

Assisting patients infected by the human immunodeficiency virus: experience in an Internal Medicine Service

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Abstract

We report our experience on HIV infection in the context of an Internal Medicine Department in a Central Hospital regarding both outpatient and inpatient medical management. The clinical and epidemiological characteristics of 54 patients (HIV1 – 46 and HIV2 – 8) as well as some diagnostic aspects of the opportunistic infections and of the antiviral therapy options are presented. We have assessed the evolution of the patients throughout a medium follow up period of to and half years as well as the significant impact in terms of hospital admissions. Emphasis is given to the

motivation and collaboration of all the health professionals to face the difficult clinical problems of these patients in the context of an Internal Medicine Unit. Finally the role of the Internist in the health care of patients with HIV infection is discussed and we argue in favor of a direct and continuous involvement of these specialists in all stages of the natural history of the disease.

Key words: AIDS, Internal Medicine, HIV1, HIV2, clinical manifestations, hospital care.

Introduction

The Acquired Immunodeficiency Syndrome (AIDS) described at the beginning of the 80ties is becoming much more important in hospital care not only in terms of the growing number of patients with asymptomatic infection by the HIV virus, as well as those who come to us with an already established AIDS diagnosis. The care assistance load of these patients has been predominantly supported by the Infect-Contagious Disease Services, once that after the diagnosis of infection is a current procedure the reference to these services. However, an ever growing number of patients attending Hospital Outpatients consultations and/or Emergency Services, with HIV infection related pathologies, have led several authors to advocate at

international¹ and national² level, the need to a deeper involvement from the Internal Medicine Service and from Internists in this Health Public issue. On the other hand, the very nature of the disease, namely its chronic character as well as its multi-system manifestations, shape it as a pathology for which Internists are appropriately skilled to handle. Lastly, we consider the Internists growing involvement can help to avoid the classic problem of considering HIV infection “as someone else’s problem”³ due to the central role of Internal Medicine in the hospital dynamic.

Our work group has been involved in the problem of HIV infection through a regular activity in the Internal Medicine of the Medicine 2 Service of Hospital Santa Maria⁴⁻⁷ and the development of immunologic investigation in Lisbon Medical School⁸⁻¹⁰, as well as the epidemiologic work at extra-hospital level¹¹⁻¹⁵. The objectives of this article are, on one hand to describe the experience of a group in an Internal Medicine Service in the area infected by the HIV, whether at admission level whether the Outpatient follow up, and on one hand, to discuss some problems in the Internal Medicine Services supporting these patients as well as the advantages of its involvement.

Patients and Methods

The retrospective assessment presented refers to a group of 54 patients with HIV infected (Table 1) followed between 1985 and 1993, as the Medicine

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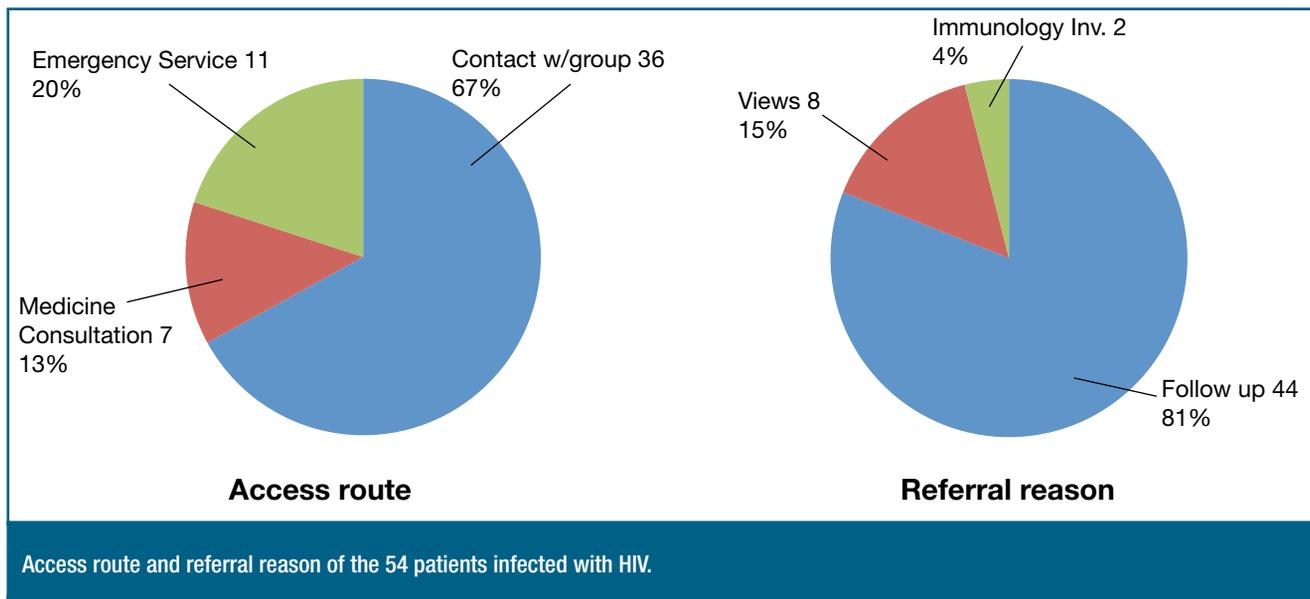
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Access route and referral reason of the 54 patients infected with HIV.

