Managing Febrile Neutropenia in the UK - Service Evaluation

v. 1 April 2020

In light of the current coronavirus pandemic and the resultant pressures put on our services, the CCLG Supportive Care Group has produced new guidance over management of one of our most common reasons for admission.

It is clearly important that there is a mechanism to evaluate such a major change to current practice and even more so to ensure this is carried out in order to ensure patient safety. We acknowledge that this is a difficult time, and that capacity at certain centres may mean data collection is not possible. However, we strongly encourage data collection for those who do have capacity.

The protocol and evaluation have been adapted from the paediatric low-risk FN program developed by Gabrielle Haeusler, National Centre for Infections in Cancer, Australia and in collaboration with Bob Phillips and Jess Morgan, University of York, and the CCLG team including Barry Pizer, Sujith Samarasinghe, Richard Grundy and Jessica Bate.

**Aim**

To evaluate the new febrile neutropenia policy in three ways:
- Is time to discharge reduced compared with previous FN audits?
- What are the outcomes for patients treated on this policy (with particular attention to significant infections (bacteraemia or other clinically significant infection), re-presentation, ICU admission, death)
- To allow modification of the protocol based on data collected to ensure safe roll-out of this change in practice

**Methods**

Where contacts are available the service evaluation will be conducted through the Paediatric Oncology Trainees Group (POTG) network – these will be individually invited to lead data collection with the Clinical Lead for the department copied in for information.

Where there are no POTG contacts available to conduct the evaluation, the Clinical Lead will be approached directly to identify the designated lead within their department. Forms can be completed by anyone at the Trust; it does not necessarily have to be the data collection lead. The data collection lead is responsible for checking that patients with FN are identified and that their data is inputted into the database. Data Collection Leads will also be asked to flag to the protocol team any serious adverse events related to infection during this period – defined as ICU admission or death.

Suggested ‘RAG’ criteria are listed as an Appendix.
If centres are unable to commit to prospective data collection, they will be encouraged to keep a list of patients treated on the new protocol for retrospective data collection (following the current coronavirus outbreak).

**Analysis**
On a weekly basis, the following analyses will be run and a detailed report produced and distributed to the Centre Leads with archive copies kept in the University of York and CCLG:
1. Demographics of case: number of FN episodes, stratified by centre, diagnosis and AUS rule score
2. Duration of initial admission stratified by AUS score (median, IQR, range)
3. Outcome data stratified by AUS score (with and without risk factors)

**Distribution of findings**
The following email will be circulated to the Data Collection Leads and Centre Coordinators immediately following analysis:

Dear Febrile Neutropenia Key Individuals Group,

This week n episodes were recorded on the database. This brings the total number of episodes captured to:

Current outcome data are as follows, stratified by AUS score, (count (%), unless otherwise specified):

<table>
<thead>
<tr>
<th></th>
<th>0 (n=)</th>
<th>1 (n=)</th>
<th>2 (n=)</th>
<th>3 (n=)</th>
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</thead>
<tbody>
<tr>
<td>Median duration of admission</td>
<td></td>
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<tr>
<td>Clinically important infection (bacteraemia, other clinical infection requiring IV Abx)</td>
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<tr>
<td>Representation (no admission)</td>
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<tr>
<td>Representation (admission)</td>
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<tr>
<td>ICU admission</td>
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<tr>
<td>Death from infection</td>
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<tr>
<td>Death from other cause</td>
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Key observations by the protocol team are:
The detailed analysis report for this week is attached.
Best wishes
Febrile Neutropenia Protocol Team
APPENDIX:

Policy stopping rules:

IMMEDIATE DISCONTINUATION AND REVERTING TO ORIGINAL POLICY
- Avoidable death or ICU admission from bacterial sepsis in a 0/1 score group discharged before 36h

MODIFICATION OF MINIMUM ADMISSION DURATIONS
- High numbers of re-admissions (>90%ile expected) in the 0/1 score group discharged before 36h
  - (This group will be expected to have ~15% re-admission rates. The 90% CI can be calculated of the ‘n’ of patients discharged in this group and will change with increasing numbers of patients assessed)
- High numbers of re-presentations within the first 24h after presentation (>50%)