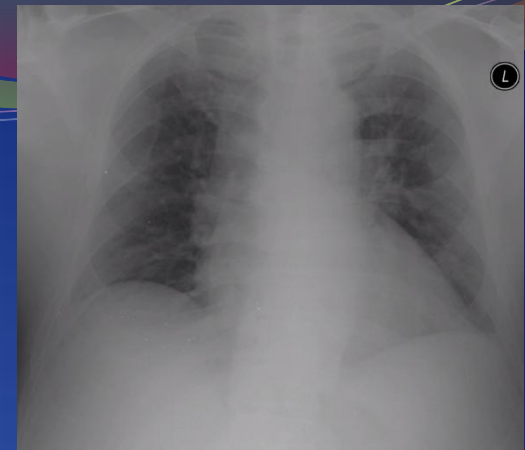
- Tetrapostihžení, motoricky NLI C4
- Organický psychosyndrom
- Ph. Límec
- SF LHK, PDK
- Dekubitus 2.st. sakra 5x10cm
- Dekubitus 2. st okcipitálně 6x8cm



24.10.-1.11.

- 28.10. CRP - 186, prokalcitonin - 1.45
- RTG plic, UZ břicha, CT mozku – norm. nález
- moč – mikrohematurie, leukocyturie

- CRP - 29.10-150, 31.10.-113
- CB 50, albumin 24 – nutriční konsilium
- Leu v normě
- Hgb 80 135
- Insulinoterapie



- 25.10. – CT mozku negat. nález
- 25.10. – neurol. konsilium
- 25.10. PK - organ. psychosyndrom char. F syndrom – tiapridal, haloperidol kont.
- Od 24.10. Augmentin iv.
- Stolica obden, PMK
- Normotenze, afebrilie až subfebrilie, normokardie

Patient Name _____
 Examiner Name _____ Date/Time of Exam _____

ASIA INTERNATIONAL STANDARDS FOR NEUROLOGICAL CLASSIFICATION OF SPINAL CORD INJURY

MOTOR
 KEY MUSCLES (testing on reverse side)

	R	L
C5	5	5
C6	4	4
C7	4	4
C8	4	4
T1	5	5
T2	5	5
T3	5	5
T4	5	5
T5	5	5
T6	5	5
T7	5	5
T8	5	5
T9	5	5
T10	5	5
T11	5	5
T12	5	5
L1	5	5
L2	5	5
L3	5	5
L4	5	5
L5	5	5
S1	5	5
S2	5	5
S3	5	5
S4-S5	5	5

UPPER LIMB TOTAL (MAXIMUM) (25) (25) = 47 (30)

LOWER LIMB TOTAL (MAXIMUM) (25) (25) = 50 (30)

NEUROLOGICAL LEVEL: C2
 SINGLE NEUROLOGICAL LEVEL: C2
 COMPLETE OR INCOMPLETE? Inc
 ZONE OF PARTIAL PRESERVATION: No
 ASIA IMPAIRMENT SCALE (AIS): D

Muscle Function Grading

0 = total paralysis
 1 = palpable or visible contraction
 2 = active movement, full range of motion (ROM) with gravity eliminated
 3 = active movement, full ROM against gravity
 4 = active movement, full ROM against gravity and moderate resistance in a muscle specific position
 5 = (normal) active movement, full ROM against gravity and full resistance in a functional muscle position expected from an otherwise unimpaired person.

5* = (normal) active movement, full ROM against gravity and sufficient resistance to be considered normal (if identified inhibiting factors (i.e. pain, disease) were not present.
 NT = not testable (i.e. due to immobilization, severe pain such that the patient cannot be graded, amputation of limb, or contracture of > 50% of the normal range of motion).