FIG. 1

Outpatient Consultation and/or admission in Medicine 2 Service, from which 46 had been infected by the HIV1 and 8 by HIV2. Thirty five patients were of male gender and 19 of female gender, being 42 White and 12 Black. All patients displayed an ELISA positive test, confirmed by Western Blot establishing the differential diagnosis between HIV1 and HIV2 infection, being the doubtful cases solved through the test using a synthetic peptide of each virus separately (Peptilav Diagnostics Pasteur).

in 5 patients by the Kaposi sarcoma diagnosis.

The average for CD4+ and CD8+ lymphocytes (determined by flow cytometry – EPICS Profile – Medicine 2 Laboratory) in patients with HIV1 infection did not differ significantly with HIV2 infection, observing in the global series the anticipated light depression of CD4 in asymptomatic patients/LPG (810±69 EPM) and marked depression in AIDS patients (218 ± 46 EPM). Regarding the proliferative lymphocyte response in the mitogens PHA and PWM (Medicine

Results

Regarding the patients access route to our group it is to be highlighted that most of them (81%) were referred by colleagues for clinical follow-up (Figure 1), being the reason to undergo the “HIV test” presented in Figure 2.

During an average follow-up lasting 30 ± 27 months (limit: 2 weeks and 7.5 years), 12 patients evolved to AIDS from which 7 were initially GPL, 3 AP, 1 with ARC and 1 Group CDC IV-C₂ (Table 2). The AIDS diagnosis criteria (Table 3) was established by the development of opportunistic infections in 74% of patients, being extrapulmonary tuberculosis the most frequent (7 patients) followed by esophageal candidiasis (6 patients) and

TABLE I

Clinical and epidemiological characterization of 54 patients with HIV infection

| | HIV1 (46 patients) | HIV2 (8 patients) | Total (54 patients) |
|-----------------------|-----------------------|----------------------|------------------------|
| Gender (M/F) | 34/12 | 1/7 | 35/19 |
| Race (White/Black) | 39/7 | 3/5 | 42/12 |
| Average age (years) | 38±12 (20-66) | 39±13(29-62) | 38±12(20-66) |
| Epidemiology | | | |
| • Homosexual/bisexual | 20/1 | 0 | 21 (39%) |
| • Heterosexual | 17 | 5 | 22 (41%) |
| • Drug addiction i.v. | 7 | 0 | 7 (13%) |
| • Post-transfusional | 1 | 3 | 4 (7%) |

TABLE II

CDC classification of patients with HIV infection in the beginning of the follow-up and progressing to AIDS

