

# Diagnosis of HIV Delay: Lost Opportunities

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Received March 27<sup>th</sup>, 2013; revised April 27<sup>th</sup>, 2013; accepted May 27<sup>th</sup>, 2013

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## ABSTRACT

The diagnosis delay in new cases of HIV infection is a frequent fact. Our objective was to detect and analyse the lost opportunities and describe the characteristics of these patients. Method: The search was done by a revision of personal histories of new diagnosis of HIV infection from 1st January to 31st December 2011 in the database of VACH. We selected those that had consulted a doctor in the previous year in the Emergency area, Primary Care and Specialised Consultations in the database of the histories of the Public Health Service. We called low attendance if they came 1 - 3 times and high if over 3. We grouped patients into those that fulfilled criteria of diagnosis delay by count of CD4s. We called no diagnosis delay to those that had count of CD4 over 350, diagnosis delay under 350 and advanced disease under 200. Results: There were 107 new cases. The global percentage of DD was 61.7% of cases. From these, 45.38% fulfilled criteria of AD. It was possible to find information about the existence of previous sanitary attendance in 59 patients. From these 58% were diagnosed with delay, fulfilling criteria of AD in 27%. The predominant means of infection was sexual. 35 patients attended a healthcare level, 19 two and 5 three. 47.5% consulted over 3 times. They requested a total of 274 consultations. Discussion: The diagnosis delay is a reality. It took our attention that from 59 patients having requested previous medical assistance 58% were diagnosed with delay and 27% fulfilled criteria of AD. We found that almost half of them had been attended in 4 and up to 14 times, in some occasions with suggestive symptoms of HIV infection. Facing this discovery we think that some interventions should be undertaken to get an early diagnosis and the control of the outbreak.

**Keywords:** HIV; Diagnosis Delay

## 1. Introduction

The diagnosis delay in the new cases of HIV infection in Spain was a frequent fact (45% - 67%) and recognised some years ago [1,2]. This helps to explain that the outbreak is not under control [3] and that every year thousands of new people infected by HIV are diagnosed [1]. There exists factors that depend on the own infected with HIV people [3] but others that involve the Public Health System in which there would be the responsibility of taking part. Our objective is to detect and analyze the lost opportunities and describe the epidemiological characteristics of the patients diagnosed with delay.

## 2. Material and Methods

The search of new cases was made by a protocolled revision of the clinical histories of the new cases diagnosed

of HIV infection in Puerto Real University Hospital Infectious Disease Clinical Management Unit, which sanitary area included approximately 320,000 people in the period from 1st January to 31st December 2011, in our database VACH (AdvanCedHiv 2009, Medial Desarrollos S.L.) updated version v.2. We selected those that had anytime gone to consult a doctor from the Andalusian Public Health Service in the previous year to the diagnosis in the Emergency area, General Practitioner or specialized consultations.

We grouped patients into those that met the criteria of diagnosis delay by the count of CD4. This way we called no diagnosis delay to those that had CD4 counts over 350, diagnosis delay under 350 and advanced disease to counts under 200.

We investigated the sanitary database of the unique personal history of the Andalusian Public Health Service

in the hospital database to know the number of times that the patient had consulted a doctor in the emergency area, general practitioners and specialized consultations during the previous year to the diagnosis and the motifs of that consultation. Furthermore, we analyzed patients that had attended one or several healthcare levels. As to the range of frequency of attention, we called low attendance to those patients that came between one and three times to any level of healthcare and high attendance to those who came over 4 times. With this information a database was performed and the data was analyzed with the SPSS 18.0 statistical programme.

### 3. Results

In the period of time between 2005 and 2011, 107 cases were diagnosed. In our series the global percentage of diagnosis delay was 61.7% of the cases (66 patients). From these, 45.38% (30 patients) fulfilled the criteria of advanced disease.

