Originals
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Prevalence of the consumption of anticholinergic drugs in HIV patients
Prevalencia de prescripción de fármacos anticolinérgicos en pacientes mayores con VIH

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Abstract
Objective: To analyse anticholinergic agent consumption in HIV patients 50 years or older; to determine anticholinergic risk using the Anticholinergic Cognitive Burden Scale (ACB) and Anticholinergic Risk Scale (ARS); and to determine if these patients use any type of benzodiazepine.

Method: A descriptive observational study of 256 HIV patients 50 years or older.

Results: 73.1% were men. Mean age was 56 ± 5.9 years. 55.9% of the patients were coinfected with HCV. Excluding HIV drugs, mean drug consumption was 2.9 ± 2.9 drugs per patient. The ACB and ARS scales showed that 26.2% and 17.2% of the patients took an anticholinergic agent, and that 43.3% and 36.4% presented high anticholinergic risk, respectively. 30.5% of patients consumed benzodiazepines.

Conclusions: The percentage of HIV patients aged 50 years or older who were taking anticholinergic agents was statistically significantly higher on the ACB scale than on the ARS scale. No studies are available on the HIV population with which to compare our results, but there is evidence that this group of drugs can affect older adults.

Resumen
Objetivo: Analizar el consumo de fármacos con efecto anticolinérgico en pacientes con VIH ≥ 50 años. Determinar el riesgo anticolinérgico mediante las escalas Anticholinergic Cognitive Burden Scale (ACB) y Anticholinergic Risk Scale (ARS). Determinar si consumen alguna benzodiacepina.

Método: Estudio observacional descriptivo de 256 pacientes con VIH cuya edad era ≥ 50 años.

Resultados: El 73.1% eran hombres. La media de edad fue de 56 ± 5.9 años. El 55.9% de los pacientes estaban coinfetados con HVC. Excluyendo los fármacos para el VIH, el consumo medio de fármacos por paciente, sin incluir los fármacos para el VIH, fue de 2.9 ± 2.9. Según la escala ACB y ARS, el 26.2% y el 17.2% de los pacientes, respectivamente, tomaba un fármaco anticolinérgico. El 43.3% y el 36.4% presentaban alto riesgo anticolinérgico con la escala ACB y ARS, respectivamente. El 30.5% de los pacientes consumía alguna benzodiacepina.

Conclusiones: El porcentaje de pacientes con VIH ≥ 50 años que tomaban fármacos anticolinérgicos fue estadísticamente significativamente mayor que el de la población general. No existen estudios disponibles en la población de VIH con los que comparar nuestros resultados, pero se ha comprobado que este grupo de fármacos puede afectar a la población anciana.

Key words
HIV; Elderly; Anticholinergic Cognitive Burden Scale (ACB); Anticholinergic Risk Scale (ARS); Benzodiazepine.

Palabras clave
VIH; Anciano; Anticholinergic Cognitive Burden Scale (ACB); Anticholinergic Risk Scale (ARS); Benzodiacepina.

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Introduction

Several factors underline the increase in HIV infection rates in individuals 50 years or older: the global increase in the incidence of new cases; the increased and improved communication of HIV cases caused by improved survival rate of these patients due to the effectiveness of highly active antiretroviral therapy (HAART); and the increased survival rate of patients with HIV infection, HCV coinfection, number of agents prescribed as chronic medication, number of anticholinergic agents, ACB scale score, ARS score, and BZD consumption.

Methods

A descriptive observational study reviewing all the treatments administered to HIV patients 50 years or older recorded by the Department of Epidemiological Surveillance and Control of Communicable Diseases of the Autonomous Community of La Rioja. The selection criteria were: Patients with a life expectancy of less than 3 months, or patients with no available primary and specialized care history. The study variables were age, sex, year of diagnosis, HIV transmission, HCV coinfection, number of agents prescribed as chronic medication, number of anticholinergic agents, ACB scale score, ARS score, and BZD consumption.

Data collection was conducted using the Selene-Siemens® electronic medical record software package for primary and specialized care and the Atossa Prisma® electronic assisted prescribing software package. This study applied 2 of the most commonly used validated scales: the ACB scale and the ARS. Drugs included in these scales are classified according to their anticholinergic effect. Each drug has a value of 1 to 3 based on its risk of causing anticholinergic effects, such as dry mouth, dry eyes, dizziness, confusion, constipation, and others. 1 represents a moderate effect, 2 represents a strong effect, and 3 represents a very strong effect.

The sum of the scores shows whether there is a decreased or increased risk of experiencing adverse anticholinergic effects. It must be noted that the consumption of several anticholinergic agents increases the risk of adverse events. An overall score of 1 represents a low level of risk, 2 represents a moderate risk, and 3 or more represents a high level of risk.

Results

We reviewed the pharmacotherapeutic records of 296 patients. 40 patients were excluded because of a lack of data in the electronic medical record. Of the 256 patients, 73.1% were men. The mean age was 56 ± 5.9 years (50-81). 55.9% of the patients were coinfected with HCV. The drug burden index (DBI) includes the dose of active ingredients, and is the most commonly used scale to measure anticholinergic burden. The study objectives were: To determine the prevalence of anticholinergic agent consumption in HIV patients 50 years or older; to determine the anticholinergic effect of each patient using the ACB scale and the ARS; and to determine if these patients also use any type of benzodiazepine (BZD).
According to the ACB scale, 26.2% of the patients took at least 1 anticholinergic agent. 70.1% of the agents were classified as having a moderate anticholinergic effect and the remainder were classified as having a very strong effect.

