JOURNAL
AIDS Society of India
(JASI)

From the desk of the President

JASI – Fulfillment of a long-pending commitment by the ASI

In the year 2000, when the AIDS Society of India was established, ASI objectives mandated that ASI would organise its national conference annually and will publish a newsletter/journal. Whereas the first part of this mandate has achieved its desired goal, the second part remained a dream! With a lot of ASI founding members and GC members either growing older or busier, and the HIV epidemic continuing to mature in the country, the time was ripe to bring in some renewed vigor into the organization. Ever since, ASI has been looking at the NextGen with hope and formulated several strategies to tap the energy of young physicians and researchers.

One such decision was made at the ASI General Body Meeting at ASICON 2017 to handover responsibility of JASI to a young team with the target of bringing the first issue in February 2018 at HIVe Conference in Mysore.It gives me great pleasure that our young editors – Dr R K Prasad and Dr Trupti Gilada – worked very hard in fulfilling this long-pending dream of ASI within stipulated time limit. A similar initiative has been the ASI Youth Forum; which besides its activities is expected to deliver us leaders in coming years to take over ASI governing council. That is our new dream and we are throwing open this challenge to young members of ASI!

The year that passed has been a major turning point in our three decade old battle against HIV/AIDS. India adopted WHO's Test & Treat strategy as a national policy. The HIV/AIDS (Prevention and Control) Bill was passed in the Parliament after a decade of its pendency and now has become HIV/AIDS Act 2017. Introduction of a robust integrase inhibitor molecule Dolutegravir, launch of Single Tablet Regimen with lower dose of Efavirenz (TLE400), recent launches of Tenofovir Alafenamide Fumarate (TAF) and Darunavir-Ritonavir combo has made us fully equipped with different lines of ART. All such new developments will be discussed and their applicability to India will find place in JASI with exchange of views.

We present to you the first issue, as both print and E-journal, being launched at HIVe Mysore organized by 'Asha Kirana' meaning 'Ray of Hope'; let JASI be another ray of hope for the HIV/AIDS fraternity in India and its continued battle against the disease.

Dr. Ishwar Gilada

JASI
Newsletter Volume 1/Issue 1

We would love to hear from you. Write to us on aids.jasi@gmail.com

IN THIS ISSUE:

JOURNAL
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From the Editors

Firstly, a very happy and healthy new year 2018! We present the first issue of the 'JASI: Journal of AIDS Society of India': an e-newsletter with great enthusiasm.

As the nature and challenges of the HIV epidemic evolve globally, the intent is to develop this newsletter to promote greater engagement among practitioners, researchers, policy makers, and others working in the field of HIV in India. We particularly aim to utilize this platform to highlight the work of HIV practitioners from the field especially ART medical officers and counselors, who while remaining unsung heroes contribute every day to those affected with HIV.

To begin with, we plan to have an issue on quarterly basis. Each issue will carry a number of sections including reports on ASI Events, gleanings or new insights in the field of HIV (including guideline updates), case reports & practice reflections, a policy corner, news and views, review articles, and upcoming events, announcements, conferences, or funding opportunities. If there is something you wish to share, or if you have any suggestions please write to us on aids.jasi@gmail.com.

We look forward to your support and participation in making this initiative successful and impactful.

Dr. Ramakrishna Prasad

Bangalore

Dr. Trupti Gilada

Mumbai

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Images in HIV Medicine

47 yr old female presented with headache, seizures and R hemiplegia. There was no premorbid co morbidities. Physical examination was normal except for R hemiplegia. Routine investigations showed an elevated ESR and albumin globulin ratio reversal. Chest X-ray was normal. MRI brain with contrast showed altered signal intensity lesion, hypo intense on T1, hyper intense on T2 in left parietal lobe and cerebral and lepto meningeal enhancement. Subsequently, craniotomy and biopsy were done.

