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USE OF COLONY STIMULATING FACTORS (CSF-G) IN FEBRILE NEUTROPENIA IN PATIENTS UNDERGOING CANCER CHEMOTHERAPY

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Background

The hematopoietic growth factors are a fundamental support for the medical oncologist in the treatment of chemotherapy-induced cytopenia. The proper use of these therapeutic aids play an important role in terms of reduction of morbidity, mortality and costs.

Purpose

Evaluate: the adhesion of use of colony stimulating factors (CSF-G) between clinical practice and national guidelines on the management of hematopoietic toxicity in Oncology (AIOM 2010)(tab.1); the incidence of certain parameters involved in the overall assessment of the risk factors of febrile neutropenia (FN).

SOME PREDISPOSING FACTORS FOR NEUTROPENIA (AIOM GUIDELINES 2010)
AGE OF THE PATIENT OVER 65 YEARS
PERFORMANCE STATUS (PS) REDUCED
PREVIOUS EPISODES OF FN
PREVIOUS TREATMENT WITH RADIATION WIDE-FIELD
COMBINED ADMINISTRATION OF CT AND RADIOTHERAPY (RT)
CYTOPENIA CAUSED BY TUMOR INFILTRATION OF THE BONE MARROW
POOR NUTRITIONAL STATUS
PRESENCE OF OPEN WOUNDS OR INFECTIONS IN PLACE
ADVANCED TUMOR-METASTATIC SEVERE COMORBIDITIES

Tab.1 SOME PREDISPOSING RISK FACTORS FOR FEBRILE NEUTROPENIA (AIOM GUIDELINES 2010)

cancer	setting	chemotherapy regimen	risk of NF%*	No. of patients
breast	adjuvant	docetaxel, ADM, CTX	23,8	
	advanced disease in 1st line	ADM and docetaxel	33	2
		ADM, docetaxel and CTX	34	
		ADM and aclitaxel	32	
	advanced disease in 2nd line	docetaxel	21	3
bladder	advanced disease	CBDCA, Gemcitabine	21	3
		Methotrexate, vinblastine, ADM, CDDP	26	
cervical	recurrent disease	Paclitaxel, CDDP	28	1
lung SCLC	recurrent disease	Topotecan	28	3
		CTX, ADM and VP16	32-53	
		CTX, ADM and vincristine	26	

* incidence of NF in the first cycle or overall
** Incomplete data, the estimated risk of about 15-20%

Tab.2 PATIENTS TREATED WITH CHEMOTHERAPY REGIMEN RISK NF> 20%

Materials and Methods

In the first half of 2012, we analyzed the requirements CSF-G in patients undergoing cancer chemotherapy, we selected patients treated with cancer chemotheray, older than 60 years with a risk factor of FN> 20%, calculated on factors related to chemotherapy regimen, patient's age and type of tumor.

Results

Have been identified 57 patients treated with chemotherapy and CSF-G. Of these, 27 are treated with Lenograstim, 24 with Pegfilgrastim and 6 with Filgrastim (Fig.2). Evaluating the appropriateness of prescribing, according to the parameters identified, showed that only in 12 patients undergoing chemotherapy is observed a risk factor of FN greater than 20%; of these, 4 were treated with Pegfilgrastim, 3 with Lenograstim and 5 have not been treated (3 of which older than 65 years) (Fig.3). We observe that most patients were treated with CSF-G for ovarian, breast, lung cancer or non-Hodgkin lymphoma, whereas only a small percentage for other cancers such as endometrial, colon, bladder, thymus biliary-tract cancer, with chemotherapy regimens with score <20 (Tab2,Fig.1).

Discussion

It is important to use G-CSF to support a chemotherapy in patients with a substantial risk of FN, in agreement with the international recommendations and to to maximize the clinical benefit. However the timing and mode of administration are still an open question, as evidenced by the extreme heterogeneity of use in the landscape of clinical practice. It would be useful to conduct clinical trials appropriately designed to compare different formulations of G-CSFs, and to implement the multifactorial assessment of patients at risk of developing FN for which it is necessary to undertake chemotherapy.

Conclusions

The comparison between the clinical practice and guidelines AIOM has shown that the use of CSF-G is higher from the requiremens of the guidelines, when referring exclusively to the 3 major risk factors considered. Therefore, the use of CSF-G in chemotherapy regimens, with a low score for febrile neutropenia, seems very influenced by additional factors related to the treatment, the patient and the disease (Tab.1).

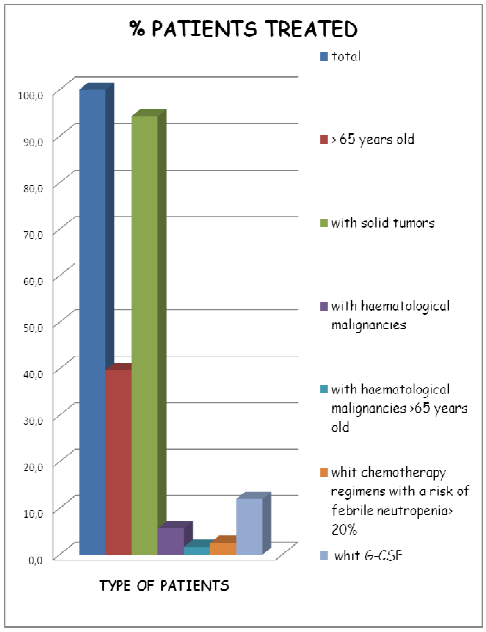

Fig.1 TYPE OF PATIENTS TREATED DURING THE STUDY

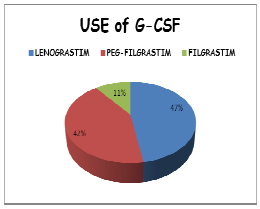

Fig.2 PERCENTAGE USED G-CSF

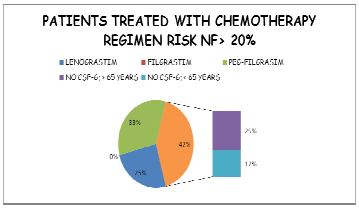

Fig.3 USE OF G-CSF IN PATIENTS TREATED WITH CHEMOTHERAPY REGIMEN AT RISK NF>20%

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