HAART
HIV correlated pathologies
and other infections

KFactor

Editorial

Thirty years ago, the world started to be informed that on the stage it was hosting a new actor, as small as devastating. Its name shortly became well known all over the world: HIV. It happened when the world was starting a new rich opulent and apparently happy age. A new disease –affecting the way through which people is communicating: sex and love- started to challenge science, society, culture, development. We know now that HIV and AIDS is more than a on topic disease. And we know that since the first case reported in 1981, over 25 million people have died because of AIDS, and more than 33.3 million are today living with HIV. We were able to articulate an answer to the pandemic. After 15 years of HAART, we were able to transform this new fatal disease in a chronic condition, thanks to combination therapy. It was a triumph and a key achievement of the modern medical science. But unfortunately the heterogeneous epidemic landscape we are facing show us that the answer is behind the line we should to maintain: every day more 7000 new infection occurs, twice the number of people that every day start antiretroviral therapy. It is the first time that after 30 years a complex management of a new disease is implemented also in developing countries, averting millions of death. But financial global crisis is putting a risk these results. An a sort of AIDS fatigue is affecting the world leaders that seem to delist HIV/AIDS from the political agenda. We must to remember that HIV "has inflicted the single great reversal in human development"(1) in the modern history . Trends linked to globalization –population growth, migration, global climate changes, new global power structure (G8, G20, BRIC), social conflicts regarding water or food- will affect vulnerability of people all over the world making them and the human rights more at risk. And, thanks to HIV epidemic, we know that health is a fundamental human rights.

Fighting against AIDS, providing care and therapy in the only true investment we can do, committing our present daily work for the next generation of women and men of our Planet.

Andrea Tomasini

[1] UNDP, Human Development Report, New York, United Nations Development Programme, 2005

MNL KFactor

30 years of AIDS: a history of HIV epidemic and International Conference on AIDS

Thirty years ago, in June 1981, the first cases of AIDS were diagnosed by US health agencies. In the following pages we decides to tracks the key facts in fighting against AIDS and the International AIDS Conferences that underline the International AIDS Society's and others organizations' engagement in and impact on the epidemic over the last three decades.

1981
The first cases of AIDS are diagnosed in June by US health agencies.
The first conferences about HIV/AIDS are mainly focused on the necessity to share knowledge on biomedical and epidemiological research.

1983
French scientists isolate HIV.
Heterosexual transmission of the infection was confirmed.
The epidemic in central Africa was confirmed.
In Denver the People with AIDS movement signed document known as the Denver Principle, the core act of the activism birth.

1985
In April the International AIDS conference (AIDS 1985) gathers in Atlanta 2,000 participants. This conference is organized by the WHO, the US Department of Health and Human Services, major research institutes and is led by American and European scientists and public health officials.
The first test to diagnose HIV is licensed.

1986
Paris hosts the II International AIDS Conference (AIDS 1986) gathering 2,800 participants.
The opening lectures are delivered by the co-discoverer of HIV, Luc Montagnier, and Bila Kapita, Chief of Internal Medicine in Kinshasa, Zaire, one of the first to talk openly about the serious problem the African region is facing. It is a very brave statement, Kapita is sentenced to jail but he's released with the help of international intervention. AIDS control program are established at World Health Organization.

1987
In Washington DC the III International AIDS Conference (AIDS 1987), 6,300 participants. For the first time, the fight goes political: during the conference several demonstrations against the lack of political commitment take place. Even if by May 1987 more than 20,000 had died of AIDS, US President Regan is still reluctant to make a public statement about the epidemic. The protests are also against the US FDA as experimental treatments are slowed down by bureaucracy. Partly due to the protests, the conference receives widespread media coverage. Behavioural and sociological research begins to be more and more present at the conferences.
AIDS Coalition to Unleash Power (ACTuP) is created.
FDA approves AZT, the first drug licensed for treatment of HIV infection
The US government bans HIV-positive travelers from entering the country citing both public health concerns and the potential financial burden on US health service. The IAS tries several times to convince the White House to overturn the ban, for the San Francisco conference in 1990 the US administration issues a waiver so that HIV-positive delegates can attend it but it refuses to revoke the ban. As a result, the IAS decides not to organize conferences in the US anymore and the AIDS 1992 conference, which was supposed to take place in Boston, is relocated to Amsterdam.

