Rehabilitation of Complex Patients - Workshop

East Midlands Major Trauma Network conference – 1st November 2023

Dr Naseer Haboubi (Rehabilitation Consultant and Major Trauma Rehab Lead Consultant NUH)

Dr Phoebe Owen (Specialist Registrar in Rehabilitation Medicine)

Outline

- Case history
- 2 Breakout groups
  - Prognosis indicators
  - Medical ethics in complex rehabilitation
- Feedback
- Update on progress
- Summary
- Questions

S.B

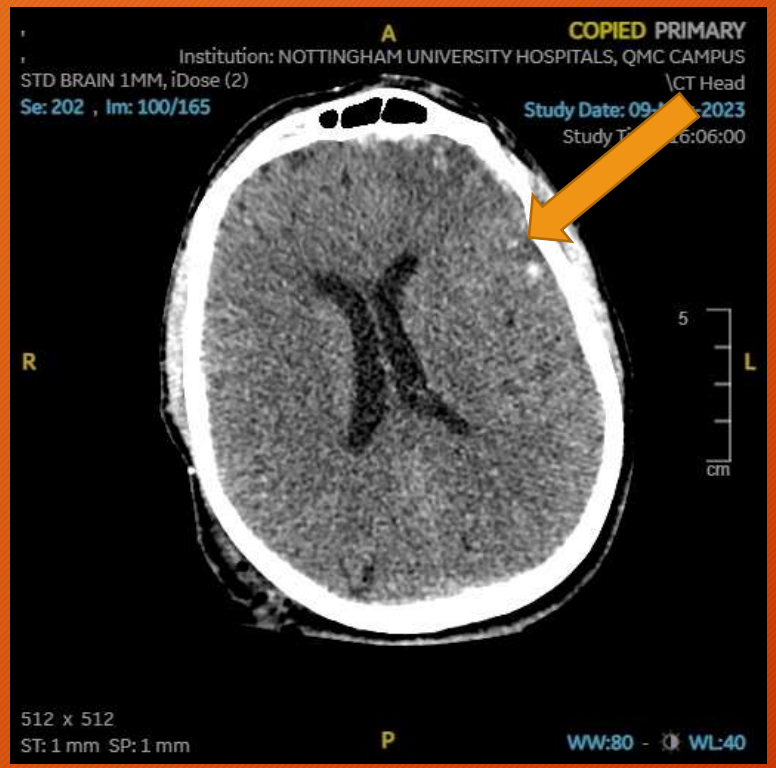
- 58M
- 09/05/23 fell from roof of a two storey house whilst working
- GCS 10 at the scene. RSI for agitation
- Coup contre-coup intracranial injury with haemorrhagic contusions. Diffuse Axonal Injury
- Other injuries included skull fractures, rib fractures, haemopneumothorax, liver and diaphragm laceration.

