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ANALYSIS OF ANTINEOPLASTIC DRUGS PREPARATION ERRORS AS A FIRST STEP TO IMPROVE THE QUALITY OF THE PROCESS

B. Marzal Alfaro¹, V. Escudero-Vilaplana¹, C.G. Rodríguez-González¹, E. González-Haba Peña¹, X. García-González¹, S. Ibañez-García¹, F.J. García-Moreno¹, C. Ortega-Navarro¹, I. Iglesias-Peinado², A. Herranz¹, M. Sanjurjo-Saez¹

1. Servicio de Farmacia. Hospital General Universitario Gregorio Marañón. Instituto de Investigación Sanitaria Gregorio Marañón (II+G-M). Madrid, España
2. Facultad de Farmacia. Universidad Complutense de Madrid. Madrid, España

OBJECTIVES

Background: Antineoplastic preparation presents unique safety concerns because of its toxicity and narrow therapeutic window. Moreover, antineoplastic use system includes several stages that are vulnerable to opportunities for potentially harmful medication errors.

PURPOSE: To identify the type and underlying factors of medication errors during antineoplastic drug preparation, to identify improvement strategies.

METHODS

Design: Prospective, observational study, from April to June 2016, using a disguised observation technique.

Setting: Hazardous Preparation Unit of the Hospital Pharmacy Department in a 1300-bed tertiary teaching hospital.

In this Unit, quality control of the final products is made by a nurse, who compares the preparation order instructions with all vials used to make the preparation.

1 Observation of medication preparations

4 trained Pharmacy students



Biological Safety Cabinet

2 Independent Oncology Pharmacists

Analysis of intercepted errors

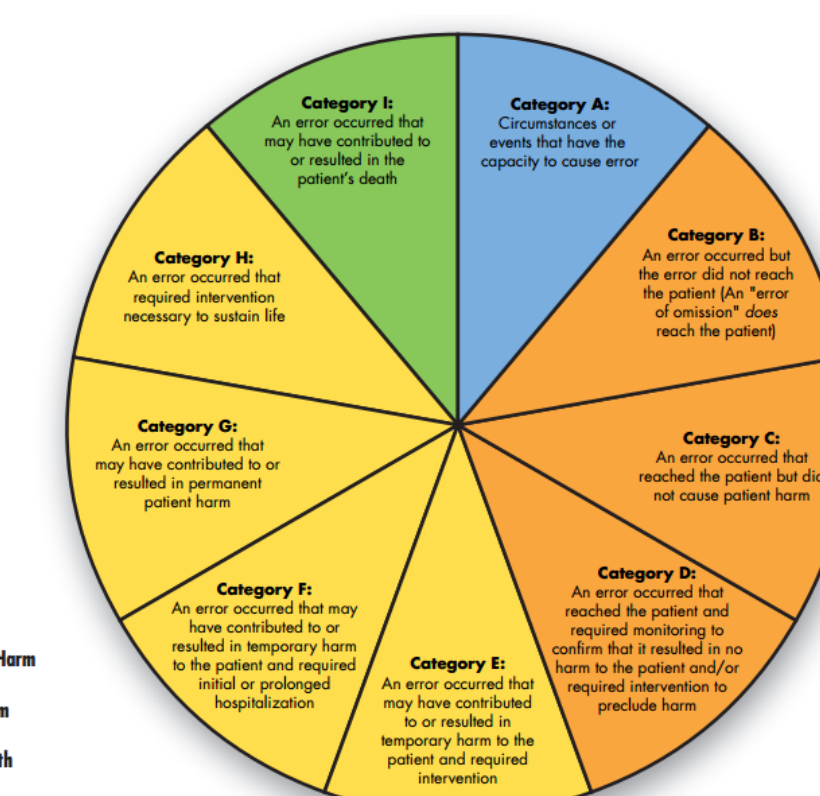
Classification (according to Ruiz-Jarabo 2008)