1988
The International AIDS Society (IAS) is founded. With the growth of the conference, the need to establish an association responsible for organizing it becomes apparent.

A group of prominent scientists from all over the world meets to discuss how to proceed and decides to found an international society governed by an Advisory Board with Lars O.Kalling as its first President. The IAS is initially registered as a non-profit organization in Frankfurt. The mission and objective of the IAS were: promotion of global solidarity between people working in HIV and AIDS; International and interdisciplinary approach (including ethical, legal, economic and political aspects of HIV/AIDS in addition to biomedical issues); fighting discrimination against people living with HIV and AIDS and those most vulnerable to infection; promotion of research and more effective application of new knowledge to HIV/AIDS prevention and treatment.
During 1988, for the first time, the number of women living with HIV in sub-Saharian Africa is found to exceed that of men.
Stockholm, in June hosts the IV International AIDS Conference (AIDS 1988) 7,500 participants. This conference signs the end of the period where the main focus was on biomedical aspects of HIV/AIDS. The "Face of AIDS" is introduced at the conference as a forum of people living with HIV, it is a revolutionary change as patients and civil society are now included in the debate. This conference also marks the start of close collaboration between the IAS and UN agencies.
The first World AIDS Day is held in December.

1989
Montreal: V International AIDS Conference (AIDS 1989) *Theme: The Scientific and Social Challenge of AIDS* - 12,000 participants. Activists occupy centre stage during the conference: Canadians activists protest the lack of a federally-funded AIDS strategy, US activists denounce the US entry ban for PLHIV and both want a greater involvement in the conference. During the same conference, Zambian President Kenneth Kaunda reveals that his son died of AIDS in1986, becoming the first African leader to speak about AIDS in his own family.

1990
San Francisco: VI International AIDS Conference (AIDS 1990) *Theme: AIDS in the Nineties: From Science to Policy* - 11,000 participants. The conference sees huge protests due to a cold federal government response to the epidemic and a lack of effective treatment for PLHIV. In preparation for future conferences, the IAS highlights the importance of avoiding police violence. Since then the IAS has been successful in balancing the freedom of expression and protest with allowing speakers and participants to be heard.
After 9 years the epidemic of HIV was recognized and in 1990 an estimated 7.3 million people are living with HIV/AIDS.

1991
Florence: VII International AIDS Conference (AIDS 1991) *Theme: Science Challenging AIDS* - 8,000 participants. This conference is quieter than the earlier ones. The theme of the conference reminds us of the importance of science in a time of growing desperation to halt the spread of HIV. Experts from Africa and India speak at the Opening Ceremony highlighting the growing burden of the epidemic in their countries.
For the first time Red Ribbon is used as the international symbol of AIDS awareness.

1992
Amsterdam: VIII International AIDS Conference (AIDS 1992) *Theme: A World United Against AIDS* - 8,000 participants. The conference is organized in just one year following its relocation from Boston to Amsterdam. The focus of the conference is on human rights as a public health imperative.
The first HIV rapid test is licensed.
International Community of Women Living with HIV is founded.

1993
Berlin: IX International AIDS Conference (AIDS 1993) 14,000 participants. Berlin is chosen to remind us of the importance of fighting racism and discrimination, "tear down the walls" is the refrain of the conference: walls between HIV positive and HIV negative and between rich and poor. Unfortunately 1993 is a disappointing year in HIV research: the results of the Concorde trial of AZT monotherapy shows no medium- or long-term benefit; also, the economic impact of AIDS epidemic is becoming more and more obvious.
The regulatory authorities approve the female condom.

