The Golden Hour

ACUTE PAEDIATRIC ONCOLOGY PRESENTATIONS TO THE ED: A CHANGE IN PRACTICE AND PROCESS

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Overview of presentation

- Febrile Neutropenia and “The Golden Hour”
- Rationale for change in Starship Children’s Health
- Change in practice and process in CED
- Impact of change

Febrile Neutropenia (FN)

- **Fever**
  - 38°C – 38.4°C on two consecutive occasions 1 hour apart **OR** single temp of 38.5°C or above

AND

- **Neutropenia**
  - Neutrophil count of <0.5 x 10/L **OR** recent intensive chemotherapy where neutropenia is expected

(SCH Clinical Guidelines, 2014)

Febrile Neutropenia

- Oncological emergency
  - Morbidity: 10-20% of patients will have bacteremia on presentation
    (Tomlinson & Kline, 2010)
  - PICU admissions: 4.7%
  - Fluid resuscitation ≥40ml/kg: 10.1%
    (Fletcher et al. 2013)
  - Fever of unknown cause 53% off all presentations
    (Hakim et al. 2010)
  - Mortality: < 5% for solid tumors
    < 10% for blood
    (Naurois et al. 2010)

What is the golden hour?

- Early recognition and treatment in Sepsis
- Antibiotic treatment within an hour
- Fluid resuscitation 20-40 mls/kg

SCH historical FN process

- Acute presentations direct to oncology department
  - Stable or critically unwell
- Normal working hours
  - Presented to clinic/treatment room
- Out of hours
  - Presented to the ward. On call Medical Registrar/SHO review

Rationale for change

- Multiple high risk situations
- Delay to medical review and initiation of treatment for Oncology children
- Workload and capacity of Oncology team
- Geographic isolation of ward (7^{th} floor)
- All other emergencies present to ED
- International practice
- Acute patient flow
- Delay for medical review for non oncology patients

Benefit vs Risk

- Reduced time to medical assessment
- Resuscitation resources
- Triage system and prioritisation

- Infection control
- ED team not as familiar with patient and treatment regimes

Impact

- Child and families
- ED
  - Environment
  - Process
  - Resources
  - Educational requirements
- Oncology service
- After hours medical coverage

Children and Family/Whanau

Children and Family/Whanau

Anecdotally:

