

# EXTRAVASATION:

## A RETROSPECTIVE ANALYSIS of 27 REPORTS

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### Background

In 2003, an extravasation guideline and a standardized report formulary were implemented in our hospital. Cases are regularly analysed by an expert group including a clinical oncology nurse, an oncology pharmacist, an oncologist and a clinical pharmacologist.

### Objectives

- To evaluate the efficacy of the implemented guideline,
- To identify rates and causes of extravasation,
- To implement preventive actions.

### Design

Retrospective analysis of 27 extravasation reports between 2003 and 2007.

### Setting

Two thousand beds university hospital;  
 Twelve thousand cytotoxic preparations each year.

### Main outcome measures

Rates and causes of extravasation.

## Results

### Frequency

- 0,03-0,075% extravasation per year
- 82% peripheral
- 82% during administration
- 30% during summer

### Type of drugs

- 33% vesicant (2x/9) saline flush out Paclitaxel 6, mitomycin 1, VAD 1, vinorelbine 1
- 65% irritant : fluorouracil 6, oxaliplatin 4, carboplatine 3, others 4

### Symptoms

- Induration and oedema (16 cases);
- Pain (14)
- Redness (10);
- Asymptomatic (1)

No tissue damage was noticed in any cases

All extravasations occurred in adults; none in children

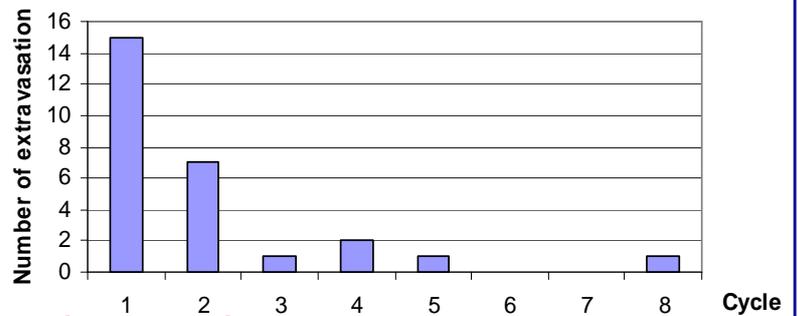


Figure 1. Occurrence of extravasation

### Factors identified in 19 cases (70%) and were linked to:

#### The administration technique, 11 cases (41%)

- Dislocation of the needle (6 cases)
- Peripheral medical device > 48h (1)
- Paclitaxel >20h + peripheral administration (5)

#### The patient education, 6 cases (22%)

- 4 patients did not report their symptoms (pain,...)

#### The medical device, 2 cases (7%)

- Infuseur
- Venflon positional



Figure 2. Person who noticed extravasation first

- 2 patients went for a walk

### Preventive actions taken

- Better way to fix the needle
- Improved patient education
- ...

How to avoid extravasation?

### Perspectives

- Fragile veins (9 cases)
- Surgery/biopsy (9 cases) and/or Radiotherapy (5)

## Conclusions

The incidence of extravasation was low and within the range of 0.1 to 5% described in the literature.<sup>1,2</sup> No tissue damage was noticed in any cases. The relevance of the study to clinical practice is to increase the awareness and involvement of the nursing team, and to avoid risk factors in order to increase the quality of care and the patient safety.

## References

1. Centre National Hospitalier d'information sur le Médicaments anticancéreux: utilisation pratique In: Dossier du CNHIM, Revue d'évaluation sur le médicament. 5e éd. Paris: CNHIM 2004; 25:4-5
2. Allwood M, Stanley A, Wright P. The Cytotoxic Handbook. 4 ed. Oxford and New York: Radcliffe Medical Press, 1997