1994
Yokohama: X International AIDS Conference (AIDS 1994) *Theme: The Global Challenge of AIDS: Together for the Future* - 10,000 participants. The conference is held in Japan, at the time the only Asian country to admit some of its citizens live with HIV. The organizers work hard to avoid friction between the conservative Japanese society and the western activists. The hope is to leave a permanent impression in the attitudes, legislation and policies of the host country.
An outbreak of HIV among paid blood donors in Cina is reported.
A study demonstrate the possibility to prevent the mother-to-child transmission.

1995
More than 18 million people are living with HIV/AIDS.

1996
Vancouver: XI International AIDS Conference (AIDS 1996) *Theme: One World One Hope* - 15,000 participants. After many years of disappointment the atmosphere is electric and full of hope as finally scientists are able to report a significant treatment breakthrough: highly active antiretroviral therapy (HAART) sees mortality and morbidity among patients drop dramatically and the prognosis for HIV diseased shifts from almost certain fatality to a chronic illness. The term "Lazarus syndrome" is used to describe patients who return from the brink of death to good health. After the excitement, though, it becomes quickly evident that while the therapy can be used widely in high-income countries, in the areas of the world where the epidemic is more devastating the access to it is very limited.
During 1996 the number of new infections is the highest in the history of AIDS: more than 3 million.
Free distribution of antiretrovirals starts in Brasil.
The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the International AIDS Vaccine Initiative (IAVI) are launched.

1997
UNAIDS launches the HIV Drug Access Initiative in Uganda and Cote d'Ivoire: it was the first introduction of antiretroviral therapy in sub-Saharian Africa.

1998
Geneva: XII International AIDS Conference (AIDS 1998) *Theme: Bridging the Gap* – 15,000 participants. The theme of the conference touches several issues: gap in treatment between wealthy and poor, gap in power and autonomy between men and women, gap between governmental authorities and civil society. At the conference, the IAS initiates the Young Investigator Awards to recognize scientific excellence among young researchers.
The **Geneva principle** is established to provide a balance between community and science in the conference programme: the Scientific programme includes basic and clinical science, epidemiology and prevention science, policy, political science, economic and socio-behavioural research; the Community programme includes skills-building and sessions addressing the community-based respond to the epidemic.

During 1998 Treatment Action Campaign (TAC) is founded and starts its activity in South Africa.

1999
Worldwide AIDS deaths are increasing: more 1,5 million people every year are dying because of AIDS.
The short-term regime to prevent mother to child transmission was proved to be safe and effective, and would be applicable and affordable in resource-limited settings.

2000
Durban: XIII International AIDS Conference (AIDS 2000) *Theme: Breaking the Silence* - 12,000 participants.
This conference is enormously important in building momentum to change the approach to global public health. It is the first AIDS conference in a developing country, more importantly in a country with the highest HIV-prevalence rates in the world. The theme focuses on the staggering impact of the epidemic is sub-Saharan Africa and on the inequity in treatment access between the developed and the developing world.
South African President Thabo Mbeki declares he doubts AIDS occurred in South Africa and that, if so, it is caused not by HIV but by poverty. He also declares AIDS symptoms are side ef-

fects of ART produced by Western pharmaceutical companies. The minister of Health shares the same ideas and forbids the use of antiretrovirals to prevent mother-to-child transmission.
These declarations prompt 5,000 scientists from around the world to publish the "Durban Declaration" confirming the overwhelming scientific evidence about the aetiology of AIDS.The Durban conference proves to be a unique opportunity to address both treatment inequity and denialism. During the closing ceremony Nelson Mandela speaks against the irresponsibility of the South African government on AIDS. The conference significantly represent a key event to expand HIV treatment access.
The success of the conference provides local organizers with a financial surplus that supports several national conferences in AIDS over the next years. UNAIDS launches the Accelerating Access Initiative, and together with WHO announces the joint agreement with five pharmaceuticals companies to lower prices for antiretroviral drugs. In this year 30 million people are living with HIV/AIDS.

