



A novel approach to improving outpatient ambulatory management of low risk febrile neutropenia: An Enhanced Supportive Care Clinic

Dr Tim Cooksley

Consultant in Acute Medicine

The Christie & Manchester University NHS Foundation Trusts

Honorary Senior Lecturer, University of Manchester

MASCC Conference 29th June 2018, Vienna, Austria



- Need for acute ambulatory outpatient cancer care
- Description of Enhanced Supportive Care (ESC) ambulatory clinics
- Results of pilot study in managing low risk febrile neutropenia
- A useful model?

Alternative Strategies to Inpatient Hospitalization for Acute Medical Conditions A Systematic Review

Jared Conley, MD, PhD, MPH; Colin W. O'Brien, BS; Bruce A. Leff, MD; Shari Bolen, MD, MPH; Donna Zulman, MD, MS

IMPORTANCE Determining innovative approaches that better align health needs to the appropriate setting of care remains a key priority for the transformation of US health care; however, to our knowledge, no comprehensive assessment exists of alternative management strategies to hospital admission for acute medical conditions.

OBJECTIVE To examine the effectiveness, safety, and cost of managing acute medical conditions in settings outside of a hospital inpatient unit.

Outpatient management of cancer patients with febrile neutropenia: a systematic review and meta-analysis

O. Teuffel^{1,2}, M. C. Ethier², S. M. H. Alibhai^{3,4}, J. Beyene^{2,3,5} & L. Sung^{1,2,3*}

¹Division of Haematology/Oncology; ²Child Health Evaluative Sciences, The Hospital for Sick Children; ³Department of Health Policy Management and Evaluation, University of Toronto; ⁴Department of Medicine, University Health Network; ⁵Dalla Lana School of Public Health, University of Toronto, Toronto, Canada

Background: In some centers, outpatient management for cancer patients with low-risk febrile neutropenia (FN) has been implemented into routine clinical practice. Our objective was to evaluate the current level of evidence before supporting widespread adoption of outpatient management for this population.

Methods: We systematically reviewed randomized controlled trials evaluating efficacy and safety of outpatient management of FN.

Results: From 1448 reviewed articles, 14 studies were included for meta-analysis. (i) Inpatient versus outpatient setting (6 studies) was not significantly associated with treatment failure [risk ratio 0.81; 95% confidence interval (CI) 0.55–1.19; $P = 0.28$]. Death occurred in 13 of 742 FN episodes with no difference between the two groups (risk ratio 1.11; 95% CI 0.41–3.05; $P = 0.83$). (ii) Outpatient oral versus outpatient parenteral antibiotics (8 studies) were similarly efficacious with no association between route of drug administration and treatment failure (risk ratio 0.93; 95% CI 0.65–1.32; $P = 0.67$). No death occurred in 857 FN episodes.

Conclusion: Based on the current literature, outpatient treatment of FN is a safe and efficacious alternative to inpatient management. Variation between studies in terms of time to discharge, choice of antibiotic class, and age of study population may limit the interpretation of the data.

Research Letter

July 11, 2017

Overall Survival Results of a Trial Assessing Patient-Reported Outcomes for Symptom Monitoring During Routine Cancer Treatment

Ethan Basch, MD, MSc^{1,2}; Allison M. Deal, MS¹; Amylou C. Dueck, PhD⁴; Howard I. Scher, MD³; Mark G. Kris, MD³; Clifford Hudis, MD⁵; Deborah Schrag, MD, MPH^{2,6}

Early responsiveness to patient symptoms prevents adverse downstream consequences

The ESC clinic; how does it work?



- Provides patients with **rapid access to specialist cancer care**
- It is an **integrated clinic**: between supportive care & acute oncology

Low Risk Febrile Neutropenia Protocol

- Clinic started in January 2017 at a comprehensive cancer hospital in the North of England.
- Patients with a fever $> 38.0^{\circ}\text{C}$ and an absolute neutrophil count $< 1.0 \times 10^9/\text{L}$ were considered.
- All patients with a MASCC score ≥ 21 and a National Early Warning Score (NEWS) ≤ 3 were potentially eligible for the pathway.
- Suitable patients were managed with oral amoxicillin/clavulanic acid (500/125mg TDS) and ciprofloxacin (500mg BD) or moxifloxacin 400mg OD if penicillin allergic.
- All patients had one dose of intravenous meropenem on arrival to hospital as part of a PGD.

Results of ESC LRFN pilot

Characteristic	Number
Age (Median, Range)	51 (17-79)
Gender	
Male	11 (16.2%)
Female	57 (83.8%)
Cancer Type	
Breast	37 (54.4%)
Ovarian	7 (10.3%)
Upper Gastrointestinal	5 (7.4%)
Lymphoma	4 (5.9%)
Sarcoma	4 (5.9%)
Colorectal	3 (4.4%)
Testicular	2 (2.9%)
Lung	2 (2.9%)
Bladder	1 (1.5%)
Prostate	1 (1.5%)
Thymus	1 (1.5%)
Pancreas	1 (1.5%)
Treatment Intent	
Curative	50 (73.5%)
Palliative	18 (26.5%)
Positive Microbiological Result	21 (30.8%)
Neutrophil count at discharge (Median, Range)	0.4 (0.0-1.0)
Length of initial inpatient stay, days (Mean)	0.73 (0-2)
MASCC score on discharge (Median, Range)	24 (21-26)
CISNE score on discharge (Median, Range)	1 (0-3)
NEWS on discharge (Median, Range)	1 (0-3)
7 day readmissions	6 (8.8%)
Readmission before next cycle of chemotherapy	6 (8.8%)
30 day readmissions	14 (20.6%)

- **Safe & effective**
- Benefits include:
 - Improved access to specialist care
 - Admission avoidance
 - Reduced risk of nosocomial infections
 - Reduced length of stay
 - Improved patient experience
 - Reduced pressure on other services under stress; EDs & GPs

- A sustainable model?
- Model for acute ambulatory cancer care?
 - Low risk febrile neutropenia
 - Acute supportive care presentations
 - Management of immune-related toxicities, such as IR hepatitis?
- A reproducible model?