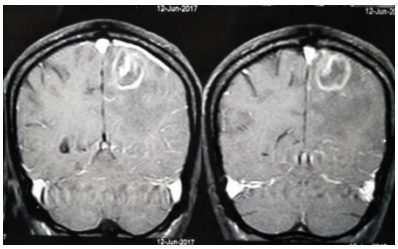
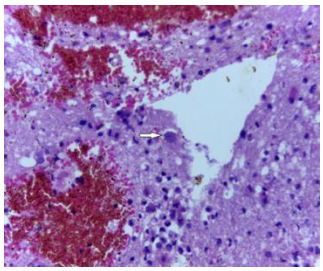


Fig 1



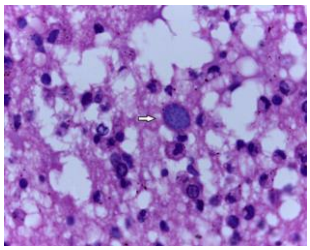


Fig 2 & 3

Histopathology showed brain tissue with necrotic lesion and chronic inflammation including foamy macrophages and scattered cysts of Toxoplasma with bradyzoites inside (fig 2,3). HIV serology was done subsequently which was positive and IgG Toxoplasma was >300 IU/ml and CD4 was 40/cu.mm. Patient responded to sulphadiazine/pyrimethamine.

Authors: Dr Sheela Mathew (Department of Infectious Diseases), Dr Sandeep VT (Department of Infectious Diseases)), Dr Sathi P (Department of Pathology), Infectious Diseases Unit, Govt. Medical College Hospital, Kozhikode, Kerala **Email:** shaarongardens@yahoo.com

UPCOMING EVENTS in 2018

	Date	Place
ASI Regional CME	9-10th March	Imphal, Manipur
ASI Regional CME	14-15th April	Warangal, Andhra Pradesh
CART 2018: Chennai ART Symposium	28-29th April	Chennai, Tamil Nadu
ASI CME	11th August	Kanyakumari, Tamil Nadu
11th National Conference of AIDS Society of India: ASICON 2018	October (TBD)	Bangalore, Karnataka
25th Conference on Retroviruses and Opportunistic Infections (CROI)	4-7th March	Boston, USA
3rd Asia Pacific AIDS & Co-infections Conference (APACC)	28-30th June	Hong Kong
22nd International AIDS Conference	23-27th July	Amsterdam, Netherlands

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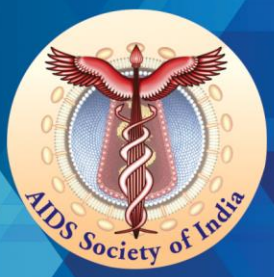

The Journey of HIV-AIDS Epidemic in India

It is almost 3 decades that HIV and AIDS surfaced in India. At one time point, experts had estimated that India would probably harbour about 25 million PLHIVA at a given time point. But thanks to the efforts both in the public and private sector in India, the total prevalence of HIV has been contained to a manageable 2.1 million. Globally we still are the third largest nation with HIV after South Africa and Nigeria. There has been a constant decrease in the number of deaths due to AIDS and also in the annual incidence of HIV in India. A lot has been achieved by targeting the high risk groups like CSWs, MSM, IDUs etc. A lot of awareness in preventive measures like condom use has also resulted in decreasing incidence of HIV. Moreover, thanks to the extensive research in the field of HIV, today's anti-retrovirals are able to suppress the virus very effectively. HIV therefore has transformed from a death sentence to a more manageable chronic infection. With the advent of fixed dose combinations of three drugs, resulting in single tablet regimens (STRs), HIV treatment has been simplified.

As the world becomes one big global village, it is imperative to abide by global standards using local strengths and strategies. Globally the 90-90-90 approach is being talked about for the containment of HIV. In India, we are only at about 75% of the first 90 and the figures are far below for the second and the third 90's. A lot of population in India also migrate from rural to urban in search of job and employment opportunities and this population could be acquiring and transmitting new infections. Traditionally Maharashtra, Karnataka, Tamil Nadu, Telangana, Andhra Pradesh and the North Eastern states were the high burden states but recently Uttar Pradesh has been added to this list. In India today, almost 80-90% of people living with HIV (PLHIV) are being managed at some 530 ART centres of NACO and the remaining PLHIV access private health care. Do we have authentic data as to how many PLHIV know their HIV status? How many PLHIV - both in the private and public sector with known HIV status are not receiving ART? And as to how many of these PLHIV who are being treated are virally suppressed? We haven't even thought of looking at if they are happy with their treatment and the quality of healthcare. Retaining PLHIV on ART and the ART officers at the public sector ART centres is extremely crucial for managing HIV in India, as they cater to the majority of PLHIV.