It was possible to find information about the existence of sanitary assistance in the previous year to the diagnosis in 59 patients (45 men and 14 women). The median of age found was 40 years-old. From these, 34 were diagnosed with delay (58%), fulfilling the criteria of advanced disease in 16 (27%). The main way of infection was the sexual one: 49% heterosexual and 47% homosexual. The use of intravenous drugs meant 3% of the cases.

As to the cultural level 54% did not have any studies or just primary studies and 36% had medium or higher education. 35 patients attended an only healthcare level (60% GPs, 23 Emergencies and 17% specialized consultations), 19 to two levels and 5 patients to the three healthcare levels. In relation to the frequency of attendance, 52% of patients had low attendance and 47.5% went over three times. They applied for a total of 274 consultations, among which we highlight: 14.6% due to febrile syndromes without apparent focus, 11.7% for constitutional syndrome, 10.6% for diarrhea, 9.8% had any sexually transmitted disease (STD), 8.8% respiratory symptoms with or without fever and 8.4% for dermatological lesions.

### 4. Discussion

The objective of our present work is to transfer some reflections after checking some clinical facts in the daily routine practice of an infectious disease consultation that has concerned us. The HIV outbreak is not under control in Spain [1,3]. Several thousands new people are infected each year, despite consciousness raising campaigns and the information transmitted to the population and the affected organizations. In the last 6 years, in the Infectious Diseases Clinical Management Unit, we have

diagnosed 107 new cases of infected people by HIV, mainly male (74.8%) and in 90.7% of cases the way of transmission was the sexual one.

The diagnosis delay goes on being a reality both in the rest of the Spanish series (45% - 67%) [1,4,5] and in ours, with unacceptable percentages. There exists another datum even more worrying, which is that more than 25% of the cases had the criteria of an advance disease or even that 1 of each 4 cases had been diagnosed coinciding with an opportunistic disease of AIDS [1,4]. Our results were even a bit higher: 61.7% of diagnosis delay and from these, 45.38% presented with advanced disease criteria.

What attracts our attention is that from 59 patients that in any occasion had asked for medical assistance previously, 58% were diagnosed with delay, fulfilling criterion of advance disease in 27%. Furthermore we find that almost half of the cases (44.7%) had attended any doctor from 4 to 14 times or even in the three healthcare levels. However, it should be marked that the study being retrospective is a limitation, since it is difficult to get all the data, and some cases could have been underestimated due to private centres attendance, which have not been taken into account. In our series a total of 274 consultations were made, in many cases with symptoms that clinically were suggestive of HVI infection.

Patients diagnosed with delay had mainly consulted for constitutional syndromes, febrile syndromes without apparent focus, diarrhoea, sexually transmitted diseases, dermatological lesions, respiratory infections and otorhinolaryngological symptoms in one and multiple occasions without anyone asking for an HIV detection test. (**Table 1**).

In our opinion, the explanation of this phenomenon goes over the simple knowledge of the diagnosis criterions and lies on the fact that some professionals go on having queries about an adequate performance. The HIV infection was treated in a different way from other infections during the 80s and 90s, because of the consequences of marginalization and the impact it had, which has been known as "AIDS excepcionalism" [6,7]. Since then this approach has changed a lot but it has probably not been correctly conveyed to professionals, even in the internship formation. Since 2005, at least, there exists arguments against this uniqueness [6,7]: there exists HART which is not used due to delayed diagnosis, a sufficient morbimortality reduction and mother-child transmission [8]. In 2006 the specific Guideline CDC made upwards recommendations to increase the offer to these HIV-test in homosexual, IV drug users, people with a high number of couples or immigrants from countries with the high prevalence [9]. All publications, advices and recommendations, from then, went in the same direction: to support the HIV test active offer not only for the diagnosis but to propose treatment [10-12]. In Spain there are no doubts

**Table 1. Analysis of epidemiological characteristics of patients as they presented or not clinical criteria of diagnosis delay.**

