INVESTIGATING CO-MEDICATION-RELATED TOXICITY IN CANCER PATIENTS TREATED WITH IMMUNOTHERAPY: AN OBSERVATIONAL STUDY

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Introduction

Immunotherapy has revolutionized cancer treatment but is often associated with immune-related adverse events (irAEs). Co-medications, including conventional drugs and complementary and alternative medicine (CAM), may exacerbate these toxicities. To optimize patient management, we implemented a multidisciplinary consultation involving clinical pharmacists to identify potential drug interactions. Detecting these cases can help clinicians adjust treatments without unnecessary discontinuation, improving patient outcomes.

Objective

To identify and analyze co-medications that may contribute to or exacerbate immunotherapy (and chimioterapy/other if in combination) -related toxicities to improve patient managment and treatment continuity.

Methods

TOXICITY PATHWAYS: A MULTIDISCIPLINARY APPROACH

Day Hospital Toxicity

Advanced Practice Nurse:

Monitoring clinical parameters
Assessing toxicity symptoms
Patient education support

Internist:

General clinical review
Management of comorbidities
Assessment and treatment of complications

Pharmacist:

Drug interaction monitoring
Optimization of pharmacological therapies
Patient education on proper drug intake

Referring Oncologist:

Evaluation of therapeutic effectiveness
Adjustment of treatment protocols
Clinical decisions on treatment continuation

Toxicity assessment

Search for Comedications Adverse Events

Establish drug/dosage correlation

Synthesize cosultation

Probability levels assessment:
Certain – Probable – Possible
assessed interdisciplinary during patients visit

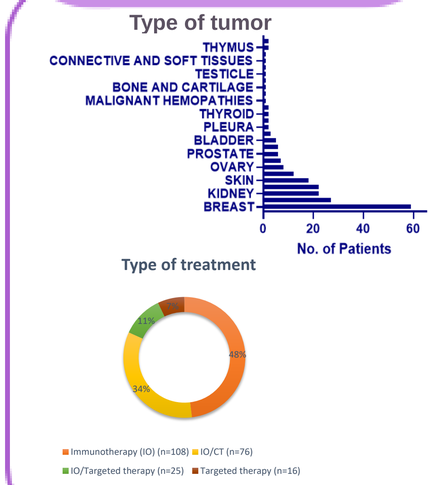
Data collection

REDCap™ Research Electronic Data Capture

Info collected

- *Type of tumor: Location, Stage, No. of metastasis*
- *Oncological treatment*
- *Comedications intake*
- *Toxicity correlation with oncological treatments/comedications*

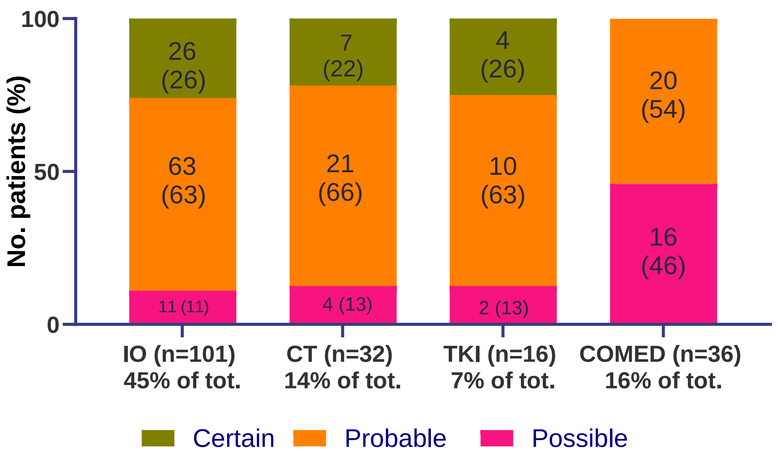
Dataset creation
N=225



* IO: Immunotherapy; CT: Chemiotherapy

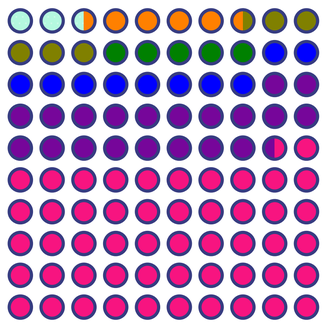
Results

FIGURE 1. Drug-related toxicity causality



- The majority of patients experienced an adverse event related to immunotherapy (45% of the total), followed by chemotherapy (14% of the total).
- **In 16% of patients, oncological treatment toxicity (immunotherapy alone or in combination) was aggravated by co-medication intake.**

FIGURE 2. Proportion of Adverse Events - comedication related



Total= 36 patients

- Hepatic (n=20) 56% of Tot.
- Hematologic (n=8) 23% of Tot.
- Neurological (n=4) 12% of Tot.
- Muscular (n=1) 3% of Tot.
- Systemic (n=1) 3% of Tot.
- Digestive (n=1) 3% of Tot.

