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Letter to the Editor

HIV screening and its possible involvement in patients with stroke☆

Cribado para la detección del VIH y su posible implicación en los pacientes con ictus

Dear Editor,

We read with interest the study conducted by Monreal et al.[1] which reported an increased prevalence of HIV infection in patients hospitalised due to stroke, regardless of classic cardiovascular risk factors, which supports the role of HIV infection as an independent risk factor. We believe that this is a very important subject, so we would like to make a few remarks.

Firstly, it would be useful to know some of the more specific characteristics of the stroke patients, in order to assess the results. In this regard, the study's lack of stratification by age, time since onset of HIV infection, antiretroviral therapy received and stimulant drug use, which is more common in some groups,[2,3] may have acted as confounding factors in the analysis of the results. Moreover, during the study period, major changes in HIV treatment occurred. It would be very useful to know all these things with a view to proposing modifications to the management of these patients.

It is well established that HIV enters the central nervous system (CNS) in the week following infection,[4] which causes activation of macrophages and microglia, as well as dysfunction of astrocytes due to direct action of proteins particular to HIV, such as gp120 and gp140,[5] which generate a pro-inflammatory reaction due to release of cytokines. All this gives rise to early local immune activation processes, which cause neuron damage.[6] In addition, different antiretroviral drugs enter the CNS differently, as reported in a classification from Letendre et al. in 2008[7]; this may be a very important factor to bear in mind.

Second, it is important to stress that, according to figures from the Strategic Plan for Prevention and Management of HIV Infection, it is estimated that one in every five HIV+ individuals are not aware of their serological status,[8] contributing to continuous transmission. In addition, 50% of patients are diagnosed late, with less than 350 CD4/μl lymphocytes, which results in a worse prognosis and greater resource consumption.

To combat this problem, various screening strategies have been proposed; it is not clear in Spain if the screening strategy should be universal or focused on particular risk groups and which ones these are depending on care level.[9] The official stroke diagnosis and treatment guidelines from the Sociedad Española de Neurología [Spanish Society of Neurology][10] recommend syphilis serology in young patients with cryptogenic or recurrent transient ischaemic attack (TIA) and unspecified serologies in the aetiological diagnosis of stroke.

Reducing rates of occult and late diagnosis should be a shared objective. In 2019, 61 new cases of HIV infection were diagnosed at our centre. We determined whether they had visited the emergency department or had been admitted to the hospital in the five years prior to diagnosis.

Thirteen (21.3%) patients were diagnosed during the first contact with the hospital, five in the emergency department, during an episode of facial herpes,[1] respiratory infection,[1] pneumonia[1]

Table 1
Reasons for seeking care in patients with hospital contact in the 5 years prior to HIV diagnosis.

Patient	No. of visits	1st DX	2nd DX	3rd DX	4th DX	5th DX
1	5	Gastroenteritis	Gastroenteritis	Plantar lesions	Cellulitis	Abdominal pain
2	3	Urethritis	Urethritis	Urethritis		
3	5	Pultaceous tonsillitis	Abdominal pain	UTI	UTI	UTI
4	4	Facial paralysis	Headache	Facial paralysis	Headache	
5	1	Traffic accident				
6	2	Respiratory infection	Pneumonia			
7	2	Tendon rupture	Pneumonia			
8	2	Non-specific abdominal pain	Gastroenteritis			
9	1	Right glenohumeral (shoulder) dislocation				
10	2	Acute hepatitis	Syphilis			
11	2	Otitis externa	Virosis			
12	1	Renal colic				
13	1	Vasovagal syncope				
14	1	Bite				
15	3	Dental abscess	Dental abscess	Contusion		
16	1	Tendinitis				

DX: diagnosis; HIV: human immunodeficiency virus; UTI: urinary tract infection.

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or sexually transmitted infection.[2] All others were diagnosed during hospitalisation for the following conditions: cerebral space-occupying lesions (SOLs),[2] pneumonia,[3] kidney failure,[1] urinary sepsis[1] or stroke.[1] Another 16 (26.2%) patients were diagnosed on an outpatient basis, despite having visited the emergency department on several occasions. Table 1 shows for each patient the number of visits and the main diagnosis for the event. Yet another two (3.2%) patients were diagnosed during a second visit to the emergency department due to a cerebral SOL or pneumonia; each had been assessed on a previous occasion, due to an ulcer or lumbosciatica. As can be seen, the diseases for which the patients sought care varied widely.

In conclusion, we ought to avoid missed opportunities in contact with these patients with a view to diagnosing HIV early, developing studies that clarify in which population HIV serology should be ordered and improving rates of occult and late diagnosis. A study analysing all of the above-mentioned factors in the HIV-positive population affected by stroke could lead to recommendation or non-recommendation of screening of all or a subgroup of patients affected by this condition.