It is important to understand that we cannot sit on our past efforts as complacency can result in a bigger second wave of HIV in India. Every effort now must be made to achieve greater success so that we can contain HIV and work towards its elimination from India. Awareness campaign is very essential and this must happen at ground levels more effectively. Each and every person diagnosed with HIV should be immediately put on treatment disregarding the CD4 levels and presence of symptoms. The HPTN 052 study has clearly provided evidence of Treatment as Prevention. Every untreated person is a potential risk in increasing the HIV infection in the society. Once treatment is initiated, the person must be monitored by using Viral Load. These are the Golden rules of managing HIV currently. Adherence to treatment is of utmost importance for a favourable outcome and patients must be motivated by physicians / counsellors for adhering to treatment.

As we move from managing HIV from an acute to a chronic infection, it is important to understand that we will be faced with new challenges in these patients. We need to observe the patients for long term side effects that may not have observed earlier. Metabolic disorders , cognitive issues, bone health etc. that are normally seen in elderly in combination with HIV could create additional challenges in patients with HIV. We need to aggressively ensure that MTCT of HIV is reduced to zero.

Today India stands unique in this position lying in midst of Africa and Asia, which in total has more than 2/3rd of all PLHIV, out of the estimated 35 million globally. Clinical trials tell us about efficacy of drugs in a controlled environment, but long term effectiveness studies are important to corroborate the clinical trials findings.India today is also the hub of extremely high quality affordable drugs that are not only used for managing people with HIV in India but also exported all across the globe.

Let us all come together and take this fight against HIV to a new level and continue this collaborating spirit between the public and private sector in making the fight against HIV truly effective for the people whom it matters the most – PLHIVA. Let us ensure that through this endeavour of ours, the E Journal, we reach out and spread Knowledge regarding HIV.

Dr. Sumantoke Bagchi, CXO Agamya Pharma Communications LLPAssociate, sumantoke@rediffmail.com

Case report: Severe Anemia requiring multiple transfusions in a 16 years old boy on 2nd Line ART - Pure Red Cell Aplasia: Management dilemma in a resource limited setting

Introduction:

Anemia is a common comorbidity among CLHIV and it is often multi-factorial, occurring in approximately 30% of patients with asymptomatic infection and in as many as 75% to 80% of those with AIDS. Transfusion dependent anemia requiring multiple transfusions in a CLHIV on the other hand may be due to marrow infiltrative diseases, autoimmune hemolytic anemia, pure red blood cell aplasia and HIV infection itself[2,3]. The line of management and reducing mortality and morbidity would hence require timely and accurate diagnosis.
Pure Red Cell Aplasia (PRCA) has been reported in PLHIV from across the world with varying etiologies.
There is limited data on Pure Red Cell aplasia in PLHIV from India. From Manipal, Zidovudine induced - Pure Red Cell Aplasia in a PLHIV has been described which recovered with cessation of Zidovudine[3]. Another case report from Mumbai, is of a patient with refractory anemia who was suspected to have PRCA due to zidovudine but later responded to steroids showing auto-immune etiology.[4] Persistent Parvo B19 induced PRCA is another entity and is often underdiagnosed[5] though a few cases have been described.

Description:

A 16 years old boy, who had dropped out of 10 standard due to his illness, presented to our hospital with severe anemia that was treated with multiple blood transfusions.
He was diagnosed HIV sero-positive in July 2016 when he had suffered from shingles. There was a history of multiple visits to various clinics and hospitals for falling sick in recent past, but there were no major hospital admissions. His mother had died when he was 3 years of age (due to jaundice) and younger sibling died at the age of 9 month (cause not known). He was separated from his father, who was apparently sick and his serostatus was unknown. There was no obvious history of any child abuse. His uncle was his current caretaker along with his grandmother. His baseline CD4 count was 2 when he was registered with government ART centre and was initiated on Tenofovir, Lamivudine, Efavirenz based ART regimen. At that time, his hemoglobin was 5.4 g/dL and hence was treated with pRBC transfusion. As his hemoglobin kept falling, he was repeatedly

transfused and had received around 12 pRBCs transfusions in the past 2 years with 3-4 months intervals in between. He reported good adherence to this regimen.

Despite good adherence to ART, his CD4 count dropped to 1 in July 2017. HIV viral load was 47,005 copies. In view of both immunological and virological failure, his ART regimen was changed to Zidovudine, Lamivudine and Atazanavir/Lopinavir based 2nd line ART regimen in December 2017. His hemoglobin was more than 9g/dL during that time.