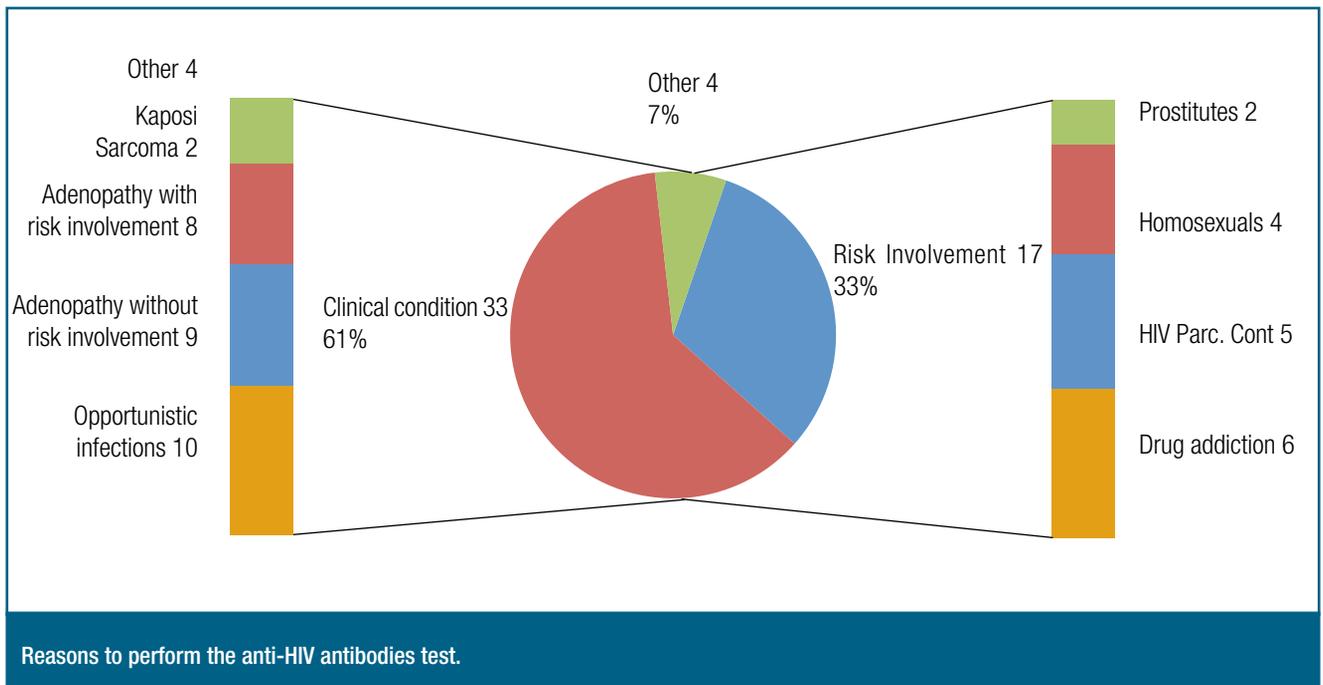
| CDC Classification | Follow-up start | Progression to AIDS (Average time-months) |
|--|-----------------|---|
| Asymptomatic carrier (AC) Group II | 13 | 3 37±32 |
| Generalized persistent lymphadenopathy (LPG) – Group III | 18 | 7 33±19 |
| AIDS related complex (ARC) – IV-A Group | 1 | 1 3 |
| Other + IV Group – C2 and E | 3 | 1 37 |
| AIDS – IV Group – C1 and D | 1 | 14 — |

ne 2 Laboratory)⁸ were markedly reduced in patients with AIDS criteria, without significant alterations in asymptomatic patients (AP) or with LPG and on the other hand, there were no significant differences between infected patients by HIV1 and HIV2 (not presented data).

The most frequent clinical manifestations in this group of patients were gastroenterologic (52%) and dermatological (35%), followed by the pulmonary

(26%), neurologic (19%) and ophthalmologic manifestations (Table 4). It is to be highlighted first, the frequency and importance of all gastroenterologic manifestations (28 out of 54 patients) not only as an infection presentation form by HIV but also by its weight in terms of morbidity throughout the disease natural course. Diarrhea was the most frequent symptom followed by dysphagia, abdominal pain, rectorrhagia, proctalgia and episodes of upper digestive hemorrhage. In what relates with diarrhea it was verified to be possible establishing an etiologic diagnosis in a very high percentage of cases. The agents responsible for this are listed in Table 5, highlighting the

considerable frequency of infections which are not an AIDS CDC criterion. In 3 patients, an etiologic diagnosis was not made and on the other hand, 2 agents were identified in 5 patients, 4 agents in one patient and in another one 5 possible etiologic agents for diarrhea. The rectorrhagia (7 cases) etiology was Kaposi sarcoma in 2, proctitis by Herpes simplex in 2, condyloma acuminatum in 1, angiodysplasia in 1 and tuberculosis in 1. The reliability assessment of



Reasons to perform the anti-HIV antibodies test.

