# Clinical pharmacist's impact in improving therapies safety for patients using oral anticancer agent: A prospective monocentric study

4CPS-288

**J. Tabe**[1], A. Spinewine[1], V. Ngungu-Yandja[2], M-E Vryghem[2], D. Boulet[3]
[1]Université catholique de Louvain (Belgique), Departments of [2]Pharmacy and [3]Medical Oncology, Centre Hospitalier Régional Mons-Hainaut, Mons (Belgique)

## Introduction

Oral anti-cancer agents (OAAs) are frequently used in oncology practice [1,2]. They allow patients to be cured on an outpatient basis and have an ease of administration that improves their quality of life. OAAs are a source of various medication errors and have numerous drug interactions. Drug interactions involving OAAs are of great concern as they can cause either an altered safety or efficacy profile of cancer treatments.

## Objectives

- To determine drug-related problems (DRPs)
- To evaluate the prevalence of potential drug interactions and their clinical impact
- To implement preventive actions to optimize the effectiveness and efficiency of cancer management

## Methodology

A prospective interventional study was conducted at the day hospital of the CHR Saint Joseph in Mons (Belgium) over a period of 6 weeks. Data on drugs used for co-morbidities, oral cancer therapies, over-the-counter (OTC) drugs and herbal supplements were collected through a structured patient interview, review of medical records and a call to the dispensing pharmacist. Potential drug interactions involving OAAs were detected during the primary prescribing process using two electronic databases: Lexicomp® Drug Interactions and Micromedex® Healthcare. Two experts (clinical pharmacist and oncologist) assessed the clinical impact according to Hatoum's classification[3].

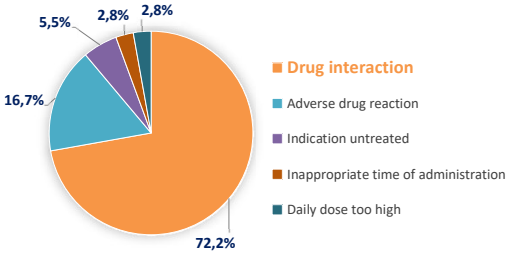
## Results

**A total of 51 patients were included in the study**
**The median age of patients included was 70 years**

| | |
|---|---|
| Age (years) (median [P25 ; P75]) | 70 [63 ; 75] |
| Total number of drugs (median [P25 ; P75]) | 7 [4 ; 10] |

| | | |
|---|---|---|
| **OAAs** | Targeted therapy | 15 (29,4%) |
| | Immunotherapy | 12 (23,5%) |
| | Conventional chemotherapy | 11 (21,6%) |
| | Hormonotherapy | 9 (17,7%) |
| | Other antitumor agents | 4 (7,8%) |

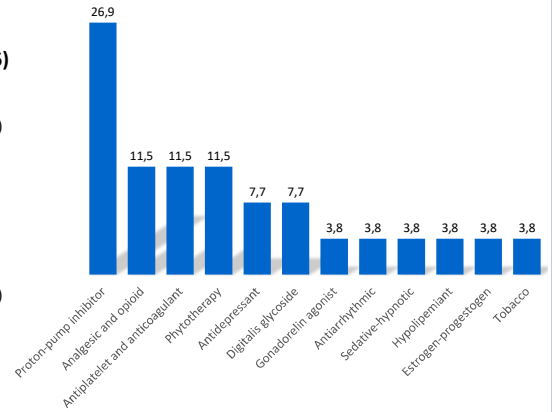
**Type of DRPs**




**Nature of pharmaceutical interventions (n=36)**

| | |
|---|---|
| **Nature of the intervention** | |
| Therapeutic follow-up | 19 (54,3%) |
| Discontinuation of treatment | 8 (22,9%) |
| Optimization of administration modalities | 5 (14,3%) |
| Initiation of treatment | 2 (5,7%) |
| Dosage adjustment | 1 (2,8%) |
| **IP acceptance rate** | |
| Accepted | 31 (86,1%) |
| Partially accepted | 4 (11,1%) |

**Drug classes involved in interactions in % (n=26)**




**Potential deleterious consequences of drug interactions**

| OAAs | | Prescribed drug |
|---|---|---|
| 9 | Toxicity ↗ | 6 |
| 8 | Efficiency ↘ | 3 |

**Significant or very significant clinical impact**
**85,7% → medical specialist**
**100% → clinical pharmacist**

## Conclusion

- Drug interactions accounted for the majority of DRPs.
- We identified 26 potentially clinically significant interactions (PCSIs) in 24 patients (47%), resulting in the potential increase of toxicity and a risk of ineffectiveness of OAAs and standard therapy. Pharmaceutical interventions led to the discontinuation of treatment in 2 out of 9 cases and the optimization of administration methods in 1 out of 7 cases.
- The clinical pharmacist can improve drug safety by notifying hospital and front-line health care staff of PCSIs to reduce drug therapy problems and optimize drug therapy for these patients.

## References

1. Ranchon, F., Bouret, C., Charpiat, B., & Leboucher, G. (2009). Sécurisation de l'emploi des chimiothérapies anticancéreuses administrables par voie orale. Le Pharmacien Hospitalier, 44, 36 44.
2. Banna, G. L., Collovà, E., Gebbia, V., Lipari, H., Giuffrida, P., Cavallaro, S., Condorelli, R., Buscarino, C., Tralongo, P., & Ferraù, F. (2010). Anticancer oral therapy : Emerging related issues. Cancer Treatment Reviews, 36(8), 595 605
3. Hatoum, H. T., Hutchinson, R. A., Witte, K. W., & Newby, G. P. (1988). Evaluation of the Contribution of Clinical Pharmacists : Inpatient Care and Cost Reduction. Drug Intelligence & Clinical Pharmacy, 22(3), 252 259.

## Acknowledgments and contact

I would like to thank Anne Spinewine, Viviane Ngungu-Yandja, Dominique Boulet and all the staff of Department of Medical Oncology.

Contact: jysmine.tabe@epicura.be