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Review Article

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DRUG-RELATED TOXIDERMIA: MAY REVEAL OR BE ASSOCIATED WITH SARS-COV 2 INFECTION (COVID-19)

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Text

The implication of certain viral infections in the occurrence of drug-induced cutaneous lesions has been extensively explored. The evidence of causality has been advanced especially in the case of toxidermias with visceral injuries.

The induction of toxidermia is well described by the clinical rash with amoxicillin in Infectious Mononucleosis. The implication of viruses of the Herpes Virus in the induction of the drug hypersensitivity syndrome or DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms), and the Epstein-Barr virus in particular in the benign toxic maculopapular exanthema, are well demonstrated by a certain number of drugs: vancomycin, lamotrigine, carbamazepine, allopurinol, minocycline, salazopyrine.

These drugs are known to have immunomodulatory properties and can be used as immunological agents (minocycline, disulone, salazopyrin). Likewise, the antiepileptic drugs cited are reported to be associated with hypogammaglobulinemia. According to various bibliographical references, a past or current viral infection could predispose genetically susceptible individuals to develop toxidermia.

There is considerable literature data to affirm that toxidermias can be significantly enhanced by viral infections through complex immune reactivations, or associated with macrophagic reactivations. In cases presenting visceral damage, studies have shown that CD8+ LT in blood and injured organs (liver, lung, and skin) is targeted against the virus with an overproduction of TNF and IFN-gamma. In these cases, some drugs may generate an exaggerated inflammatory response associated with the viral immune response and presentation of virus epitopes in (genetically) predisposed patients even in the absence of pre-sensitization. Nevertheless, viral reactivation could be associated with and aggravate immunological drug iatrogeny, although it is not a causal factor.

CONCLUSION

In the present context of the COVID-19 related pandemic, and considering the eventual synergy of virus and drug, the risk of the combination of SARS-CoV2 infection and toxidermia is envisaged in patients subjected to drugs incriminated in viral reactivations or the stimulation of severe immune reactions.

Consequently, in the case of toxidermia with a mild or incompatible mode of occurrence (delay) and/or a severe evolution, a SARS-CoV2 infection must be suspected, investigated and treated according to the applicable recommendations.

CONFLICT OF INTEREST

The authors declares that there is no conflict of interest.

AUTHORS' CONTRIBUTION

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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ETHICS STATEMENT

This article does not contain any studies with human participants or animals performed by any of the authors.

REFERENCES

1. Pavlos et al. Severe Delayed Drug Reactions: Role of Genetics and Viral Infections. Immunol Allergy Clin North Am, 2017 November; 37(4): 785–815.
2. Reiko Tsutsumi, Koji Adachi, Yuichi Yoshida and Osamu Yamamoto. Drug-induced Hypersensitivity Syndrome in Association with Varicella. Acta Derm Venereol, 2015; 95: 503–504.
3. Pavlos et al. Fever, rash and systemic symptoms: understanding the role of virus and HLA in severe

cutaneous drug allergy. J Allergy Clin Immunol Pract, 2014; 2(1): 21–33.
4. T Shiohara; The role of viral infection in the development of severe drug eruptions. Dermatologica Sinica, 2013; 31: 205e210.
5. V. Descamps, S. Ranger-Rogez, P. Musette, A. Barbaud. Le Dress (drug reaction with eosinophilia and systemic symptoms) : une synergie médicaments–virus qui peut conduire en réanimation ; Réanimation, 2011; 20: 223-227.
6. Picard D, Janela B, Musette P, et al. Drug reaction with eosinophilia and systemic symptoms (DRESS): a multiorgan antiviral T cell response. Sci Transl Med, 2010; 2: 46e62.
7. Nayak S, Acharjya B. Adverse cutaneous drug reaction. Indian J Dermatol, 2008; 53(1): 2–8.
8. Y. Kano et al. Virus reactivation and intravenous immunoglobulin (IVIG) therapy of drug-induced hypersensitivity syndrome/ Toxicology, 2005; 209: 165–167.
9. Annales de Dermatologie et de Vénéréologie décembre, 2012; 139(12S): 90-B91.
10. W. Sellami, I. Ben Mrad, Z. Hajjej DRESS Syndrome Associated with Carbamazepine and Cytomegalovirus Viral Reactivation Méd. Intensive Réa, 2018; 27: 86-90.