2001
The Global Fund to Fight AIDS, Tuberculosis and Malaria is established by UN secretary –general Kofi Annan, a "war chest" to fight AIDS. A special session of UN Assembly, the first-ever special session devoted to a specific disease, results in adoption of time-bound pledges to strengthen AIDs response.
A year after the Durban conference the UN General Assembly Special Session on HIV/AIDS (UNGASS 2001) Declaration of Commitment establishes ambitious goals for treatment, prevention and care. The Millennium Development Goals call for reversing the HIV epidemic by 2015.
In Abuja, Nigeria, an historic summit on AIDS gathers together African leaders, committed to take specific actions to strengthen the national AIDS programmes.
The South African President Tabo Mbeki establishes an advisory board that includes AIDS denialists and that produce a report that recomands alternative therapies for AIDS. Quite in the same time, the Pretoria High Court orders the South African government to address the prevention of mother to child HIV transmission. At the trade level, the Doha Agremeent allows developing countries to buy and/or to produce generic drugs for HIV and other priority diseases.
Buenos Aires: 1 IAS Conference on HIV Pathogenesis and Treatment (IAS 2001), 3,300 participants including more than 600 participants who are supported by the conference's scholarship programme. As the large conferences are shifted to a biennial schedule, IAS starts to organize this new series of conference with a focus on science and translational research. In this year other IAS initiatives are:

- IAS initiates two new programmes: the launch of the Clinical Trial Partnership for Clinical Trials in Developing Countries and the Global Monitoring of HIV Drug Resistance. In addition
- IAS starts Share, the first Education Programme in HIV Clinical Care at a time when antiretroviral treatment was limited in developing countries and clinicians almost had no experience with antiretroviral drugs.

The IAS Industry Liason Forum (Ilf) is launched, with the goal of accelerating scientifically promising ethical HIV research in resource-limited countries. The main focus lies on the role and responsibilities of industry as sponsors and supporters of the research. The ILF is part of the research initiatives launched by the IAS. In 1999 and 2001 the IAS co-sponsored conferences on the topic of microbicides in Montreal and Washington respectively.

2002
Barcelona: XIV International AIDS Conference (AIDS 2002) *Theme: Knowledge and Commitment for Action* - 18,500 participants. The conference registers a greater participation by women and individuals from low- and middle-income countries. The Durban effect from the conference in 2000 increases the importance of HIV on the world's political stage; former President Bill Clinton and Nelson Mandela are two of the high profile leaders to participate in the conference, this reflects the growing political commitment to respond to the epidemic after 2000 which enables the launch of programmes to scale up HIV interventions. Finally, the combinations of events at the turn of the millennium including intense activism and corporate philanthropy in the pharmaceutical sector, lead to the dramatic reductions in the price of antiretrovirals.
The Global Found to figth AIDS, Tubercolosis and Malaria is launched.
HIV/AIDS becomes the leading cause of death worldwide for people ages 15-59.

2003
Paris: 2nd IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2003) 5,000 participants.

The US President George W. Bush launches the PEPFAR initiative – the President's Emergency Plan for AIDs Relief. Former president Clinton, through his Foundation, is able to secure major price reductions for antiretroviral drugs.
UNAIDS and WHO launch the "3 by 5" campaign targeting the goal to reach three million people living with HIV/AIDS in low and middle income countries with antiretroviral treatment by the end of 2005.
During this year the disappointing results of the first vaccine trial: no efficacy is found in the study.

2004, Bangkok: XV International AIDS Conference (AIDS 2004). *Theme: Access for All* - 18,500 participants.
The conference theme reflects the goal of universal access to HIV prevention, care and treatment interventions and the growth in political attention and resources since Durban.
Thailand is chosen partly for the huge presence of PLHIV in the country and because the country has achieved significant reductions in HIV incidence.
Although Thailand registered big success, the "war on drugs" began by Thai government was a big failure with 2,000 death and arrests. By hosting the conference there IAS hopes to highlight Thailand's success while bringing global attention to the downside of criminal justice versus public health approach to injecting drug use. The need to secure commitment on AIDS from political and other leaders leads to the launch of the Leadership Programme, whose objectives are to promote concrete commitments by political leader in response to AIDS.
The IAS and partners also pilot the first Global Village and the Youth Programme. The Global village is open to the general public and works as a bridge between local communities and researchers, health professionals, leaders and community representatives taking part in the formal conference proceedings. The Youth Programme is an opportunity for thousands of young people from around the world to discuss the response to the epidemic and to generate new ideas for treatment, prevention, human rights issues.
The G8 nations call for the creation of the Global HIV Vaccine Enterprise.
More than 2 million AIDS death are occurring, more than in any prior year.