FIG. 2

TABLE III

Pathologies establishing the AIDS diagnosis in 31 patients

| | |
|---|---|
| Opportunistic infections – 23 patients (74%) | |
| Extra-pulmonary tuberculosis | 7 |
| Esophageal candidiasis | 6 |
| Isosporidiosis belli | 3 |
| Pneumonia <i>P. carinii</i> | 3 |
| Cryptosporidiosis | 2 |
| Toxoplasmosis | 1 |
| Cryptococcosis | 1 |
| Neoplasm + 6 patients (19%) | |
| Kaposi Sarcoma | 5 |
| CNS lymphoma | 1 |
| Consumption Syndrome – 2 patients (6%) | |

the diagnosis supplementary tests has revealed that the radiologic exams (bowel movement – 9 patients and opaque enema – 8 patients) did not help the definite diagnosis in either case. On the contrary, the endoscopic exams have shown a high yield on the diagnosis of pathology associated to HIV and it should be emphasized that in the 17 patients where an upper GI endoscopy with a biopsy on the third portion of the duodenum, was carried out, in 11 it was possible to establish a microbiologic diagnosis (*Isospora belli* 3, *Cryptosporidium* 3, *M. avium intracellulare* 3 and *Giardia lamblia* 5). In 17 patients, rectosigmoidoscopy with biopsies has enabled the Kaposi sarcoma diagnosis in 2, rectitis by herpes simplex in 2 and a lymphoma in 1 patient. On the 9 patients where a colonoscopy was carried out, colon biopsied brought additional information regarding rectosigmoidoscopy only in 2 cases, enabling the diagnosis by cytomegalovirus infection (right colon biopsies) and caecum tuberculosis and terminal ileum.

Of the dermatologic manifestations occurred in 35% of patients (Table 4) the most frequent were the infections by herpes simplex/zoster and Kaposi sarcoma. All infection cases by herpes received treatment with Acyclovir, having been reported relapsing, even under secondary prophylaxis. In 3 out of 7 patients with Kaposi sarcoma, Interferon therapy was carried out with a partial response.

Among the pulmonary manifestations diagnosed in 14 patients, the most frequent was pneumonia

TABLE IV

More frequent clinical manifestations in the group of patients with HIV infection

| | |
|--|----|
| • Gastroenterologic 28 patients (52%) | |
| Esophageal candidiasis | 15 |
| Isosporidiosis | 4 |
| Mycobacteriosis | 4 |
| Cryptosporidiosis | 2 |
| Herpes simplex | 2 |
| Cytomegalovirus | 1 |
| Intestinal tuberculosis | 1 |
| Condyloma acuminata | 2 |
| Kaposi sarcoma | 3 |
| Intestinal lymphoma | 1 |
| • Dermatologic – 19 patients (35%) | |
| Herpes zoster/simplex | 7 |
| Kaposi sarcoma | 7 |
| Seborrhea dermatitis | 4 |
| Cryptococcus | 1 |
| Mol. contagiosum | 1 |
| Other | 3 |
| • Pulmonary – 14 patients (26%) | |
| Pneumonia <i>P. carinii</i> | 6 |
| Tuberculosis | 5 |
| Bacterial pneumonia | 3 |
| • Neurological – 10 patients (19%) | |
| Toxoplasmosis | 5 |
| Cryptococcosis | 1 |
| Herpes simplex | 1 |
| Other | 3 |
| • Ophthalmologic – 5 patients (9%) | |
| Cytomegalovirus | 3 |
| Herpes zoster | 2 |

by *Pneumocystis carinii* (6 patients). Tuberculosis was the second diagnosis in terms of frequency, and still to be mentioned in 3 patients the occurrence of bacterial pneumonia (relapsing in 2) with a good antibiotic response to penicillin and cephalosporin derivatives (Table 4).

Regarding the neurologic manifestations verified in 10 patients (19%) the most frequent cause has been toxoplasmosis, being in all patients this assumed

TABLE V

Agents identified as responsible for diarrhea in 11 patients

| | |
|---|---|
| • Opportunistic infections (according to AIDS CDC Criteria) | |
| Isospora belli | 4 |
| Cryptosporidium | 3 |
| M. avium intracellulare | 3 |
| Cytomegalovirus | 1 |
| • Other agents (not according to AIDS CDC Criteria) | |
| Giardia lamblia | 6 |
| Trichuria trichuris | 2 |
| Schistosoma | 2 |
| Herpes simplex | 2 |
| Strongyloides stercoralis | 1 |
| Entamoeba histolytica | 1 |
| • Without identified agent | 3 |

diagnosis based on the lesions found in the cranial-encephalic CAT scan and the response to therapy (Table 4).