CD-4(N)	N. Patients	Sex	Mode of Transmission	Number of Healthcare Levels Consulted	Attendance	Symptomatology
NDD (>350)	25	Men:2, Women:5	HTX:10, HMX:15, IVDU:0	One Level:16 (PHC:9; ES:5; EC:2), Two Levels:6, Three Levels:3	Low:12, High:13	Constitutional sd.:14, Febrile sd.l:12, Diarrhea:9, Inf. Resp. Aff:6, Dermatological lesions:5, STD:5, ORL symptoms:5
DD (<350 - 200)	18	Men:14, Women:4	HTX:9, HMX:8, IVDU:1	One Level:11 (PHC:6; ES:2; EC:3), Two Levels:6, Three Levels:1	Low:10, High:8	Constitutional sd.:5, Febril sd:6, Diarrhea:4, Inf. Resp. Aff.:4, Dermatological lesions:7, STD:5, ORL symptoms:5, CNS:3
AD (<200)	16	Men:11, Women:5	HTX:10, HMX:4, IVDU:2	One Level:8 (PHC:6; ES:1; EC:1), Two Levels:7, Three Levels:2	Low:9, High:7	Constitutional sd.:6, Febrile sd.:8, Diarrhea:3, Inf. Resp. Aff: 4, Dermatological lesions:4, STD:4, ORL symptoms:4, CNS:1

N: number; NDD: no diagnosis delay; DD: diagnosis delay; AD: advanced disease; HTX: heterosexuals; HMX: homosexuals; IVDU: intravenous drug users; PHC: primary health care; ES: emergency service; EC: specialised consultations; Sd: syndrome; Inf resp. Tr. Aff.: inferior respiratory tract affectation; STD: sexually transmitted disease; ORL: otorhinolaryngological; CNS: central nervous system. Symptomatology: number of consultations made with relevant symptomatology.

about it since the proposal of treatment is done right after the diagnosis if it is indicated by the doctor.

But apart from the patients that require attendance because of presenting with clinical suspicion, our position is that HIV test should be included without any reserve and even without previous information. There exists proposals of active strategies to detect HIV even in patients without clinical suspicion, with an experience in this sense not only in Asiatic countries [13] but in Spain [14] which has demonstrated the profitability of these strategies in the early detection of HIV infected people [14, 15].

In conclusion, there exists factors for the diagnosis delay not only in relation to the own citizen but others that implies the Public Sanitary System [16]. Because of all this, we consider that both the autonomic and national scientific societies and the sanitary institutions should take active action in ending the doctors caution and normalize the HIV infection as any prevalent STD in our environment to achieve the early diagnosis and control of the outbreak.

