Dall'artralgia alla facies lunare: un caso di interazione farmacologica tra cobicistat e corticosteroide intra-articolare.

From arthralgia to moon facies: a case report of drug interaction between cobicistat and intra-articular corticosteroid.

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Riassunto

Questo caso riguarda una donna di 58 anni affetta da infezione da HIV, in terapia con un regime boosterato (DRV/c/TAF/FTC). Ha sviluppato la sindrome di Cushing in seguito alla somministrazione di triamcinolone intra-articolare. È stata trattata con un basso dosaggio di corticosteroidi sistemici fino alla risoluzione dei sintomi.
La terapia antiretrovirale è stata cambiata con DOR+TAF/FTC per evitare ulteriori interazioni.
Quando i pazienti affetti da HIV stanno per iniziare un nuovo trattamento, è importante verificare la presenza di eventuali interazioni farmacologiche, anche se il nuovo farmaco viene somministrato per via non sistemica. Lo specialista in malattie infettive ha un ruolo essenziale nell'educare i pazienti e gli altri specialisti coinvolti nella loro cura.

Abstract

This case concerns a 58-year-old HIV-infected woman in treatment with a booster regimen (DRV/c/TAF/FTC). She developed Cushing's syndrome following administration of intra-articular triamcinolone.
She was treated with a low dose of systemic corticosteroids until her symptoms resolved. Antiretroviral therapy was changed to DOR+TAF/FTC to avoid further interactions.
When HIV-infected patients are about to start a new treatment, it is essential to check for possible drug interactions, even if the new drug is administered non-systemically.
The infectious disease specialist has an essential role in educating patients and other specialists involved in their care.

Case report

Our case involves a 58-year-old woman who was diagnosed with HIV infection in 2005; she presented with symptoms of acute infection. She never had an opportunistic infection. In her past medical history, the patient had also manifested: HCV infection, which spontaneously healed; high-grade intraepithelial lesion of the cervix, which was surgically removed; and dyslipidemia.
She always maintained undetectable viremia and high CD4 count (last CD4 count 1416 cells/mmc).
The patient started therapy in 2005 with a protease inhibitor (PI)-based regimen, which always ensured virological suppression. In 2017 the regimen was switched to lamivudine (3TC)/abacavir (ABC)/ dolutegravir (DTG), also to facilitate a Single Tablet Regimen.
After this change, the patient developed liver toxicity due to integrase inhibitor, so she was switched back to a regimen containing boosted-PI (darunavir (DRV)/cobicistat (c)/tenofovir alafenamide (TAF)/ emtricitabine (FTC)).
In December 2023, the patient presented with severe left shoulder pain, accompanied by decreased mobility and paresthesia of the forearm. For this reason, she received three intra-articular injections of triamcinolone, with subsequent resolution of symptoms.
In early January, she developed otalgia and rhinorrhea, for which the primary care physician prescribed amoxicillin/clavulanate and inhalation medicated with beclomethasone.

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In April 2024, the patient returned for the follow-up visit, presenting with fatigue, abdominal pain, facies lunaris and striae rubrae.
She was tested for cortisol (in blood and urine) and adrenocorticotropic hormone (ACTH), and both were suppressed. The patient was then diagnosed with iatrogenic Cushing's syndrome.
After an endocrinological consultation, the patient was put on cortone acetate treatment; as for antiretroviral therapy (ART), it was decided to change the regimen by prescribing doravirine (DOR)+TAF/FTC. After a few weeks of cortone acetate, the patient experienced a reduction in signs of Cushing's syndrome. The new ART regimen ensured virologic suppression.

Discussion

In ART regimens, pharmacological boosters, such as cobicistat, are used to increase the plasmatic concentration of protease inhibitors to enhance drug efficacy (1).
Cobicistat and ritonavir are inhibitors of cytochrome p450 (2), a metabolic pathway used by many drugs, and this may cause an alteration of the plasma concentration of drugs co-administered with cobicistat or ritonavir.
The use of corticosteroids and a booster is associated with increased plasma corticosteroid levels (3), this mechanism may cause of iatrogenic Cushing's. Intra-articular triamcinolone use is not usually associated with clinically relevant systemic drug levels, although it is possible that triamcinolone concentrations may be higher with injection into large joints (4).
Through deep muscle injections, triamcinolone is absorbed more slowly but can reach very high plasma concentrations (4).
It is important to remember that topical, intraocular, inhaled and intra-articular administration of corticosteroids can also lead to systemic exposure of these drugs, so the concomitant use of non-systemic glucocorticoids and booster antiretroviral regimens may also lead to iatrogenic Cushing's syndrome (5); in particular, as was the case in our patient, the co-administration of intra-articular triamcinolone and cobicistat (6).

Conclusion

The interaction between corticosteroids and booster antiretroviral regimens can lead to severe potential disease; it is essential to remember that non-systemic corticosteroid use can also lead to relevant plasma drug levels.
Particularly when a patient is taking a booster ARV regimen, if the patient is about to start a new drug, even a non-systemic one, it is mandatory to check for drug interactions.
In addition to the role of the infectious disease specialist, it is crucial to educate the patient and other specialists involved in his or her care, to check the drug interaction between antiretroviral regimens and other drugs. ■

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