- Errors: the dose was >5% variation from the prescribed, or the preparation did not meet pharmacy quality standards, like wrong fluid or wrong final volume that implied instability of the drug.
- Discrepancies
- Causes

Severity

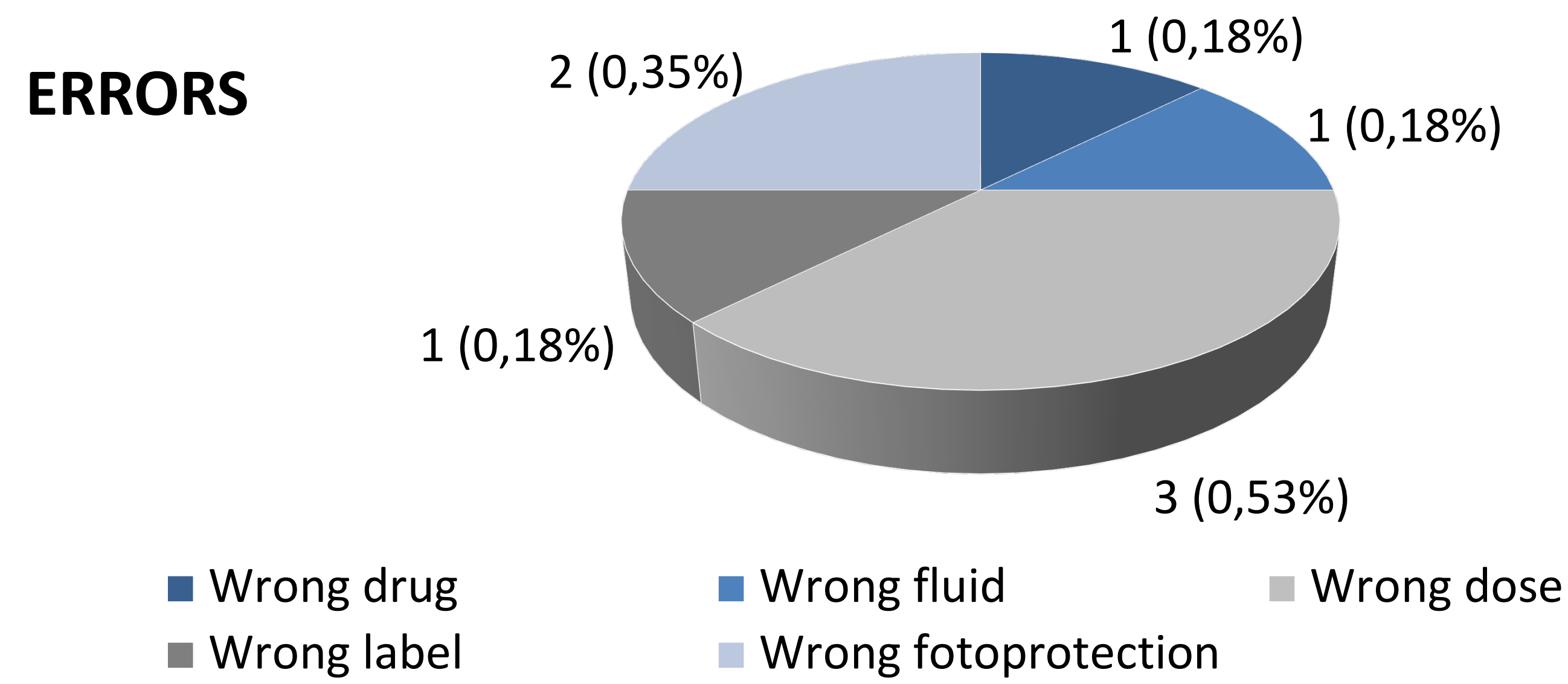
(categorized using NCC-MERP Index)