2005
Rio de Janeiro: 3rd IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2005); biomedical prevention science is added to the programme in recognition of a research field growing rapidly in size and importance.
A study runned by French researchers reports that adult male circumcision is able to reduce by 60% the risk of female to male sexual transmission.

2006
Toronto: XVI International AIDS Conference (AIDS 2006) *Theme: Time to Deliver* - 26,000 participants. The theme reflects a growing sense that despite increased resources and 25 years of experience, the global response is still falling short in its effort to curb the epidemic and care for those infected; moreover, gender inequity, homophobia and discrimination against sex workers and drug users continue to hamper prevention efforts. This conference is notable for its focus of female-controlled prevention technologies. During the conference the IAS delivers skills-building workshops on how to write a manuscript for publication, how to write an abstract and prepare effective conference presentations.
IAS establishes a Regional Partnerships Department to strengthen its links and collaborations with the independent regional conferences and societies.
The Global community endorses the goal of universal access to HIV prevention, treatment, care and support by 2010.

2007
4th IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2007) Sydney 6,600 participants. During the conference starts a pilot education programme aimed at young investigators working in basic science, clinical research and prevention science.
During the conference the Sydney Declaration is published, to draw attention to the need for operations research to guide scale-up efforts calling for donors to allocate 10% of all HIV resources to research.
The most promising AIDS candidate vaccine is halted due to lack of efficacy in a important efficacy trial.
Because of two new studies are confirming the 2005 findings, international recommendations for adult male circumcision are issued.
WHO and UNAIDS announce that global incidence of HIV infection appears to have

peaked during the second half of 1990s.

2008
For the first time the coverage for antortroviral therapy and services to prevent mother-to-child transmission exceeds 40%. But also for the first time in the history of the epidemic global financial and economic crises emerges and put at risk the future financing programmes addressing HIV/AIDS.
August 2008, Mexico City: XVII International AIDS Conference (AIDS 2008) *Theme: Universal Action Now* - 24,000 participants. This is the first conference to be held in Latin America, its main focus is on the urgent need for action at all levels to achieve access to services in the health sector, and also to end stigma and discrimination and advance the human rights of all people, especially those most affected by HIV, the most marginalized communities in the world.
Nobel prize for Luc Montagnier and Francoise Barré Sinousi, the two scientists who discovered HIV.

2009
Cape Town: 5th IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2009) 5,800 participants. The first IAS conference held in Africa represents the ideal opportunity to refocus the international community attention on the continued challenges faced by the region.
During the conference, the South African government, moving dramatically from the position showed during AIDS 2000 in Durban, confirms its commitment to scale up HIV treatment.
Disappointing results from trial designed to evaluate the first early generation microbicide candidate.
Research and surveys supported by UNAIDS found that global financial crisis is negatively affecting AIDS programmes in the South of the world.

2010
The Vienna Declaration**,** an international call for Drug Policy based on science, not ideology, is published ahead of AIDS 2010. By the end of the conference the declaration is signed by 12,725 individuals.
Vienna: XVIII International AIDS Conference (AIDS 2010) *Theme: Rights Here, Right Now* - 19, 300 participants. The focus of the conference is on Human Rights, whose protection is essential in drive for universal access. Results of the Caprisa 004 trial, a microbicide gel for women that has been found to help prevent HIV transmission, are presented, opening the door for a completely new synergistic tool in HIV prevention which has tremendous potential to empower women and girls.
Jacob Zuma, President of South Africa, declare his commitment to strength the national HIV prevention and treatment programs.