As hemoglobin dropped once again, he was referred to our centre. Except for easy fatigability, there were no other symptoms at presentation. He was stunted and underweight (Ht-149 cm, Wet-34.8 kg, BMI- 15.26kg/m^2). He had pallor, his blood pressure was 110/66 mm of Hg. Clinical examination revealed post herpetic scar over the T8 Dermatome, multiple skin eruptions in various stages of healing all over body except scalp and post inflammatory hyperpigmentation. There was no icterus, lymphadenopathy or hepatosplenomegaly.

Timeline	CD4	Weight (in kg)	Hb (g%)
July 2016*	2	30	5.4
November 2016	59	30	2.5
January 2017	100	35	-
April 2017	27	30	-
May 2017+	1	32	-
October 2017	-	-	3.9
December 2017#	-	34	7.2
January 2018	44	34	4.7

*Table 1:*Jul 2016 TDF + 3 TC + EFV Initiated. +July 2017, viral load- 47005. #Dec 2017 - AZT + 3TC + ATV/RTV started.*

He was further evaluated with complete blood counts & peripheral smear which showed reduced RBC count (1.75 million/cu mm), normocytic normochromic blood picture (MCV 78.5, MCH- 26.9pg, MCHC- 34.2 g/dl) normal total white cell (5710 cells/cumm), differential (N65 L22 M9 E3 B1) and platelet counts (559,000/cumm). His reticulocyte count was 0.4% suggesting bone marrow failure affecting red cell lineage only. He was suspected to have pure red cell aplasia, possibly due to Parvo B19 virus infection considering his severely suppressed immune status. Infiltrative causes were unlikely as he had no organomegaly or other cytopenias. His HbsAg and HCV were negative. Iron profile was suggestive of iron overload probably due to the repeated transfusions he had received (Total Iron- 262.3 mcg/dl, TIBC- 303 mcg/dl, Unsaturated iron binding capacity – 41 mcg/dl, Serum transferrin (calculated) – 212 mg/dl, Transferrin saturation - 86.57 %,Ferritin- 1615.6 ng/ml).

He was further evaluated with bone marrow study. Bone marrow imprint and aspirate smears (Fig-1) showed severely diminished Erythroid precursors with occasional proerythroblasts which appeared enlarged with cytoplasmic projections and stippled chromatin. Myeloid series of cells had normal pattern of maturation and appeared within normal limits of morphology. Lymphocytes and plasma cells were within normal limits. Occasional megakaryocytes were noted. Smears studied were negative for granulomas or hemoparasites.

Bone marrow picture was suggestive of Pure Red Cell Aplasia and possibly due to Parvo B195. Further evaluation for Parvo B19 virus IgM and IgG antibodies was not considered as false negative results are common in severely immunocompromised patients[6]. Parvo19 DNA PCR was deferred in this patient due to financial constraints.

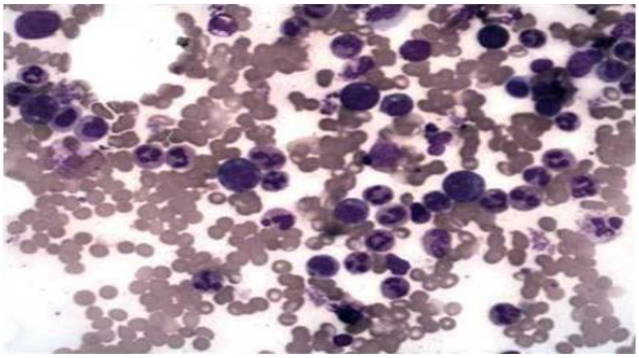

Fig 1: Showing normal pattern of maturation of myeloid series with severely diminished erythroid precursors.

Discussion regarding management:

There are studies proving the efficacy of IVIg in Parvo B19 infection and that it would raise the hemoglobin significantly and can be used as a short term measure.[7] However, studies have also shown that in severely immunocompromised people, multiple doses of IVIg[8] are required to keep the sustained response. A case report from Thailand has shown an improvement in hemoglobin with improvement of immune status and raising CD49. Considering these and patient's unaffordability, we chose to defer from using IVIg in this boy. Hence our option was to treat him with the most appropriate ART regimen. After considering his last failed regimens, possible drug resistance patterns and the availability of drugs under government program it was decided to start the boy on Raltegravir, Tenofovir, Lamivudine, Atazanavir/Ritonavir.