- Minor
- Moderate
- Serious



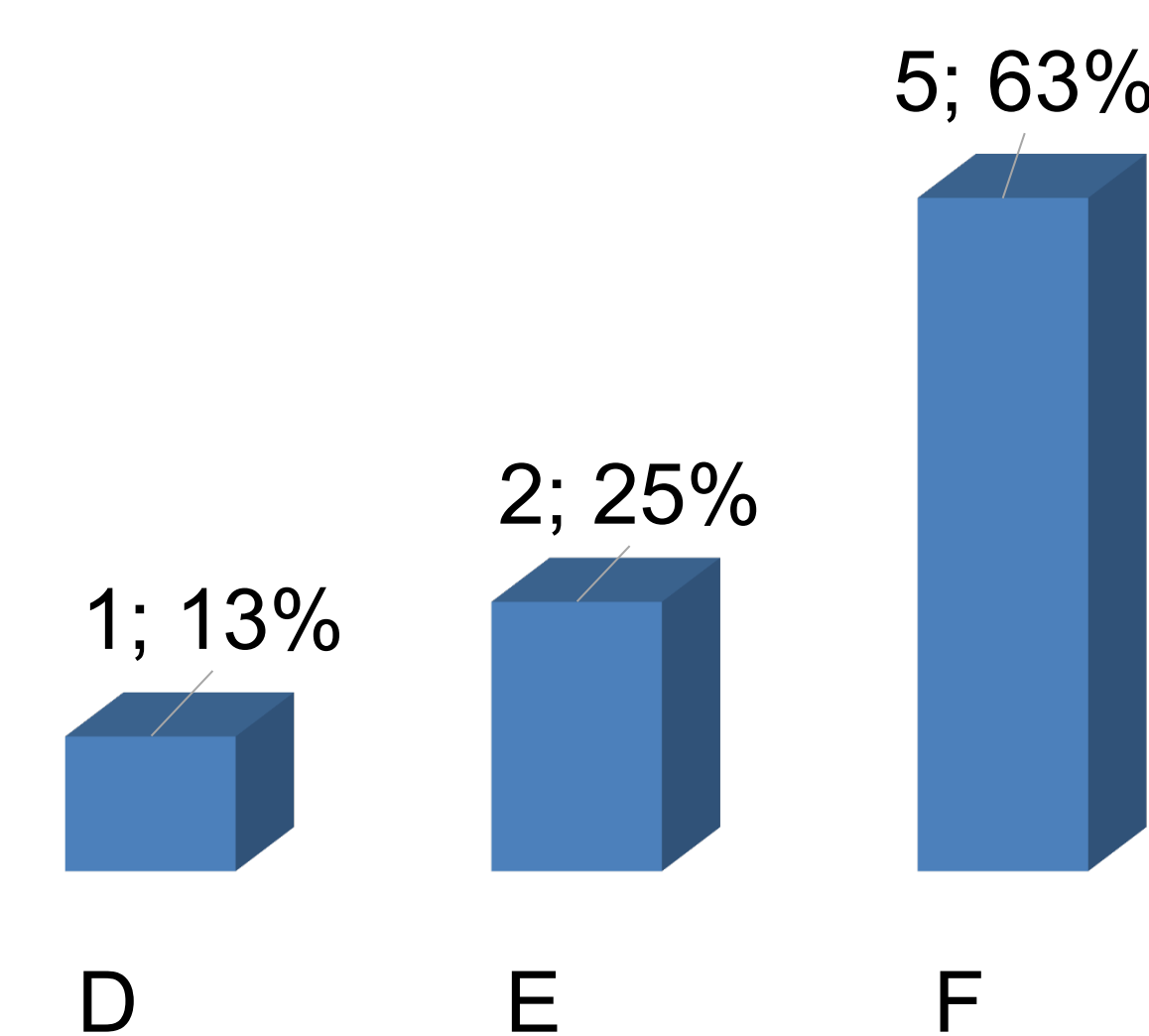
RESULTS

Graph 1. Classification of errors and discrepancies

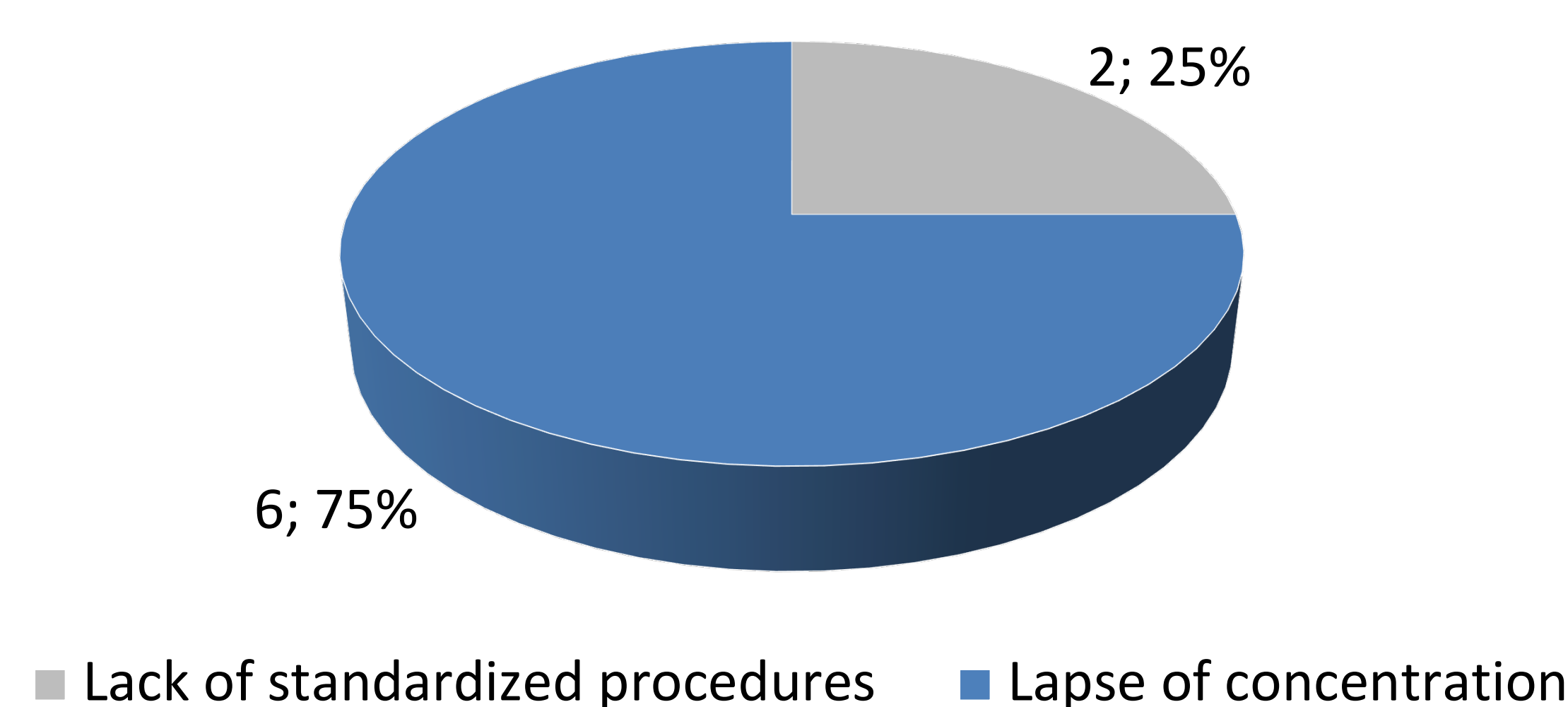


Graph 2. Potential severity

- Minor: 3, 38%. No damage or monitoring required
- Moderate: 5, 63%. Temporary damage that required monitoring or treatment



Graph 3. Potential error causes



CONCLUSIONS

Although the identified error rate is very low and consistent with previous studies, the high intrinsic risk of antineoplastic drugs calls for a zero rate target. For this reason, and in order to improve preparation accuracy, new strategies such as automatized workflow management systems will be of use in the near future.