2011
Rome: 6th IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2011). After a break of 20 years, a major international AIDS conference is taking place in Italy again. The conference will be dedicated to the exploration and implementation of HIV science with a focus on how scientific advances can be translated into practical interventions, particularly in low- and middle-income countries.
After the removal of the US travel ban for HIV-positive travelers in 2010, the IAS decides to organize a conference in the US again, the XIX International AIDS Conference (AIDS 2012) will be held in Washington DC.

In 2012 **Françoise Barré- Sinoussi**, co-discoverer of the HIV virus and Nobel laureate, will become the IAS President.

Andrea Tomasini

Sources:
The aids2031 Consorsium, "AIDS: Taking a Long-Term View", FT Press, New York 2011

www.iasociety.org
www.aids2031.org

Thirty Years On: Why We Need a Cure for HIV Now More Than Ever Before

Thirty years ago in June, health agencies in the US began monitoring unusual clusters of diseases that would later be identified as the first cases of AIDS. A year later, a young medical officer working at a Health Center documented and reported to the Ministry of Health the first cases of AIDS in Uganda found on the shores of Lake Victoria in the Rakai district.

Over the past three decades, I have worked extensively in the field of care and support for people living with HIV, watching the story of AIDS unfold in my own country and around the world. I have witnessed some of the devastating consequences of silence and stigma, as well as the incredible results that translating scientific evidence into action can produce.

Today, HIV experts are in agreement that "prevention", "treatment" and "care" are the three pillars to successfully responding to the HIV epidemic. Lessons learnt, and in particular the compelling new evidence that HIV treatment is also HIV prevention and that expanding antiretroviral therapy (ART) coverage has preventative benefits for the entire community, also show us that these three pillars must not be approached separately, but as three interconnected efforts.

Here at the International AIDS Society (IAS) however, we are convinced that the three pillar approach to ending the HIV epidemic is incomplete and, to mark this historic month, the IAS is calling for the addition of a fourth pillar -- "cure" -- to the international response to the HIV epidemic.

Under no circumstances should the inclusion of "cure" into the global response direct funding away from treatment, prevention and care programmes. The IAS will continue to advocate for increased funding across each of these pillars. The IAS does believe however, that it is imperative that donors, governments and the AIDS community make a viable economic investment in HIV cure research, and right now.

Globally, there are currently 33.3 million people living with HIV. Although significant progress has been made towards scaling up access to antiretroviral treatment, the increase in new infections in certain regions, a decrease in funding, and the fact that under new WHO guidelines HIV patients should be starting their treatment regimens much earlier, means that universal access targets are way off track. As new infections continue to outstrip numbers on treatment by 2 to 1 in resource-limited settings, the scale of unmet need can only increase.

Furthermore, while ART has greatly improved the quality of life of people living with HIV and reduced AIDS-related mortality rates, the virus remains persistent in certain cells even in patients being successfully treated. In turn, patients have no option but to undertake life-long treatment to keep the virus under control. Life-long adherence to these drugs remains both costly and tiring for the patient, while side-effects associated with ART usage can be severe. Lastly, resistance to treatment can occur for a number of reasons.

Funding research to develop a functional[1] or sterilizing[2] cure for HIV which could offer people living with the virus an alternative to the burden of a difficult life-long ARV regimen is therefore not only important for the health and human rights of people living with HIV, it is in our collective economic interest.

Professor Françoise Barré-Sinoussi, co-discoverer of HIV, Nobel Laureate and IAS President-elect, is currently guiding the development of a global scientific strategy, *Towards an HIV Cure*. This strategy aims at building a global consensus on the state of the ART research in the field of HIV reservoirs and defining scientific priorities that must be addressed to tackle HIV persistence in patients undergoing treatment, the key hurdle impeding any alternative to long-term therapy.

Thirty years after the first cases of AIDS, if we are ever to envisage the remission of the disease in infected individuals, or even the eradication of the virus, then we must invest in and aggressively pursue an HIV cure.