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References

1. Monreal E, Gullón P, Pérez-Torre P, Escobar-Villalba A, Acebron F, Quereda Rodríguez-Navarro C, et al. Increased HIV infection in patients with stroke in Spain. A 16-year population-based study [Article in English, Spanish]. Enferm Infecc Microbiol Clin. 2019, http://dx.doi.org/10.1016/j.eimc.2019.10.006.
2. Fernández Alonso C, Quintela Jorge Ó, Ayuso Tejedor S, Santiago-Sáez AE, González Armengol JJ. Intoxicación aguda por nuevas drogas de abuso en probables casos de sumisión química oportunista o mixta y chemsex en pacientes con VIH atendidos en urgencias. Emergencias. 2019;31:289–90.
3. Perelló R, Aused M, Saubí N, Quirós C, Blanco JL, Martínez-Rebollar M, et al. Intoxicación aguda por drogas de abuso en el paciente VIH: papel del chemsex. Emergencias. 2018;30:405–7.
4. Valcour V, Chalermchai T, Sailasuta N, Marovich M, Lerdlum S, Suttichom D, et al. Central nervous system viral invasion and inflammation during acute HIV infecion. J Infect Dis. 2012;206:275–82.
5. González-Scarano F, Martín-García J. The neuropathogenesis of AIDS. Nat Rev Immunol. 2005;5:69–81.
6. Spudich S, González-Scarano F. HIV-1 related central nervous system disease: current issues in pathogenesis, diagnosis and treatment. Cold Spring Harbor Perspect Med. 2012;2:a007120.
7. Letendre S, Marquie-Beck J, Capparelli E, Best B, Clifford D, Collier AC, et al. CHARTER Group. Validation of the CNS Penetration-Effectiveness Rank for quantifying antiretroviral penetration into the central nervous system. Arch Neurol. 2008;65:65–70.
8. Vigilancia epidemiológica del VIH y SIDA en España 2018. Actualización del 30 de junio de 2019. Dirección General de Salud Pública, Calidad e Innovación. [accessed 16 Feb 2020] Available from: https://www.mscbs.gob.es/ciudadanos/enfLesiones/enfTransmisibles/sida/vigilancia/doc/InformeVIHSIDA201921112019.pdf.
9. Pizarro Portillo A, del Arco Galán C, de los Santos Gil I, Rodríguez Salvanés F, Negro Rua M, del Rey Ubano A. Prevalencia y características de los pacientes con infección por virus de la inmunodeficiencia humana (VIH) diagnosticados de novo en un servicio de urgencias. Emergencias. 2016;28:313–9.
10. Diez Tejedor E. Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares. Guía oficial para el diagnóstico y tratamiento del ictus. [accessed 16 Feb 2020] Available from: https://www.dep4.san.gva.es/contenidos/urg/archivos/guias/2004/Guia%20SEN%20ictus.pdf.

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In reply to «HIV screening and its possible involvement in patients with stroke»☆

En respuesta a «Cribado para la detección de VIH y su posible implicación en los pacientes con ictus»

Dear Editor,

We appreciate the interest raised by our study in the Letter to the Editor "Screening for HIV detection and its possible role in stroke patients" presented in this journal. We would like to respond to some of the points made.

We accept as a limitation, as specified in the original article,[1] that the Minimum Data Set (MDS), the source of our results, lacks such pertinent variables as time since onset of human immunodeficiency virus (HIV) infection, frequency and types of antiretroviral therapy in each year, and changes therein over the course of the study. These variables are impossible to record on hospitalisation discharge reports, on which the MDS is based; however, this type of study enables comparisons not of cohorts but of the overall population.

Moreover, the variables of age and stimulant drug use were indeed evaluated both in univariate analysis and in the multivariate model. The study objective was to evaluate trends over time in rates of HIV infection in stroke patients over the course of 16 years and whether the increase therein was independent of other factors; this was confirmed in the analysis controlling for these and other potentially confounding variables.

Increasing screening for HIV infection is one of the main objectives established by the Joint United Nations Programme on HIV/AIDS (UNAIDS) for the coming years,[2] with the purpose of decreasing the high percentages of occult infection and late diagnosis. Recommendations in clinical guidelines range from universal or routine HIV testing in individuals 13–65 years of age, except those who expressly opt out,[3] to a more specific or targeted strategy in which people who visit the healthcare system should be screened if they have any condition indicative of HIV infection.[4,5] The Spanish guidelines, in addition to compiling indications for routine, targeted and mandatory screening, recommend HIV screening in individuals with conditions indicative of HIV infection/AIDS.[6] The European Centre for Disease Prevention and Control (ECDC) and the World Health Organization (WHO) have developed strategies for targeted screening based on the use of lists of indicative conditions, which at present do not feature stroke.[4,7]

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