Sensory Grading

0 = Absent
 1 = Altered, either decreased/impaired sensation or hyperalgesia
 2 = Normal
 NT = Not testable

Non Key Muscle Functions (optional)
 May be used to assign a motor level to differentiate AIS B vs. C

Movement

Movement	Motor Level
Shoulder: Flexion, extension, abduction, adduction, internal and external rotation	C5
Elbow: Supination	C6
Elbow: Flexion	C6
Wrist: Flexion	C7
Finger: Flexion at proximal joint, extension	C7
Thumb: Flexion, extension and abduction in plane of thumb	C8
Finger: Flexion at MCP joint	C8
Thumb: Opposition, adduction and abduction perpendicular to palm	C8
Finger: Abduction of the index finger	T1
Hip: Adduction	L2
Hip: External rotation	L3
Knee: Flexion	L4
Ankle: Inversion and eversion	L5
Toe: MP and P Extension	L5
Hallux and Toe: DP and PP Flexion and abduction	L5
Hallux: Adduction	S1

ASIA Impairment Scale (AIS)

A = Complete. No sensory or motor function is preserved in the sacral segments S4-S5.
 B = Sensory Incomplete. Sensory but not motor function is preserved below the neurological level and includes the sacral segments S4-S5 (light touch or pin prick at S4-S5 or deep anal pressure) AND no motor function is preserved more than three levels below the motor level on either side of the body.
 C = Motor Incomplete. Motor function is preserved below the neurological level*, and at least half (half or more) of key muscle functions below the neurological level of injury (NLI) have a muscle grade less than 3 (Grades C-D).
 D = Motor Incomplete. Motor function is preserved below the neurological level**, and at least half (half or more) of key muscle functions below the NLI have a muscle grade \geq 3.
 E = Normal. If sensation and motor function as tested with the ISNCSCI are graded as normal in all segments, and the patient had prior deficits, then the AIS grade is E. Someone without an initial SCI does not receive an AIS grade.

Steps in Classification

- Determine sensory levels for right and left sides. The sensory level is the most caudal intact dermatome for both pin prick and light touch sensation.
- Determine motor levels for right and left sides. Defined by the lowest key muscle function that has a grade of at least 3 (on supine testing), providing the key muscle functions represented by segments above that level are judged to be intact (graded as a 5). Note: in regions where there is no myotome to test, the motor level is presumed to be the same as the sensory level, if testable motor function above that level is also normal.
- Determine the neurological level of injury (NLI). This refers to the most caudal segment of the cord with intact sensation and integrity (3 or more) muscle function rostrally respectively. The NLI is the most cephalad of the sensory and motor levels determined in steps 1 and 2.
- Determine whether the injury is Complete or Incomplete. (i.e. absence or presence of sacral sparing)
 If voluntary anal contraction = No AND all S4-S5 sensory scores = 0 AND deep anal pressure = No, then injury is Complete. Otherwise, injury is Incomplete.
- Determine ASIA Impairment Scale (AIS) Grade:
 Is injury Complete? If YES, AIS=A and can record ZPP (lowest dermatome or myotome on each side with some preservation)
 Is injury Motor Complete? If YES, AIS=B (In-voluntary anal contraction OR motor function more than three levels below the motor level on a given side. If the patient has sensory incomplete classification)
 Are at least half (half or more) of the key muscles below the neurological level of injury graded 3 or better?
 NO → AIS=C
 YES → AIS=D