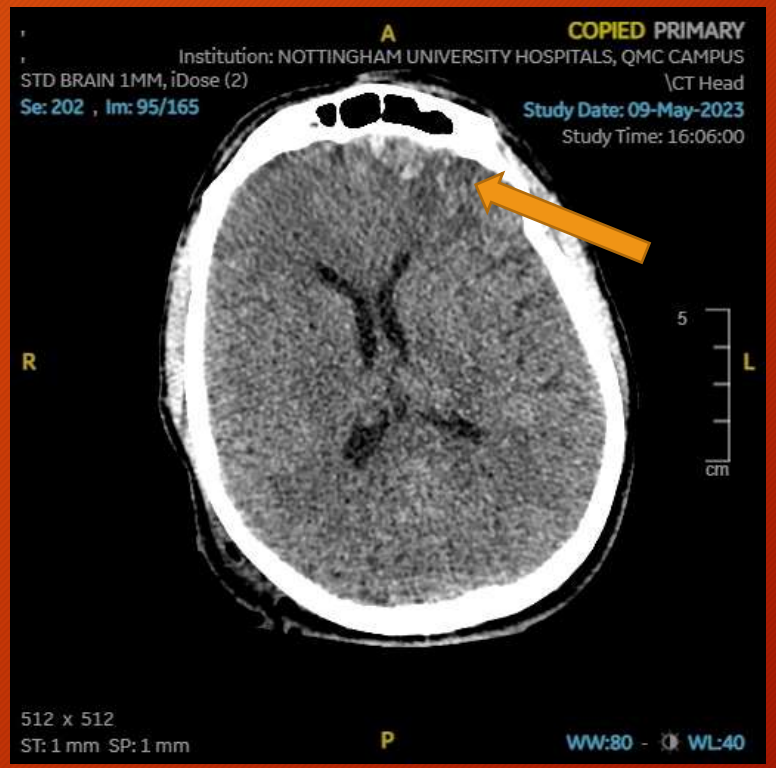
Background and social history

- Worked as a roofer since A-levels (did not complete exams)
- Physically very active (running, mountain biking)
- Lives with wife and 18 year old daughter