Five patients had ophthalmologic manifestations, having been diagnosed in 3 retinitis by cytomegalovirus with an interim response (lesions improvement or stability) with a Ganciclovir therapy; on 2 patients with ophthalmic herpes zoster there was a favorable reaction to Aciclovir therapy but relapsing in both cases (Table 4).

The assessment of this group regarding antiretroviral therapy refers mainly to Zidovudine (AZT), as only 2 patients were subject to Didanosine (DDI) therapy due to Zidovudine intolerance (anemia < 7.5% Hb and blood transfusion dependency). Therefore, 30 patients underwent AZT therapy having at present, an average follow-up of 16 ± 13 months (limits from 2 weeks to 54 months). It is to be highlighted the adverse reactions to the drug were more frequent in the initial stage where higher doses of Zidovudine were used. Twelve patients have developed opportunistic infections after starting Zidovudine and should be mentioned however, that in the 6 months period after beginning the therapy only 1 patient had an opportunistic infection.

In an average follow up of 30 ± 27 months (limits from 2 weeks to 7.5 years), 26 out of the 54 patients needed hospitalization. During this period, the total

number of hospitalizations was of 80 establishing an average of 3 admissions per patient (limits from 1 to 11). Regarding the average hospitalization period, this was of 31 days (limits from 11 to 240 days) what is around 3 times higher than the average admission time of other pathologies patients admitted in Internal Medicine in our unit. The average admission days, per patient, during the follow-up has been of 87 days.

The cumulative mortality from the beginning of the follow-up in this group was of 35% (19 patients). All CDC criteria patients died from AIDS, being the average lifetime after the AIDS diagnosis of 12 months (limits from 2 weeks to 33 months) and the average time from the seropositivity knowledge to death was from 21 ± 18 months (limits from 2 weeks to 64 weeks). It was possible to get the cooperation from patients and relatives, in the sense of, even in terminal stages, to ensure assistance as outpatients what was eased by the set up of close relationships and permanent availability from the medical and nursing staff to clarifications, therapy indications and psychological support.

Discussion

The adopted patterns in the organization of the hospital and community assistance to HIV infected patients has been of several types, changing from one country to the other and even in one given country. The degree Internists and Internal Medicine services are involved changes widely from one hospital to the other, as well as the role played by the many medical and surgical sub-specialties to support these patients. The chronic nature of this disease and the multiplicity of affected organs with a pathology not only infectious but also immunologic and neoplastic, leads to add it to the kind of situations followed-up by the Internist what does not mean to deny the important role of Infectious Diseases consultants in the answer to the problem from the beginning of this epidemic that naturally will continue. Regardless of the actual practical aspect related with the medical assistance in the context of the current expansion of this HIV infection epidemic, it is considered at present, at international level that Internists training should ensure a total domination of this area what can only be totally ensured through a continued exposure to the HIV infection problems. Only this way it will be possible to ensure an institutional involvement more global, trying to avoid the attitude of some considering these

problems as “someone else’s”³. On the other hand this kind of experience, Internists in this area have, will enable those who will take jobs in District Hospitals, to face the problem with ease and skill.

In our service, the existence of a group of Internists interested in the problem since the emergence of the disease first cases^{6,7,13}, led to an involvement in the patients follow-up in all stages of the natural history of the infection. The current group just shows this experience which has started with the description of the first AIDS case in 1985⁴.

Several particular aspects deserve to be highlighted in this group. Therefore it is to be emphasized that around a third of patients had access to the Medicine 2 Service through Internal Medicine consultation or through the Central Emergency, suggesting that even without the resulting weight of the specific interest of our group for this situation (67% of reference causes) exists a significant HIV infected patients movement in an Internal Medicine service. In spite of most patients refer to a previous diagnosis of HIV infection, in a significant percentage (35%) there was no initial suspicion having this diagnosis being made afterwards. On the other hand, 41% of cases have been contaminated by heterosexual contacts. These aspects reinforce the notion that health professionals care relating with the risk of accidental bites should be considered systematically in all services and not only in cases where there is a HIV infection suspected.