ASIA INTERNATIONAL STANDARDS FOR NEUROLOGICAL CLASSIFICATION OF SPINAL CORD INJURY

ISNCSCI

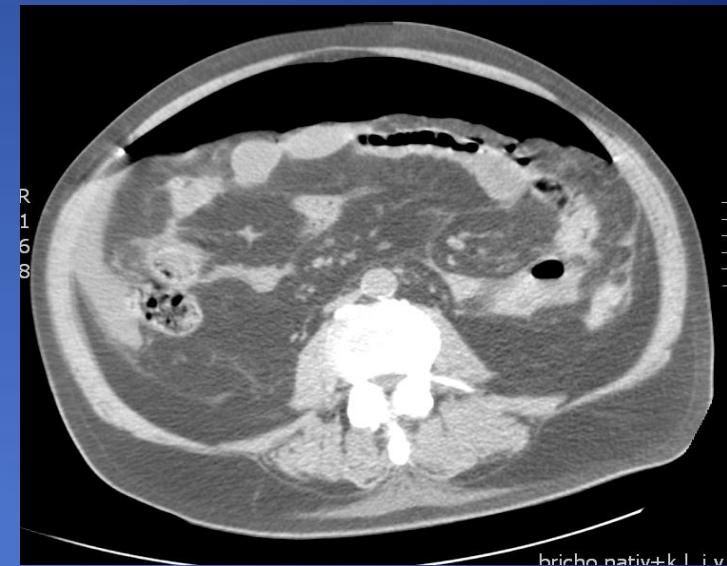
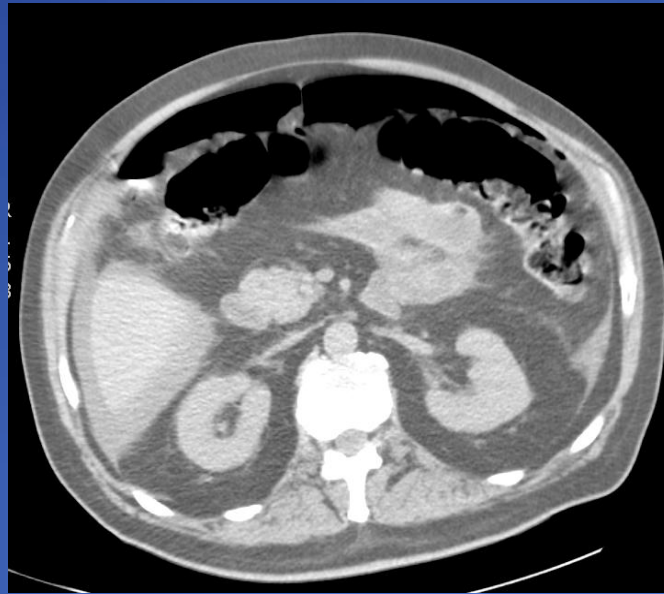
If sensation and motor function is normal in all segments, AIS=E
 Note: AIS E is used in follow-up testing when an individual with a documented SCI has recovered normal function. If initial testing no deficits are found, the individual is neurologically intact; the ASIA Impairment Scale does not apply.

1.11.2013

- Hypotenze 80/55
- Tachykardie 110/min
- Subfebrilie
- Desorientace, psychomotorický neklid
- Hyposaturace

- Bolestivé vzedmuté břicho, peristaltika 0, pr. norm. nález,

- Urea 12, kreatinin 210, K 6.1, gly 21, CRP 261, leu 14



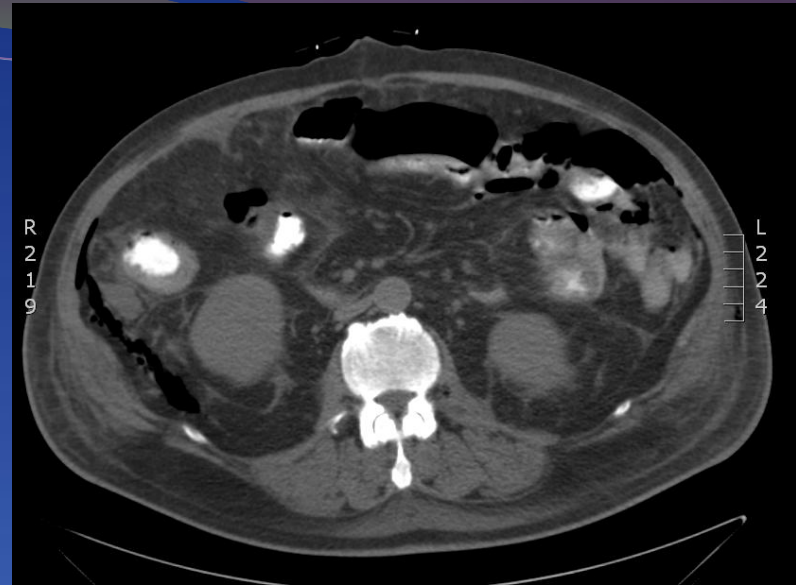
- Množství pneumoperitonea a vs. hemoragického výpotku v dutině břišní. Jednoznačný zdroj v nativním CT nenalezen.