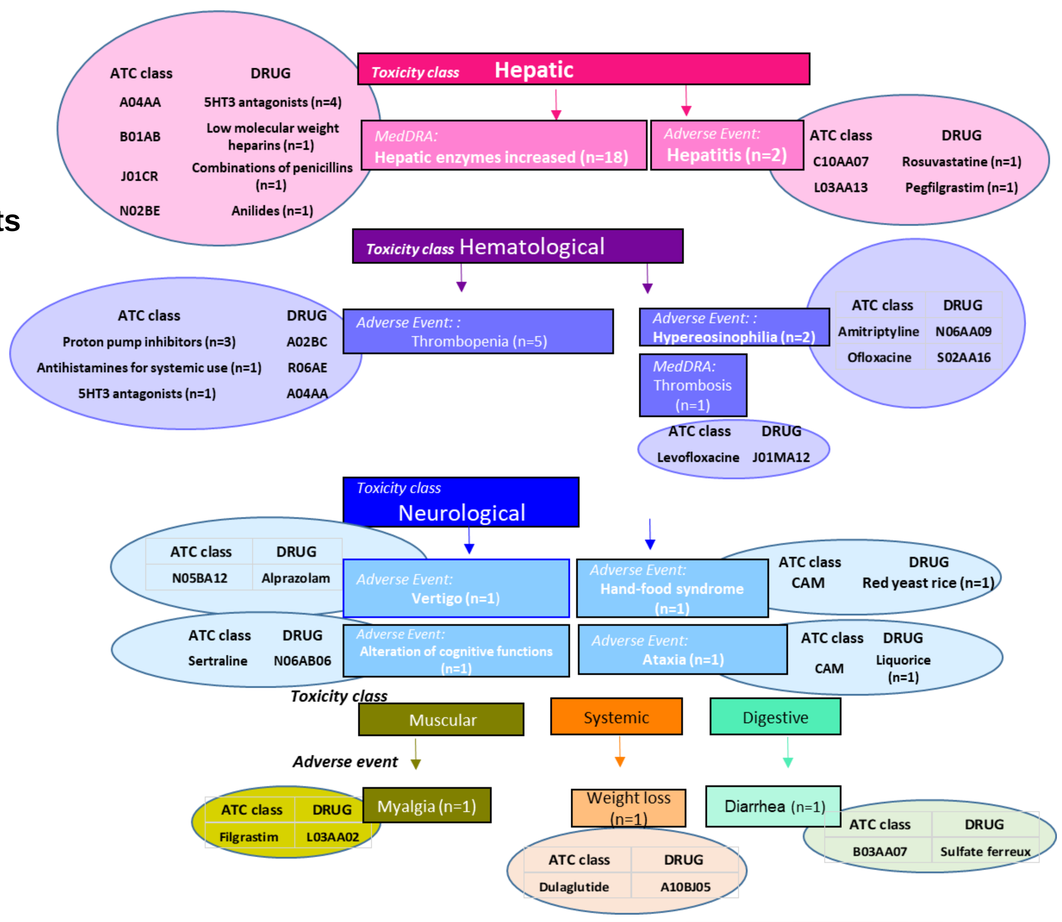
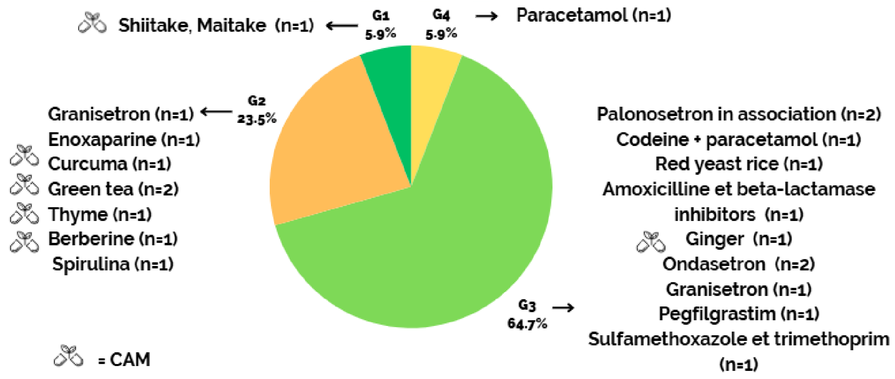
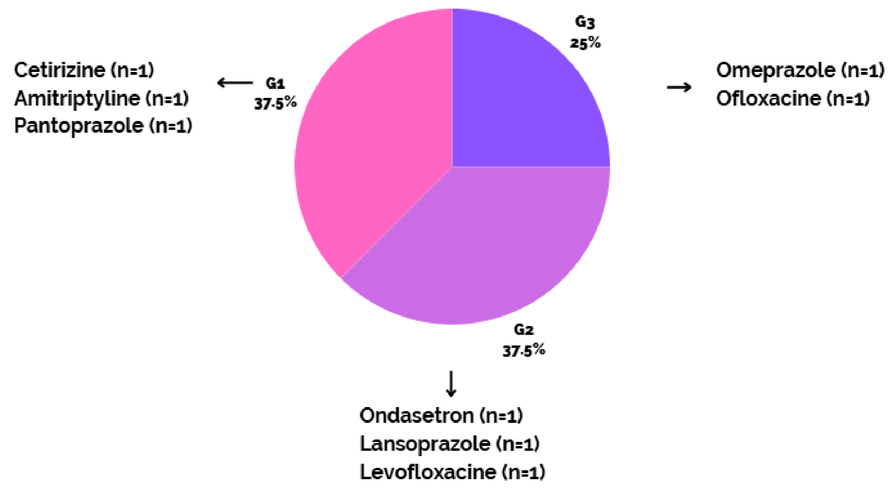


FIGURE 3. Hepatic toxicity and comedication intake



- Co-medications taken during immunotherapy, whether alone or in combination, can exacerbate hepatotoxicity, mostly in grade 3 toxicities (n=11).

FIGURE 4. Hematological toxicity and comedication intake



Conclusion

In patients undergoing immunotherapy alone or in combination, concomitant **co-medications can enhance oncological treatment toxicities**. In particular, both conventional drugs and herbal medicine may have a synergistic effect on hepatic toxicity—especially grade 3—and hematological toxicity. Identifying these interactions is crucial for optimizing patient management and preventing unnecessary treatment discontinuation.

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