In terms of the infection clinical expression by HIV is to be highlighted the aspect of gastroenterologic manifestations showed as the most frequent (52%), on the contrary of what is mentioned in other national series¹⁶. It could be admitted that the load of gastroenterologic manifestations could be conditioned by a wider referral of patients at the Medicine 2 Service, by the fact this having an important gastroenterologic valency. However, the reason why these patients are referred reveals that most was referred for clinical follow-up before any clinical manifestation of the disease. Therefore, it may be considered that to value the GI manifestations and their deeper investigation can partially be a justification of this predominance. It is also to be emphasized the almost worthless value of the GI radiologic exams in the diagnosis what contrasts with the diagnostic yield of endoscopic exams as well as the fact of having been possible to establish an etiologic diagnosis in the vast majority of cases, enabling therapeutic interventions which were trans-

lated in a clear improvement in the patients’ quality of life. This verification applies also to other kind of pathologies, what in our view reinforces the notion that all the possibilities of therapeutic interventions with a positive influence in the quality of these patients, are at present, significant and rewarding.

A substantial part of the developed activity refers to the follow-up of asymptomatic patients/LPG (57% of cases). Among these patients it should be highlighted that 32% evolved to AIDS and in these cases, the average follow-up time by our group is the AIDS development of 33 + 20 months (limits from 5 to 69 months). One of the aspects that seems important to us, to highlight in this series is the almost absence of cases of complex related with AIDS, that we think can be due to the fact the period of duration of the clinical situation of ARC is relatively short, being often the final classification made after research that led to the diagnosis of an opportunistic infection or a tumor defining AIDS.

The number of patients undergoing therapy with Zidovudine is less than it should be expected, what is due to several factors. Perhaps, is to refer firstly the fact some patients evolved to AIDS before being available the Zidovudine therapy in Portugal. On the other hand the criteria used for the beginning of the therapy in asymptomatic carrier patients and with generalized persisting lymphadenopathy, were stricter than those adopted by some authors¹⁷, being valued not only an isolated determination of CD4 lymphocytes, even lower than 500/mm³, but even a downwards progressing and persisting fall of CD4 cells. The reasons of the non automatic application of results of the North American study¹⁸ that showed asymptomatic patients with CD4 lower than 500/mm³ had a significant reduction on AIDS progression when undergoing Zidovudine therapy, are related with several aspects that even today are controversial^{19,20}, namely the issue of acquiring resistance as well as the impossibility of defining subgroups among asymptomatic carriers benefiting clearly of the therapy^{19,20}. This issue is getting ever more complex with the outcome of the Concorde study, not agreeing with the north American study referred previously²¹. Our group attitude was to try to involve the patient in therapy decisions, namely regarding the beginning of antiviral therapy giving the available information, being recognized however that not all patients have the personal features and the availability to the invol-

vement in a dependent decision of so many complex variables.

Our Unit experience in this area can be an example of feasibility if the Internal Medicine services get involved in the AIDS issue. Nevertheless, it is important to acknowledge that the experience success, in terms of the quality of the services delivered, has contributed the fact of a non excessive number of seropositive patients had enabled a very personalized approach, in spite of the 54 patients we followed up, have been responsible for around 6% of admissions in our Unit of 24 beds in the last year. In our experience it is to highlight the team work by the medical, nursing and helpers team that enable to overcome the known stages of contamination fear and occupational risk and the particular problems of relationship with patients and their relatives, including to keep the professional confidentiality in the context of Internal Medicine Services. In this sense it is remarkable the ability revealed in the sense of a very personalized psychological support well expressed by the degree of patients' compliance to the Medicine consultation where it was possible in a general way to ensure that all physicians involved in the stages of hospital admission proceed with the patients' follow-up. It is rewarding to verify that Internal Medicine specialty Internists have revealed much interest on assisting patients and acquiring knowledge in this complex area requiring a bigger effort facing the quick progression of the applicable knowledge in the clinical cases.

In conclusion, the current experience of an Internal Medicine group in the area of AIDS and showing the involvement feasibility of Internal Medicine Units of Central Hospitals in this area and the motivation and availability of health professionals to face the difficult issues of caring for these patients. ■

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