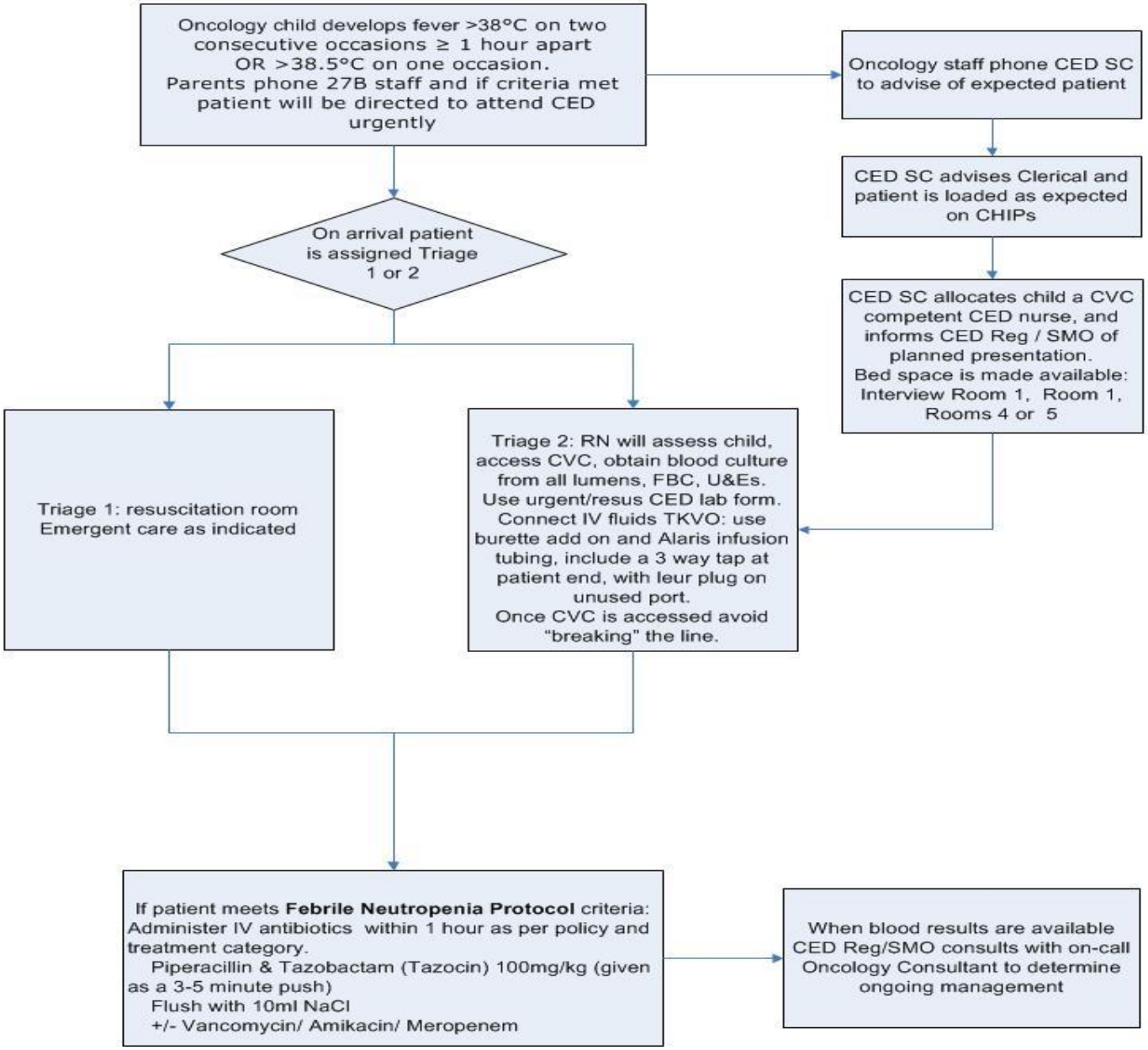
- Seen immediately or within 10min
- Time to AB's consistent between CED and Oncology
- Emergency MDT and environment

ED: Process

- Phone referral
  - Families call Oncology dept→ call CED
- Triage
  - Review of Triage RBP
  - Category 1 or 2
  - Taken directly to room
  - Utilisation of assessment nurse
- Development of flow chart

Febrile Neutropenia – the first hour

30th July 2014



ED: Environment

- Room selection
  - Visibility vs protective isolation
- Physical alterations required
- Central monitoring

ED: Resources

- Development of central access trolley
- Ordering stock for central line access
- Ordering AB's
- Addition of oncology AB's CED guardrails profile
- No additional staffing resource for CED

ED: Educational requirements

- Worked with Oncology CNM and NE
- CVL access
  - Three Level IV RN champions
  - CVL policy
  - Powerpoint presentation
  - CVL test
  - Oncology OPC
  - Simulation
- Oncology staff

ED: Educational requirements

- New drug regime
- Different set up for TKVO IVF
- Recent change in FN protocol
- Requested feedback from team re educational needs