- Z vit. indikace ad operační sál
- Při příjezdu na oper. sál – elmech. disociace, srdeční zástava – cca 11 minut úspěšná KPR
- HSL, vzduch, purulentní výpotek ve všech kvadrantech – absces v malé pánvi po odklopení omenta, mezi kličkami četné abscesy
- Hematom na mezosigmatu, laparostoma, drenáž
- Mikrobiologicky – ESBL - Kl. pneumoniae

KARIM 1.11.-12.12.2013

- 3.11. second look, sutura laparotomie
- 4.11. ren. selhání – dialýza
- 8.11. tracheostomie
- 12.11. relaps peritonitídy – revize – 2 perforace jejunum, resekce 30cm jejunioileum, laparostoma
- 14.11. revize DB pro enterorhagii, GFS negat., reresekce jejunum, reanastomóza
- 18.11. MODS
- 22.11. revize dut. břišní, přešití píštěle
- 27.11. progrese sepse, MODS, pneumoperitoneum
- 29.11. revize DB, přešití píštěle v místě J-J anastomózy

- Sekret z dut. břišní (vstupy po pinech ZF) - ESBL Kl. pneumoniae



- 12.11.2013
- Pneumoperitoneum a pneumoretroperitoneum vpravo.



KUCH 12.12.2013 - 23.1.2014

- Rtg plic – infiltrace plic l. dx., fluidothorax l.dx.
- Urosepse
- Fonační tracheostomie
- Organický psychosyndrom
- PMK
- NJ sonda, nutriční konsilium
- (14.1. ezofagoskopie negat.)
- ESBL Kl. pneumoniae – nos, DÚ, moč, rectum
- Dekubitus sakra – opakované revize na sále, NPVT
- 22.1. plastika dekubitu cestou KPRCH (muskulokutánní island flap z pr. glut. krajiny)
- 23.1. zn. peritonitídy, pneumoperitoneum dle CT
- (RTG břicha vleže negat. stran pneumoperitonea)



- 23.1. operace – bez perforace, mezikličkové abscesy
- 25.1. second look – perforace, střevní obsah v DB, provedena resekce anastomózy, terminální ileostomie, mukózní píštěl
- ESBL Kl. pneumoniae – sekret v dut. břišní



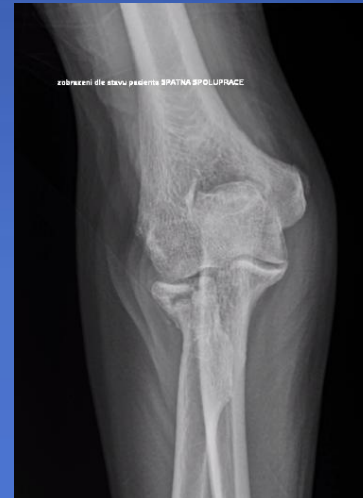
- Hojení rány p.s.i.
- Stomie funkční

29.8.2014

- KPRCH odmítá další intervenci, kontrola za 3 měsíce
- ESBL Kl. pneumoniae



1.9.2014



- Ileostomie
- Dekubity
- Tetrapostižení
- Nespolutpráce

Závěr

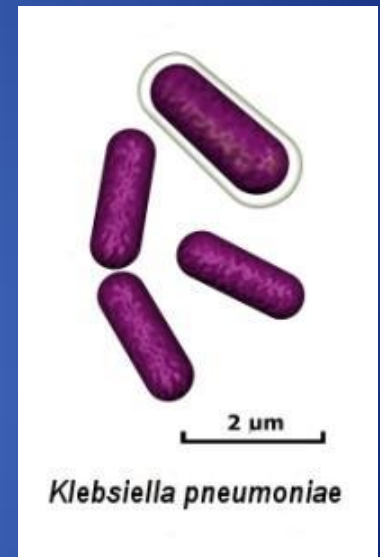
23. den od úrazu na 3. pracovišti dokončena komplexní dgst. polytraumatu včetně dutiny břišní