Anticholinergic risk was low (44.8% of patients), moderate (11.8%), and high (43.3%) (Figure 1).

According to the ARS, 17.2% of the patients took at least 1 anticholinergic agent (P = 0.014) vs 26.2% on the ACB scale. 53.3% of the agents were classified as having moderate anticholinergic effect, 35% a very strong effect, and the remainder a strong effect.

Anticholinergic risk was low (54.6% of patients), moderate (9.1%), and high (36.4%) (Figure 1).

Table shows the percentage of patients taking an anticholinergic effect according to the ACB scale and the ARS.

It was found that 30.5% of the patients consumed some type of BZD. The most commonly used BZDs were lorazepam and lormetazepam.

Discussion

The results show that the percentage of HIV patients 50 years or older taking anticholinergic agents was statistically significantly higher (P = 0.014) on the ACB scale (26.2%) than on the ARS (17.2%). The difference between scales was similar to that obtained in an Italian study that used the ARB scale and ARS in elderly inpatients.4 These scales differ in the number of drugs they include and in the “anticholinergic burden” attributed to each drug. The ACB scale includes 70 drugs, whereas the ARS only includes 38. Mirtazapine is an example of a drug included in the ARS but not in the ACB scale.

One of the limitations of this study may be the lack of interviews with the patients. Information on the prescribed medications was obtained from the medical record database used and may not correspond to what the patient actually takes each day. A further limitation is that no data on health outcomes were collected.

No studies are available on HIV patients 50 years or older with which to compare the results on the use of anticholinergic agents. Published studies simply refer to risk in older adults14,15. A published review established alternatives to the most commonly used anticholinergic agents to avoid their use15, and the Beers List recommended avoiding the use of a new drug with anticholinergic risk in older adults15. The 2015 Consensus Document on HIV and Aging recommended avoiding the use of potentially dangerous drugs such as anticholinergics, BZDs, and antidepresseants in older patients16.

According to the ACB scale and the ARS, 43.3% and 36.4% of the patients had a high anticholinergic risk, respectively. The consumption of agents with higher anticholinergic risk and greater anticholinergic burden was greater on the ACB scale than on the ARS. Given these differences, the choice of using 1 scale over the other may present a challenge.

On the ACB scale, the most commonly used agents with an anticholinergic effect were BZDs, antidepressants, and antipsychotics, whereas on the ARS, they were antidepresseants followed by antipsychotics and, to a lesser extent, antihistamines. Unlike the ACB scale, the ARS does not include anxiolytic-type BZDs such as alprazolam, dipotassium chlorazepate, or diazepam.

It is known that patients without cognitive impairment at the start of treatment with anticholinergic agents may develop cognitive impairment, which may cause neuropsychological problems, such as memory deficit or confusion21. Anticholinergic agents, such as anticholinergic agents, are used to treat anxiety symptoms, are among other medications which may also cause concentration problems, confusion, or depressive symptoms21.

The results showed that 30.5% of patients consumed BZDs. A German study22 and a French prospective study23 have referred to the risk of cognitive impairment and falls with the use of these agents in older adults. In Spain, BZDs are used by more than 40% of older adults admitted to hospital emergency units due to a fall. Many patients, especially men, use higher doses than those recommended. As far as possible, the prescription of BZDs for older patients should be avoided24.

The main BZDs consumed by the patients in the study were lorazepam and lormetazepam; these BZDs are recommended for use in HIV patients to avoid interactions22.

Although no studies are available on the prescription of agents with anticholinergic risk in HIV patients 50 years or older, a systematic review and metaanalysis performed in 2015 in older patients25 found that anticholinergic agents were associated with cognitive deterioration, falls, and death. The most recent review was conducted in 201726, and concluded that a large number of studies, most of which included older adults, found an association between high values on the DBI and adverse changes in daily life activities.

Given the evidence, clinicians should take into account the risk of cognitive deterioration and falls that this group of drugs causes in an ageing population, such as HIV patients. The prescription of these agents with hypnotic drugs, such as BZDs, could further increase cognitive impairment and falls.

Conflicts of interest

The authors of this study declare no conflicts of interest.

Contribution to scientific literature

The increased life expectancy of patients with HIV entails an increase in AIDS-related comorbidities. Polypharmacy is one of the problems associated with long-term consumption19. Psychiatric complications in HIV patients may require pharmacological treatment. The neuroleptics and tricyclic antidepressants used to treat these complications have anticholinergic effects which may cause neuropsychological problems, such as memory deficit or confusion21. Benzodiazepines, which are used to treat anxiety symptoms, are among other medications which may also cause concentration problems, confusion, or depressive symptoms21.

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Contribution to scientific literature

The increased life expectancy of patients with HIV entails an increase in AIDS-related comorbidities. Polypharmacy is one of the problems associated with chronicity. The prescription of drugs with adverse effects, such as anticholinergic agents, could pose a risk in these types of patients whose neurological status may also be affected by the infection itself.

This study is the first to use the Anticholinergic Cognitive Burden (ACB) scale and the Anticholinergic Risk Scale (ARS) to investigate the prevalence of use of anticholinergic agents in this group of patients.