Interest of dose banding in preparation of 5-FU infusors in ambulatory care

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Definition of dose banding

A system whereby, through agreement between prescribers and pharmacists, doses of intravenous cytotoxic drugs calculated on an individualised basis that are within defined ranges, or bands, are rounded up or down to predetermined standard doses.

Facts & Aims of the study

To improve deadlines for infusor’s delivery
A better organisation at the pharmacy unit
A decrease of infusor returns

RATIONALISATION OF PRODUCTION WITH THE DOSE BANDING?

A better organisation at the pharmacy unit
To improve deadlines for infusor’s delivery
A decrease of infusor returns

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Method

1. **Feasibility study**
   - Retrospective analysis of 2010’s production
   - Presentation of the concept to the medical staff
   - Selection of standardised dosage

2. **Implementation**
   of dose banding
Retrospective analysis

837 infusors
- 91 dosages
- 132 patients

36 infusors
(5.5 days)
- 23 dosages
- 19 patients

781 infusors
(48 hours)
- 52 dosages
- 109 patients

20 infusors
(7 days)
- 7 dosages
- 4 patients

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Retrospective analysis

N = 781

Production 2010 of 5-FU infusors 48h

Dosage [mg]

Quantity of infusors

= 52 dosages

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Retrospective analysis

Dose banding with an interval of +/- 10%

- Quantity of infusers:
  - Standardised dosage [mg]: 3250, 4000, 4800
  - Infusers: 103, 402, 268

- Percentage: 98%

N = 781

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Retrospective analysis

Dose banding with an interval of +/- 5%

n=716
92%

Quantity of infusors

100
195
272
149

3600
4000
4400
4800

Standardised dosage [mg]
Feasibility study of standardisation of doses

- Low cost
- Frequency of use (800/year)
- Agreement of clinicians

A PRIORI

- Stability
  1. Stabilis 4.0
  2. Manufacturer Data

RETROSPECTIVE ANALYSIS

A POSTERIORI

- Repetitive dosage
Implementation of dose banding

CPOE: Rounding choice
4 standards protocols
PRESCRIPTION

Existing process
In process gravimetric control
PRODUCTION

Nominal Dispensing

Traceability

5-FU INFUSOR’S PROCESS

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Implementation of dose banding

Computerised prescription (CPOE)

↓

Pharmaceutical Validation

↓

Dispensing from the existing stock

↓

Labelling

↓

Transport + Administration

Schedule of manufacturing

↓

Production of standardised infusors

↓

Storage
Preliminary Results

Results will be analysed **6 months later** (Beginning of 2013)

After 3 months...

**Dose banding production**  
\[ n = 196 \]

<table>
<thead>
<tr>
<th>Standardised dosage [mg]</th>
<th>Quantity of infusors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3600</td>
<td>49</td>
</tr>
<tr>
<td>4000</td>
<td>42</td>
</tr>
<tr>
<td>4400</td>
<td>59</td>
</tr>
<tr>
<td>4800</td>
<td>46</td>
</tr>
</tbody>
</table>

**Over 207 infusors prescribed** ...

- **Dose banding**  
  - 173; 84%
- **Individual dosage**  
  - 34; 16%

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Conclusion & Perspectives

Dose banding: **More than a myth, a reality...**

... And now, just **try it!**
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Thank you for your attention!