

EVALUATION OF ANTIVIRAL PRESCRIPTION FOR THE TREATMENT OF CYTOMEGALOVIRUS INFECTION

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Background

Viral infections are extremely common and often a severe complication of bone marrow transplantation. In particular Cytomegalovirus (CMV) infection, considered a major cause of morbidity and mortality(1) in transplant recipients.

This can partly justify the increased consumption of antiviral most of which are expensive molecules with significant budget share of the property.Purpose

PURPOSE

Evaluation of the relevance of systemic antiviral prescriptions as per the internal protocol according to international guidelines(2).

Material and methods

This is a retrospective study, carried in hematology and transplantation department, which review the appropriateness of treatment targeting 136 systemic antiviral prescriptions to prevent or treat CMV infection, from 2009 to 2014.

This study including 48 patients who had at least one reactivation of CMV during the period of analysis.

The evaluation tool used is the index of therapeutic adequacy ITA: it is a score whose calculation methods are defined in Table I.

If the indication of the Antiviral is conform or disputable, we evaluate the 6 secondary criteria as mentioned in Table II.

Table II : Definition of conformity for criteria of the study

1. The indication is:
«Conform» when included in the wording of AMM /intern protocols.
«Disputable» when it is not present in the wording of AMM / intern protocols but is clinically appropriate or that the literature in order.
«Not conform» when it appears neither in the wording of AMM nor in the literature and does not respond to the context of the disease.
2. The choice of molecule is :
«Conform» if the molecule used is present in the wording of AMM / intern protocols in the indication for which it is used and adapted to the specific risks to the patient, taking into account the result of any direct examinations of samples.
«Disputable» if the molecule used covers the spectrum but it is not the best choice (bad circulation, excessive cost ...).
«Not conform» if the molecule used is not present in the wording of AMM indication or does not cover the documented spectrum.
3. The dosage is :
«Conform» when it corresponds to that of the reference, or adapted to a comorbid condition or a sign of seriousness.
«Disputable» when it is not appropriate for the patient according to his comorbidities (renal failure) but it is adapted according to the severity of the infection.
«Not conform» In other cases.
4. Treatment duration:
«Conform» when it corresponds to that present in the wording of AMM / intern protocols.
«Disputable» when it exceeds the processing time mentioned in the wording of AMM / intern protocol and it is justified by the clinical context and the patient's condition.
«Not conform» when the processing time exceeds the required period without valid justification (Improved clinical status and continued therapy).
«Not applicable» If the patient died in this molecule, transferred to another institution.
5. The route of administration is:
«Conform» when the relay was respected considering the clinical context.
«Disputable» when the relay to the oral form has not been met but that is justified by the clinical context
«Not conform» when the relay to the oral form was not respected without any clinical justification.
6. The association with other molecules is:
«Conform» when used in the intern protocol or serology justifies it.
«Disputable» if it is not in the internal protocol but serology or clinically appropriate.
«Not conform» if it is not in the internal protocol and neither the context nor the serology not justify the use.
7. Drug interactions :
«Conform» in the absence of interaction.
«Disputable» in the case of an association to take into account or precaution of use but there is no monitoring.
«Not conform» if despite the presence of an association not recommended or contraindicated ion, the association is maintained

Table I : Method of calculating the index of therapeutic adequacy

Items	score attributed			
	Not conform	Disputable	Conform	
Indication of antivirals	2	1	0	
The choice of the molecule	2	1	0	
Dosage	2	1	0	
Treatment duration	Not applicable 3	Not conform 2	Disputable 1	Conform 0
The route of administration :	2	1	0	
If combination of antiviral	2	1	0	
if interaction	2	1	0	

At the end of evaluation we calculate the index by adding the scores obtained for each of the 7 criteria. A prescription is considered fully compliant over the ITA will be low, and will be less conform over the ITA will be great

Results

The results showed that 68% (92 antiviral prescriptions) of prescriptions were deemed fully compliant with the guidelines for the indication (primary endpoint) and all administrative modalities (secondary endpoints). Non-conformities reside in the choice of the molecule, the dosage and the route of administration with a rate equal to 2.2%. As well as for the criteria of duration of treatment and the combination of antivirals with respectively a rate of non-conformities equal to 3.7% and 4.5%.

Conclusion

The non-conformities identified during this work allowed to define the priorities that will be the starting point of a quality approach to improve antiviral prescriptions.

References

- (1)Segondy M. Infections virales chez les patients transplantés.[En ligne].2008 Jun 27 [16/09/2015];Disponible à l'URL: <http://www.em-consulte.com/en/article/17608>
- (2)Tomblyn M,Chiller T, Einsele H, Gress R, Sepkowitz K, Storek J, et al. Guidelines for Preventing Infectious Complications among Hematopoietic Cell Transplantation Recipients: A Global Perspective. Biol Blood Marrow Transplant.2009;15(10):1143–238.