POTENTIAL DRUG-DRUG INTERACTIONS INVOLVING TYROSINE KINASE INHIBITORS IN PATIENTS WITH CHRONIC MYELOID LEUKAEMIA TREATED AT A UNIVERSITY HOSPITAL

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Background

- ✓ Chronic Myeloid Leukemia is a chronic myeloproliferative hematological disease that use tyrosine kinase inhibitors.
- ✓ The patients' quality of life has improved satisfactorily, however, the use of drugs poses risks inherent to their use.
- ✓ The occurrence of drug interactions may compromise the patient's direct safety, that could be undesirable and even irreversible, causing even greater harm to the patient's health, leading to death.
- ✓ Know more about this drug interaction are important to structure a specified pharmaceutical service.

Purpose

To analyze the possible drug interactions (PDI), and its factors associated, in patients with Chronic Myeloid Leukemia (CML) using tyrosine kinase inhibitors (TKI) treated at a University Hospital, aiming the patient safety.

Materials and Methods

- ✓ Cross-sectional analytical study.
- ✓ Sample composed of 101 patients with CML using TKI.
- ✓ The data were collected in the patients' charts
- ✓ The outcome variable consisted of the presence of PDI
- ✓ PDI was done by search of all medications in use by the patient in the Micromedex® database.
- ✓ Multivariate regression was performed using the Poisson multiple regression model.

Results

- ✓ That were 105 PDI, with a prevalence of 53.5%.

Table 1: Potential drug interactions with Tyrosine Kinase Inhibitors (TKI).

TKI	Medicine	Frequency [n (%)]	Severe	conducting
Dasatinib	Sinvastatin	4(9.3)	moderate severity	therapeutic drug monitoring
	Omeprazole	3(7.0)	severe	not recommended Consider an antacid 2 hours before or 2 hours after the use of Dasatinib.
	Amitriptyline	1(2.3)	severe	therapeutic drug monitoring
	Calcium Vitamin D	1(2.3)	moderate severity	not recommended
	Escitalopram	1(2.3)	severe	therapeutic drug monitoring
	Hydroxizine	1(2.3)	severe	therapeutic drug monitoring
	Sinvastatin Ezetimib	1(2.3)	moderate severity	therapeutic drug monitoring
Imatinib Mesylate	**Levothyroxine**	**9(20.9)**	moderate severity	therapeutic drug monitoring Levothyroxine dose increase
	Domperidone	**5(11.6)**	severe	therapeutic drug monitoring
	Anlodipine	2(4.6)	moderate severity	therapeutic drug monitoring
	Paracetamol	2(4.6)	severe	therapeutic drug monitoring
	Ergotamine	1(2.3)	severe	therapeutic drug monitoring
	Olmesartan medoxomila Anlodipine	1(2.3)	moderate severity	therapeutic drug monitoring
Nilotinib	Domperidone	3(7.0)	severe	not recommended
	Pantoprazole	3(7.0)	severe	not recommended
	Omeprazole	2(4.7)	severe	not recommended
	Esomeprazole	1(2.3)	severe	not recommended
	Fluoxetin	1(2.3)	severe	therapeutic drug monitoring

Table 2: Multivariate regression analisys of Potential drug interactions.

Variables	adjusted prevalence ratio	95% confidence interval adjusted	p*
Sex			
Female	**1.57**	**1.08-2.29**	**0.018**
Male	1.00	-	-
Phase of the disease			
Chronic	**2.89**	**1.24-6.71**	**0.013**
Accelarete	1.00	-	-
Blast	2.42	0.72-8.07	0.151
Tyrosine kinase inhibitors			
Imatinib Mesylate	1.00	-	-
Dasatinib	**1.42**	**1.03-1.98**	**0.033**
Nilotinib	0.87	0.58-1.31	0.516
Polypharmacy			
No	1.00	-	-
Yes	**2.00**	**1.50-2.67**	**0.000**

Conclusions

It was he results revealed a significant number of PDI among patients with CML. In addition, they suggest risk factors PDI associated, common to the literature, like chronic disease, female sex and polypharmacy, then an important found, was the use of TKI Dasatinib. Most interactions can compromise patient safety, which highlights the importance of this topic and the need to evaluate and monitor the cancer patient's drug therapy.

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