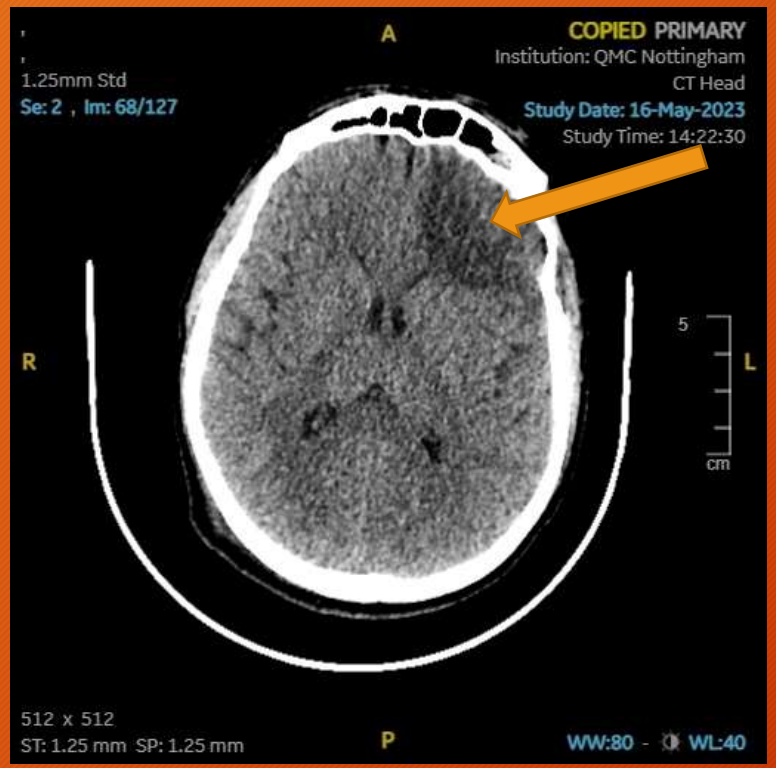
- PMH - Depression

Initial CT head





Further CT


A
COPIED PRIMARY
Institution: QMC Nottingham
CT Head
Study Date: 16-May-2023
Study Time: 14:22:30
1.25mm Std
Se: 2 , Im: 68/127
R
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cm
512 x 512
ST: 1.25 mm SP: 1.25 mm
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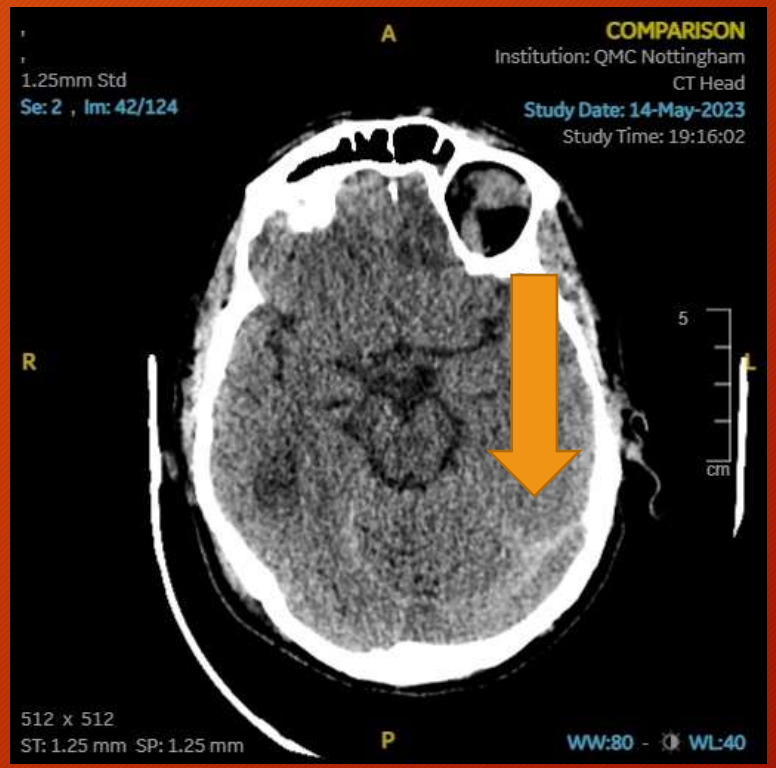
WW:80 - WL:40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COMPARISON
Institution: QMC Nottingham
CT Head
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cm
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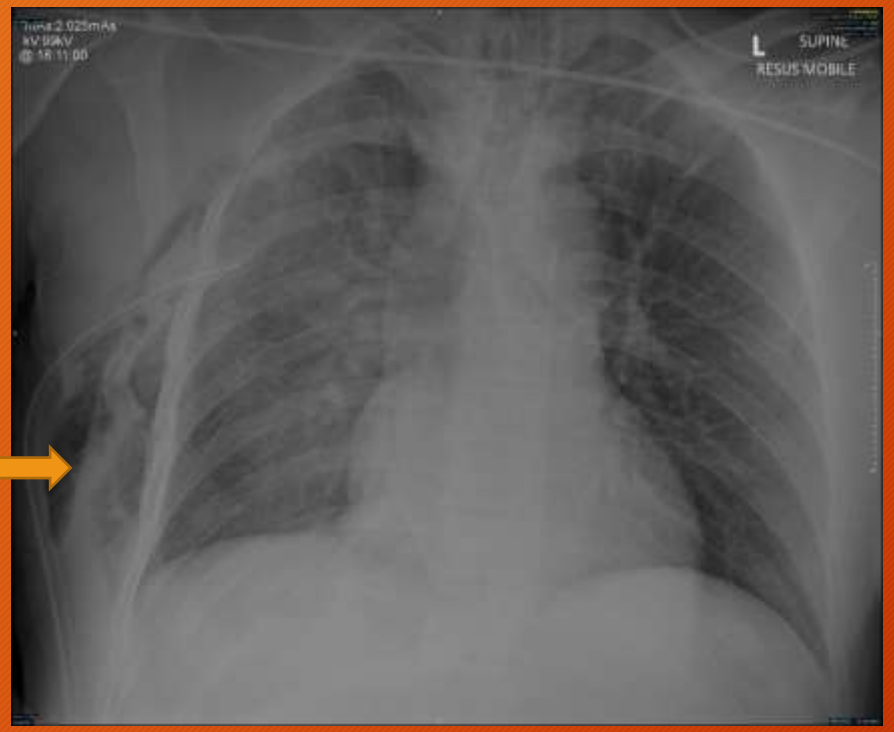
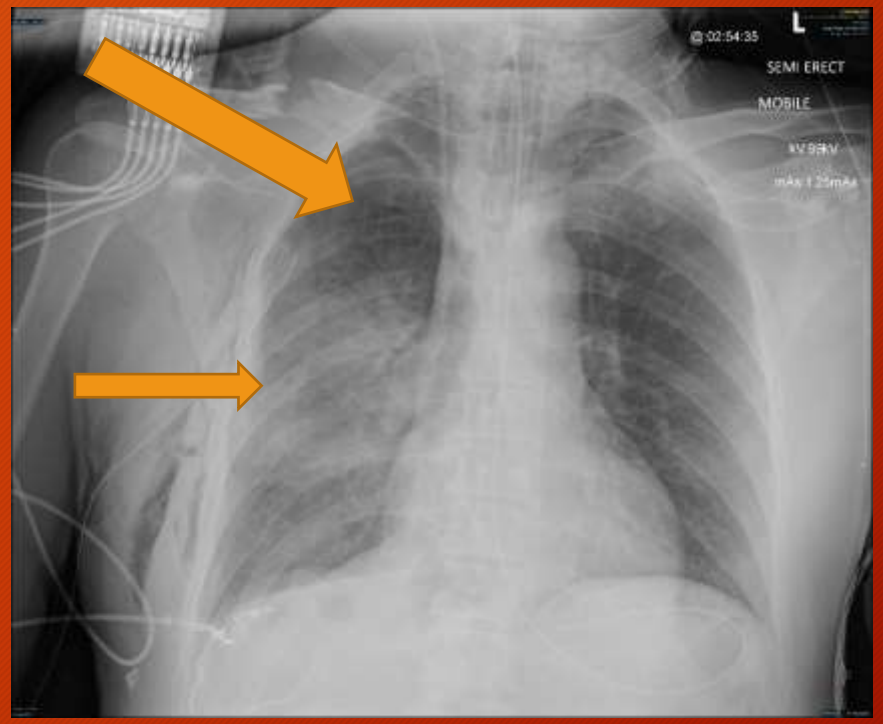
WW:80 - WL:40

