

# GUIDELINES FOR CHEMOTHERAPY EXTRAVASATION

M.Morgado<sup>1,2\*</sup>, M.Mendes<sup>2</sup>, R.Oliveira<sup>1</sup>, S.Morgado<sup>1</sup>

<sup>1</sup>Hospital Centre of Cova da Beira, Pharmaceutical Services, Covilhã, Portugal (www.chcbeira.pt)  
<sup>2</sup> University of Beira Interior, Health Sciences Faculty, Covilhã, Portugal (www.fcsaude.ubi.pt/cics)  
 \* manuelaugustomorgado@gmail.com

## BACKGROUND

The administration of intravenous cytotoxic drugs plays a key role in cancer treatment and due to the overall increase of these administrations there has been an increasing incidence of chemotherapy extravasation. Extravasation describes the unintended leakage of a drug from a vessel into the surrounding tissues or the unintended instillation of a drug directly into the perivascular tissues. Therefore, it is advisable to have updated guidelines that direct the treatment of intravenous cytotoxics extravasation.

## OBJECTIVES

The aim of this study was to develop guidelines for the treatment of cytotoxics extravasation, which contains the management algorithms, antidotes and treatments that should be supplied, as well as risk factors and strategies to prevent extravasation.

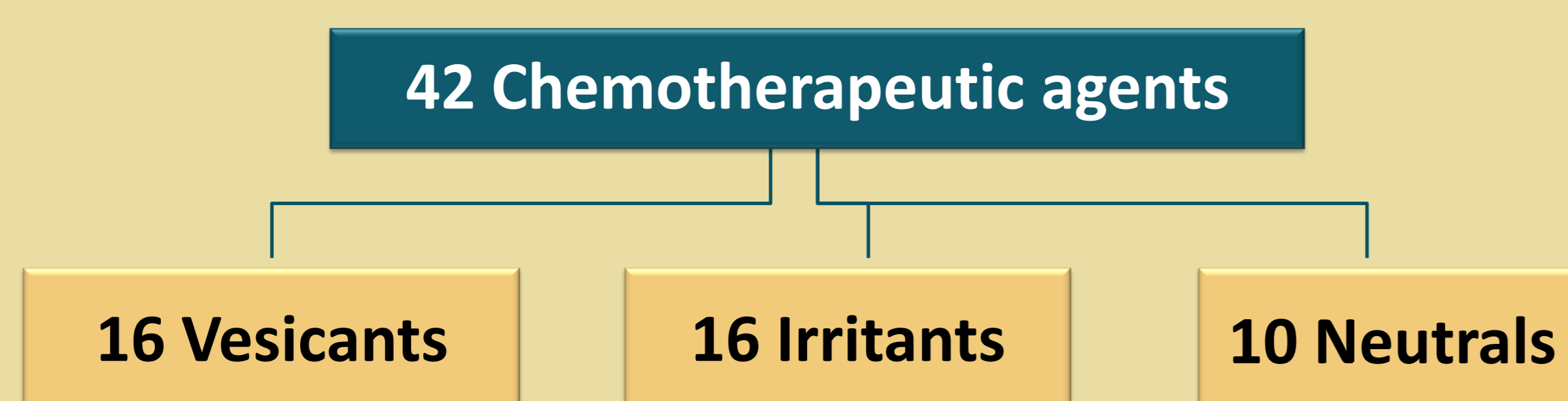
## MATERIALS AND METHODS

- A literature review was performed, through research and analysis of guidelines and articles obtained from PubMed since January/2000 to September/2012, intersecting the terms “cytotoxic extravasation”, “chemotherapy extravasation” and “extravasation treatment”.
- The summary of product characteristics of all of intravenous cytotoxics available in Portugal was reviewed.
- Some holders of market authorization were contacted whenever additional information was considered required.

The guidelines were designed to contain, for each cytotoxic drug, all measures to manage his extravasation.

## RESULTS AND DISCUSSION

A total of 42 intravenous antineoplastics currently available in Portugal were analyzed, distributed as follows based on their propensity to cause tissue injury after extravasation:



It was created a summary table, for quick search, with the risk factors (e.g., vesicant drugs, higher drug concentrations, previous vinka-alkaloids, elderly, impaired sensory perception, generalised vascular disease) and preventive measures of extravasation (e.g., ensure that the IV site can be clearly visualized, do not use a butterfly needle with a vesicant drug).

It was also designed an extravasation kit and a document model for the appropriate record of extravasation and clinical monitoring of the patient.

Nine individual algorithms were developed, according to the latest guidelines, which guide the work of healthcare professionals in case of extravasation (e.g., immediate treatment measures, applying heat/cold, recommended antidote and instructions for its use). It was drawn a list with all cytotoxics, each being identified with a color, which corresponds to the color of the separator with the algorithm to treat its extravasation.