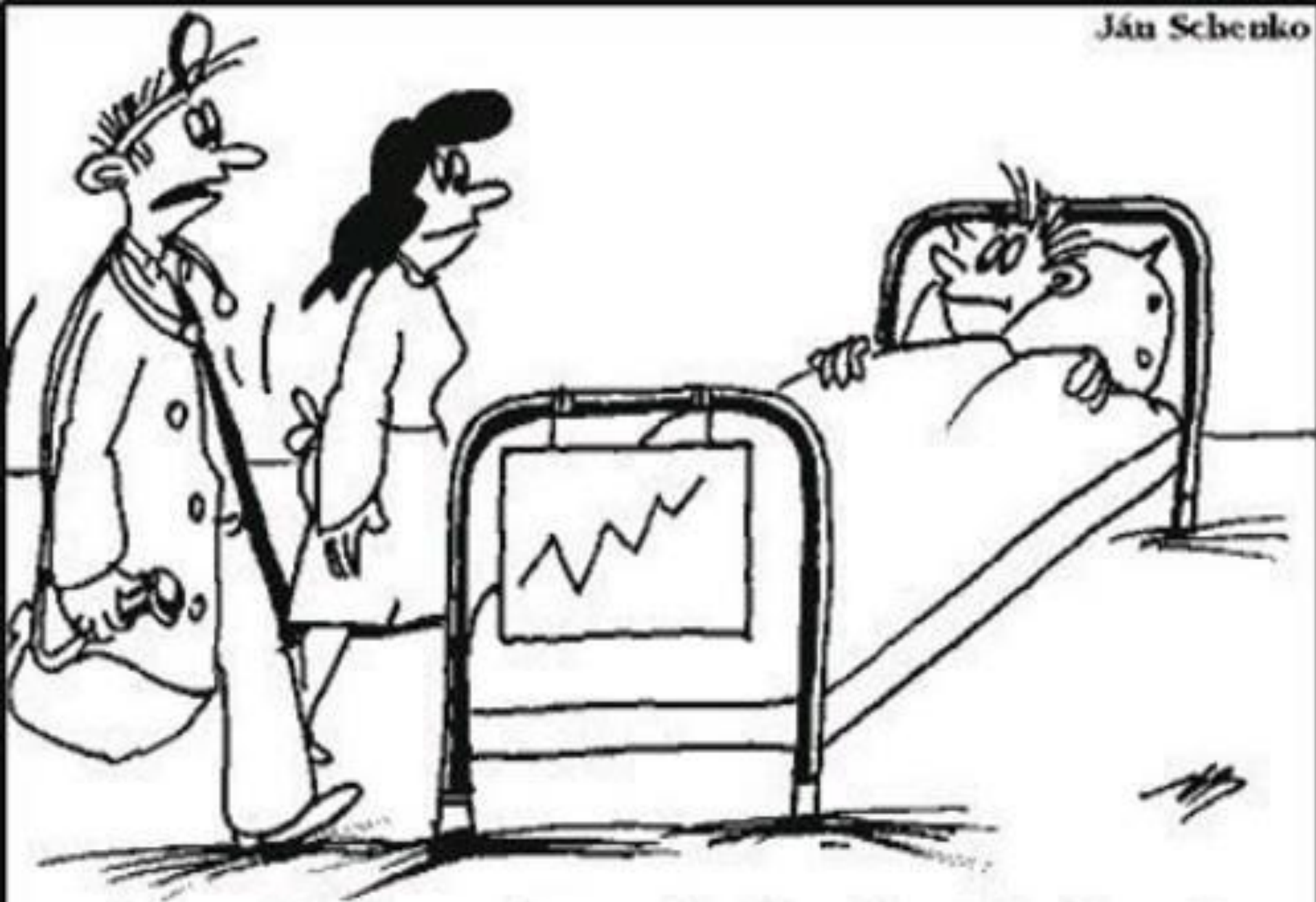
Počet CT - 11

Počet operací 7xCHK, 5xKPRCH

Náklady dosud 3 miliony Kč

Následná péče ?





Operácia bola nevyhnutná, inak by si sa vyliečil sám!