CXR





Initial period

- Admitted to AICU
- Ventilated
- Tracheostomy inserted 25/05
- Treated for severe respiratory failure and possible lung abscess
- Eyes opening spontaneously

Day 22

- Email received from ITU consultant regarding neuroprognostication
- SB yet to make any significant progress
- **Remained M1**
- **Wife and daughter passionately advocated previously expressed wishes that "anything less than a near-full recovery is likely to be unacceptable to him"**
- ITU consultants believed that near-full recovery would be unrealistic, but uncertainty remained high
- **Family concerned that he might survive but with an outcome that was abhorrent to him and we might miss the opportunity to allow him to die in peace with dignity**
- Expert opinion sought from rehab physician

What would you do…

PROGNOSTICATION

- What are the factors that indicate prognosis in a case like this?
- Are there unknown factors that are too tough to predict?

MEDICAL ETHICS

- Can a family request termination of life support?

“Breakout sessions and Feedback”

Progress…

- Transferred out of AICU on 12/06 and to major trauma ward

- Right partial Brachial plexus injury (conservative mx)
- Left LL contractures (BoNT to gastrocnemius and soleus)
- Recurrent sepsis that required drains from abdomen and chest with repeated courses of IV Antibiotics

Progress…

- Noted to be eye tracking. Restless, appeared anxious
- End of June, appeared oriented at times and asking sensible questions about recovery. At other times lacking insight.
- Gradual improvement over July
- 13/07 scored 30/30 on Free Cog assessment
- Decannuated on 16/07
- Transferred to Linden Lodge for rehab on 26/07

Linden Lodge

Admission

- Rotunda transfer
- Reduced balance/postural instability
- Ao2 to shower and dress
- Higher level word finding difficulties
- Slow processing and inattention

Discharge

- Independent transfers
- Independent; some high level balance deficits
- Standing to shower, dressing with minimal supervision
- No communication issues
- Processing, insight and mental flexibility improved

Currently…

- Walking 12,000 steps/day unaided
- Ongoing physio
- Memory and fatigue improving

Summary and learning points

- Prognostic scoring systems in TBI - IMPACT and CRASH
  - Clinical signs (pupil reactivity, motor responses)
  - Descriptors from CT
  - Physiological/biochemical derangements
- Prognosis is highly uncertain, leading to ethical complexity

References

- Prognosis in Severe Brain Injury, Stevens and Sutter http://www.gwicu.com/Assets/Articles/Prognosis%20TBI.pdf
- Prognosis in moderate and severe traumatic brain injury : a systematic review of contemporary models and validation studies. Simone A Dijkland, MD1 (PhD candidate); Kelly A Foks, MD1,2 (PhD candidate); Suzanne Polinder, PhD1 (associate professor); Diederik WJ Dippel, MD, PhD2 (professor); Andrew IR Maas, MD, PhD3 (professor); Hester F Lingsma, PhD1 (associate professor); Ewout W Steyerberg, PhD1,4 (professor) https://repository.uantwerpen.be/docman/irua/1760fa/161835_2020_02_05.pdf