The guidelines were produced in A5 format and it has proved to be very useful.

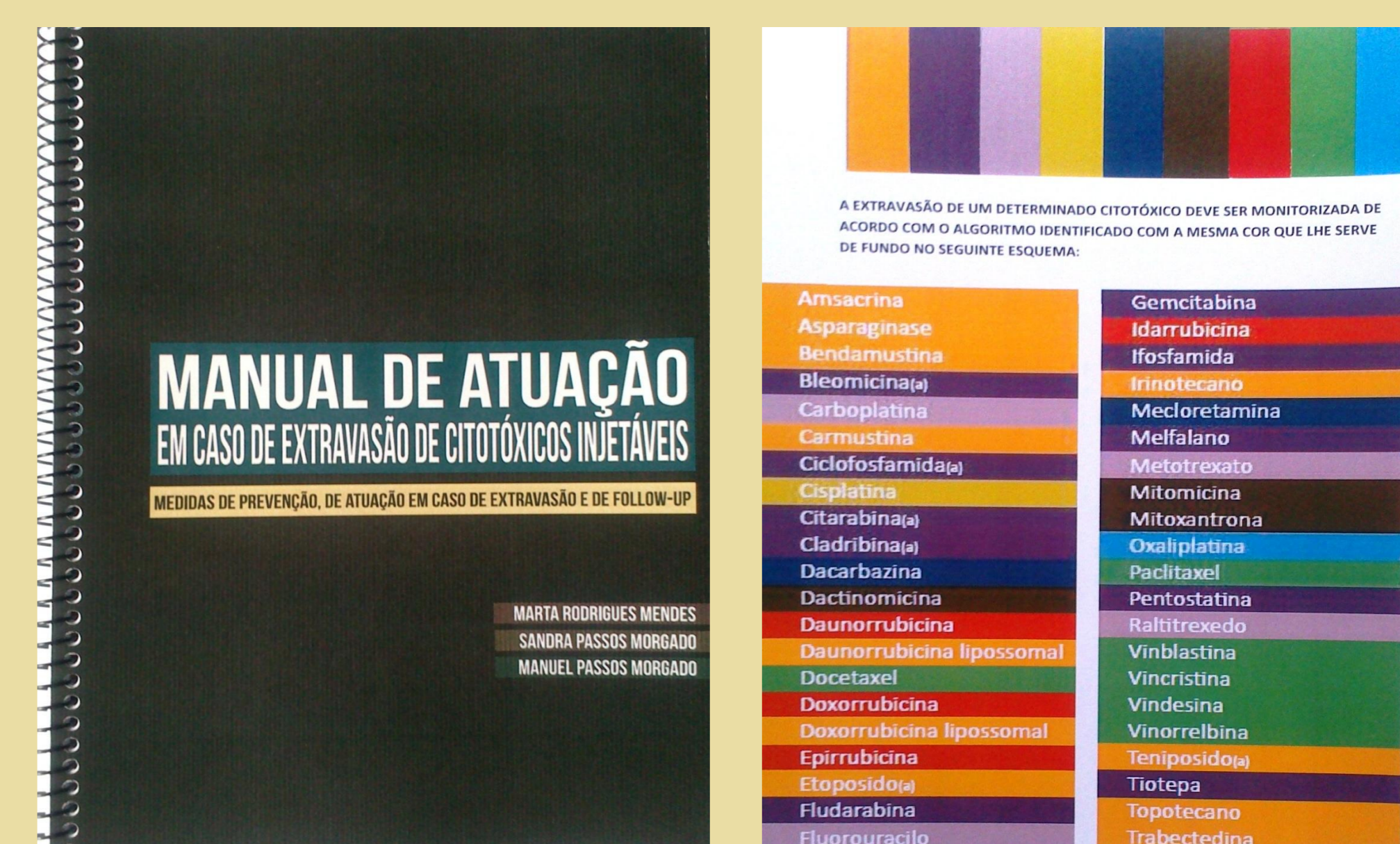


Figure 1. General appearance of the manual (left) and model tabs for individualized treatment of extravasation for cytotoxic agents (right).

## CONCLUSIONS

The developed guidelines are a valuable tool for all hospital services that prepare and administrate injectable chemotherapy, contributing to respond, quickly and effectively, to episodes of extravasation.

### BIBLIOGRAPHY

- Langer SW. Extravasation of chemotherapy. Curr Oncol Rep. 2010;12(4):242-6.
- Wengstrom Y, Margulies A. European Oncology Nursing Society extravasation guidelines. Eur J Oncol Nurs. 2008;12(4):357-61.
- Schulmeister L. Managing Vesicant Extravasations. The Oncologist. 2008;13:284-8.

### CONFLICT OF INTEREST

No conflicts of interest to declare.