Impact on Oncology Nurse

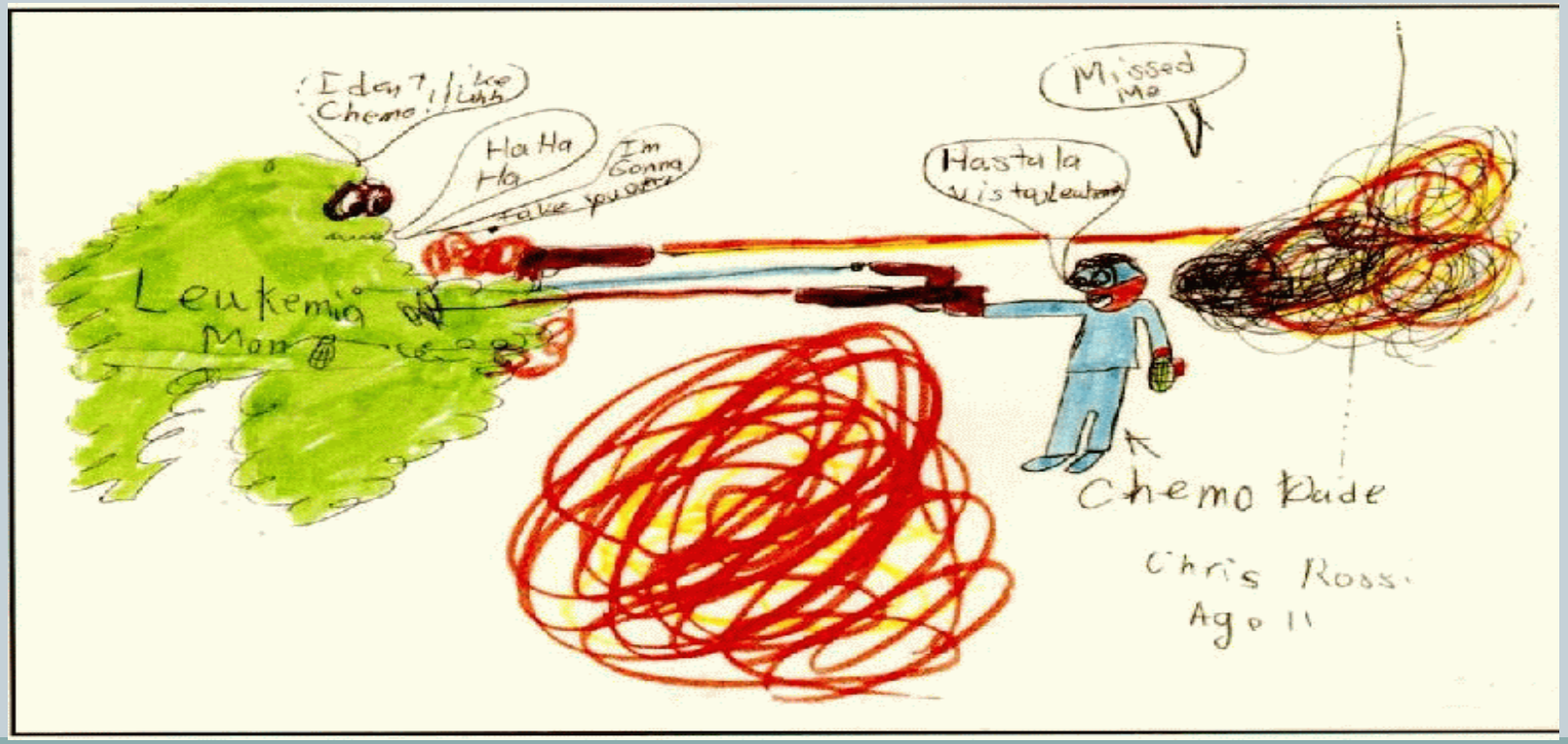
- Patient safety is paramount
  - 1-4 patients/RN
  - Up to 5 infusions/patient/day
  - 10-12 ABs, AVs, AFs/ day – Tx children up to 25 meds/day
  - Hourly monitoring of IVF
  - Daily CVL cares
  - Regular oral cares
  - Regular obs
  - NG feeds
  - Visiting specialists
  - Ward rounds
  - etc etc etc!

Impact on Oncology service

- Patient flow is not compromised
- Reduction in infection risk to other oncology patients
- Potential of deskilling in resuscitation (??)

Conclusion

Questions?


I don't like Chemo!
Ha Ha Ha
I'm Gonna take you out!
Leukemia Man
Missed Me
Hasta la vista tayleutomy
Chemo Dude
Chris Ross
Age 11