Elly Katabira
President of the International AIDS Society

[1] **Functional cure:** some HIV genetic material remains in the body, but the patient's immune defense fully controls any viral rebound, allowing patients to be free of antiretroviral treatment

[2] **Sterilizing cure:** no HIV genetic material can be found in the body, HIV infection is eradicated

International AIDS Society "Towards an HIV Cure": Global Scientific Strategy of the International AIDS Society

The IAS, with the support of the National Institutes of Health, the French Agence Nationale de Recherche sur le SIDA, the Austrian Federal Ministry of Science and Research, Sidaction, and the Treatment Action Group, organized a workshop on HIV Reservoirs in conjunction with the XVIII International AIDS Conference (AIDS 2010) in Vienna, Austria. Following the success of the workshop and in light of the resurgence of interest and optimism on prospects of a cure for HIV - either a sterilizing one or a functional one – the IAS has engaged in dialogue with a number of stakeholders in the field (researchers, activists, funders). With the support of its partners, the IAS is committed to seizing the momentum and demonstrating leadership in advocating for increased investment in HIV cure research and more concerted efforts to advance the science.

The IAS has decided to guide the development of a Global Scientific Strategy, "Towards an HIV Cure", with the hope that it will contribute to the establishment of an international research alliance and/or expansion and global coordination of existing consortia towards an HIV cure. In line with the IAS strategy 2010-2014, the IAS Governing Council prioritized an HIV cure as one of its four key policy areas during its November 2010 retreat.

The foundation of this global scientific strategy will be consensus on the state of the ART in HIV cure research by leading scientists in the field. The strategy will contribute to maximizing resources and strategic investment in the most promising strategies in search of a sterilizing or a functional cure.

The development of the strategy will involve a three-step approach. The first step is going to establish an international researchers' working group, comprised of basic scientists and clinicians, will develop the draft global scientific strategy in cooperation with a stakeholders' advisory board. The international working group will be co-chaired by the IAS President-elect, Professor Françoise Barré-Sinoussi, and Professor Steven Deeks from the University of California, San Francisco (UCSF). Doctor Jack Whitescarver, Director of the Office of AIDS Research at the National Institutes of Health, who played a pivotal role in the Vienna workshop "Towards a Cure", will co-chair the advisory board together with IAS President-elect.

The second step will widely circulate the draft strategy to stakeholders involved in the HIV/AIDS response between late 2011 and early 2012 to solicit their input and perspectives. Consultations on the draft strategy will take place with scientists from various disciplines (HIV and non-HIV), patient organizations, industry, international organizations, and regulatory and research funding agencies. The consultations will be held through face-to-face meetings and online surveys, as well as key informant interviews.

The third step is the presentation of the strategy, "Towards an HIV Cure", in a scientific symposium organized in advance of AIDS 2012 in Washington, D.C. The symposium will be structured in line with the scientific priorities defined in the Global Scientific Strategy. At AIDS 2012, sessions will be organized to report on the highlights of the symposium.

Once the strategy is presented, the IAS intends to monitor its implementation by encouraging the creation of an international research alliance or expansion of existing consortiums that will work collaboratively and in an orchestrated manner on the concrete priorities defined in the strategic plan to accelerate scientific advancement in this field.

HAART: 15 years of life

Patrick Yeni ia a veteran in the fight against AIDS. Former member of the IAS USA panel, he is head of Tropical and Infectious disease at Hopital Bichat Claude Bernard, Paris, France. During the last CROI conference Professor Yeni gave an invited speech about 15 years of HAART.

After 15 years of HAART we are able to celebrate a triumph, having transformed HIV infection, a fatal disease, in a chronic condition. But some problems are still open...