## REFERENCES

- [1] Plan Nacional sobre el Sida. Ministerio de Sanidad, Política Social e Igualdad. Instituto de Salud Carlos III. Vigilancia Epidemiológica del VIH/Sida en España. Figures 7-10, Noviembre 2011, pp. 24-25.
- [2] A. López, R. Palacios, D. Merino, J. Y. Santos and Sociedad Andaluza de Enfermedades Infecciosas, "Retraso Diagnóstico de la Infección por el VIH en Andalucía," *Enfermedades Infecciosas y Microbiología Clínica*, Vol. 29, No. 8, 2011, pp. 639-640. [doi:10.1016/j.eimc.2011.02.019](https://doi.org/10.1016/j.eimc.2011.02.019)
- [3] D. Carnicer-Pont, N. Y. Vives and J. Barbará, "Epidemiología de la Infección por Virus de la Inmunodeficiencia Humana. Retraso en el Diagnóstico," *Enfermedades Infecciosas y Microbiología Clínica*, Vol. 29, No. 2, 2010, pp. 144-151. [doi:10.1016/j.eimc.2010.11.010](https://doi.org/10.1016/j.eimc.2010.11.010)
- [4] J. Oliva, S. Galindo, N. Vives and A. Y. Arrillaga Cols, "Retraso Diagnóstico de la Infección por el Virus de la Inmunodeficiencia Humana en España," *Enfermedades Infecciosas y Microbiología Clínica*, Vol. 28, No. 9, 2010, pp. 583-589. [doi:10.1016/j.eimc.2010.02.013](https://doi.org/10.1016/j.eimc.2010.02.013)
- [5] M. Díez, J. Oliva, A. Díaz, S. Y. Galindo and F. Sánchez, "Epidemiología del Diagnóstico Tardío de la Infección por el VIH-1," *Enfermedades Infecciosas y Microbiología Clínica*, Vol. 29, 2011, p. 16.
- [6] J. del Amo, "Estrategias para el Diagnóstico Precoz de la Infección por el VIH-1," *Enf Infecc Microbiol Clin*, Vol. 29, 2011, pp. 16-17.
- [7] T. R. Frieden, M. Das-Douglas, S. E. Kellerman and K. J. Hemming, "Applying Public Health Principles to the HIV Epidemic," *The New England Journal of Medicine*, Vol. 353, 2005, pp. 2397-2402. [doi:10.1056/NEJMs053133](https://doi.org/10.1056/NEJMs053133)
- [8] S. Moreno, A. Mocroft and D. A. Arminio Monforte, "Medical and Societal Consequences of Late Presentation," *Antiviral Therapy*, Vol. 15, No. S1, 2010, pp. 9-15. [doi:10.3851/IMP1523](https://doi.org/10.3851/IMP1523)
- [9] CDC/MMWR, "Revised Recommendations for HIV Testing of Adults, Adolescents and Pregnant Women in Health-Care Setting," 2006, pp. 1-17.
- [10] WHO, "Recommendations for Surveillance of Transmitted HIV Drug Resistance in Countries Scaling up Antiretroviral Treatment," *Antiviral Therapy*, Vol. 13, No. S2,

- 2008, pp. 25-36.
- [11] J. Castilla, J. Del Romero, V. Hernando, B. Marinovich, S. García and C. Rodríguez, "Effectiveness of Highly Antiretro-Viral Therapy in Reducing Heterosexual Transmission of HIV," *Acquired Immune Deficiency Syndromes*, Vol. 40, No. 1, 2005, pp. 96-101.  
[doi:10.1097/01.qai.0000157389.78374.45](https://doi.org/10.1097/01.qai.0000157389.78374.45)
- [12] CDC y APTR (Association for Prevention Teaching and Research), "HIV Testing in Emergency Departments: A Practical Guide," 2010.
- [13] P. G. Choe, W. B. Park, J. S. Song, *et al.*, "Late Presentation of HIV Disease and Its Associated Factors among Newly Diagnosed Patients before and after Abolition of a Government Policy of Mass Mandatory Screening," *Journal of Infection*, Vol. 63, 2011, pp. 60-65.  
[doi:10.1016/j.jinf.2011.05.002](https://doi.org/10.1016/j.jinf.2011.05.002)
- [14] S. Moreno, "Diagnóstico Precoz de la Infección por VIH: Experiencia en Madrid," Mesa Redonda 7: Estrategias de Diagnóstico Temprano de la Infección por el VIH-1. *Enf Infecc Microbiol Clin* 2011; 29, Especial Congreso 1 (XV Congreso de la SEIMC), M 07-3, Pág. 17."
- [15] Y. Yazdanpanh, J. Lange, J. Gerstoft and G. Cairns, "Earling Testing for HIV-How Do We Prevent Late Presentation?" *Antiviral Therapy*, Vol. 15, No. S1, 2001, pp. 17-24. [doi:10.3851/IMP1526](https://doi.org/10.3851/IMP1526)
- [16] P. Y. García de Olalla and J. A. Caylá, "Es Posible Disminuir el Retraso Diagnóstico en la Infección del VIH?" *Enfermedades Infecciosas y Microbiología Clínica*, Vol. 28, No. 9, 2010, pp. 580-582.  
[doi:10.1016/j.eimc.2010.07.004](https://doi.org/10.1016/j.eimc.2010.07.004)