Yes, we have done considerable progress with HAART since 1996 in terms of high level of effectivity, less toxicity, more convening dosing and this is due to high number of drugs that become available since that time. Hoverer there are some problems with HAART because HAART is antiretroviral therapy that you can never stop: if you stop therapy there is a viral relapse, so it is a long life therapy and this is the first problem, the second problem is that HAART is recommended in many patients but few of these patients can receive HAART both in the developed world but also in the developing countries: a third problem is although HAART is very efficient because it has decrease considerably mortality of HIV infection, it doesn't solve all the problems. In fact even the patient with controlled viremia using the current available assays, still have a residual viremia which an intensificated HAART cannot decrease. Probably because there is a latent reservoir which is the drug resistant. In addiction there is always chronic T-cell activation, chronic inflammation persisting , although a low level, in HIV treated patients –level of activation and inflammation are less in treated patients that in non treated patients-. Antiretroviral therapy as it is now is not the full answer to the treatment of HIV infection.

More than 30 medications are now available for the therapy of HIV infection. How and when treat?

How to treat for me means would be alternative to the traditional drug combination that we use for initiation of therapy. In particular we know use two nucleoside analogues plus a third drug. What will be that in future? We don't really know. As for the third drug will be some role to play for instance for CCR5 inhibitors. And there are several options to replay the two NRTIs backbone in the future for sure, and combining for instance boosted PI with either NNRTIs or integrase inhibitors or other drugs, possibly drugs that are now in development. There about 10 clinical trials including NEAT 001 investigating the value of combining protease inhibitors plus either integrase inhibitors or CCR5 inhibitors, I think it is essential. In addition to that, another strategic question is when to start therapy, because we see that patient are been treated earlier and earlier. So, what will be the situation in the future? It may will be possible that rather to identify patients who should be treated, in the future we may be in the position to identify the patients who should not be treated, according to immunological and virological parameters, and in the long terms biochemical and genetic parameters too.

As a problem that is still open you mentioned chronic inflammation: how to address this issue?

We need a cure for chronic inflammation, but it is out of the scope of our possibility for the moment, although there are considerable interesting research about that. The other way handling that, is try to design drugs with anti-inflammatory activity that would be an adjunctive therapy, in addition to antiretroviral therapy. There are several options which have been investigating to treat chronic inflammation, which go in very different directions: it is a very interesting new option that will emerge in the mid term in the future.

Is eradication still in the agenda of research? Some researchers used the concept of functional cure, others the concept of antilatency approach, as you did in your talk...

The idea beyond that is sterilizing cure: you get rid of any residual virion or infected cell in the body. The reason why there is a viral relapse when patient stops therapy is because the treatment is not active in the drug resistant reservoir. The main reservoir for that is the latently infected quiescent CD4 memory T-cell: so there is an all area of research trying to get rid of this reservoir: one of the important idea behind that is considering that these cells do not complete the replication cycle of the virus, because there is an active HIV latency organize in this quiescent cell. So the question is: how you can revert HIV latency, how to transform these into productively active cells, because in this case the will die and you can get rid of the HIV reservoir in patients already treated with antiretroviral therapy. This field is an important area of research, but it is a long term research: actually we don't know how successful will be this approach and when it will be translated into clinical practice.

The same it is for gene therapy a promising approach, in particular addressing the CCR5, according with clinical observation of Berlin patient...

Yes. Actually gene therapy could be a tool to manipulate the HIV integration or expression of HIV genes, and also to engineer specific viral activity. The CCR5 target is very interesting because there is a solid reason to believe that gene therapy with CCR5 may be efficient. This is because there is the idea that individuals omozygous for a 33-bp deletion are resistant to infection by a CCR5-tropic HIV virus, and we know that CCR5 antagonists are active in R5+ HIV infected patients. We have also the observation of this berlin patient a HIV person who experienced acute leukemia and that was treated with stemm cell transplantation from a donor that was matched and CCR5 deleted. This patient now, more than 3 years later has no HIV replication, neither in the plasma neither in the organs, although the antiretroviral therapy was stopped the day before the transplantation. There are several experimental model showing that ex vivo you can obtain this kind of CCR5 disruption which would be the counterpart of the clinical observation. Several clinical trials are now ongoing in this direction, that seems to be a very promising approach.

Andrea Tomasini