The second aspect of management dilemma was dealing with his current anemia. While we waited for his immunity to improve and his bone marrow to resume effective erythropoiesis, he would required further pRBC transfusions to maintain his hemoglobin. However, his iron overload status had to be managed with chelation therapy. He was hence started on with oral Deferasirox and currently being managed with pRBC transfusions.

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Department of Infectious Diseases, University of Pittsburgh
Dr Sunil Bhatt, Pediatric Hematologist, Narayana Health City, Bangalore
Dr Savitha M R, Pediatrician, Cheluvamba Hospital, Mysore

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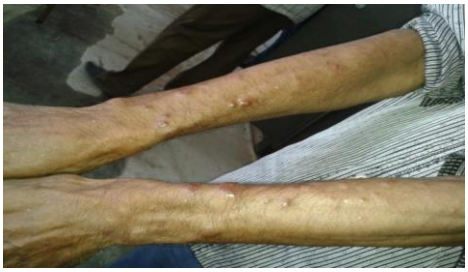
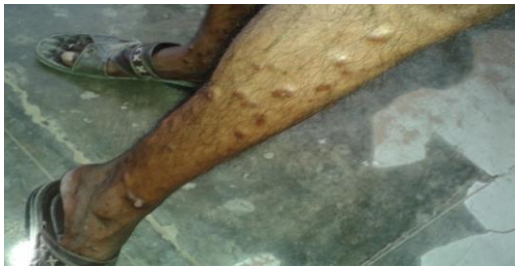
Case report: HIV with Post Kala azar Dermal Leishmaniasis

Visceral Leishmaniasis in HIV is not uncommon but Post Kala azar Dermal Leishmaniasis is rare at our centre. This is case report of a 29 years old man, HIV (+)ve taking Tenofovir, Lamivudine, Efavirenz (TLE) as HAART who was diagnosed with Post Kala azar Dermal Leishmaniasis after receiving treatment 3 times for Kala azar with Amphotericin B in 2014.

After 1 year in 2015 he revisited with multiple maculae & nodules on all 4 limbs with itching. There was no fever or other symptoms. The patient reported taking ART with >95% adherence.

On examination, pallor (++) and splenomegaly were noted. Skin examination revealed multiple maculae and nodules bilaterally on both her upper and lower limbs. The rest of the examination was unremarkable.





Diagnosis and Management:

There was microcytic anemia with haemoglobin of 9.2 gm%, total WBC count of 2,730/µL with neutrophilic predominance. The ESR was 30mm in the first hour, blood sugars and urine were normal, RPR and HBsAg tested negative and the CD4 count was 132 cells/mm^3. Ultrasound showed splenomegaly. The rK39 (serum marker for visceral leishmaniasis) was negative. Skin smear was negative for acid fast bacilli but gram staining showed yeast cells.

Patient was treated for fungal infection with fluconazole but macules, nodules did not subside. Skin biopsy done from right leg & right forearm showed atrophied epidermis; dermis showed dense histiocytic infiltrate with numerous intracellular and extracellular organism that morphologically confirmed LD bodies.

Hence the diagnosis of HIV with dermal visceral leishmaniasis was made and he was treated with intravenous liposomal Amphotericin B once daily for 5 days followed by doses on Day 10, 17 and 24. Thereafter he received miltefosine 100mg for 12 weeks.

Complications during treatment:

Anemia worsened; haemoglobin dropped to 6.4g% and packed cell transfusion was given for the same. He also developed **renal failure** (urea – 110 mg/dL; Sr. Creatinine: 3.6 mg/dL). Tenofovir diphosphate dosages were then adjusted for the CrCl. He had **diarrhoea**; stools showed cryptosporidial cysts. He improved after receiving Nitazoxanide 500mg twice daily for 14 days.

Presently, the patient is healthier; CD4 is 320 cells/cumm and skin only has some residual black spots.

Visceral leishmaniasis is emerging as an important and often missed opportunistic infection in HIV infected individuals. Indirect serological tests may miss the diagnosis; direct invasive tests are reliable. High degree of suspicion and systemic work-up are essential; shorter regimens with oral medications are effective even in HIV infected individuals.

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Review Article: HIV Diagnosis- Laboratory Testing Algorithms

BACKGROUND:

In today's era of "Evidence Based Medicine", it is the responsibility of Laboratory Medicine to provide accurate and timely report using tests with the highest sensitivity & specificity combination available in the market.

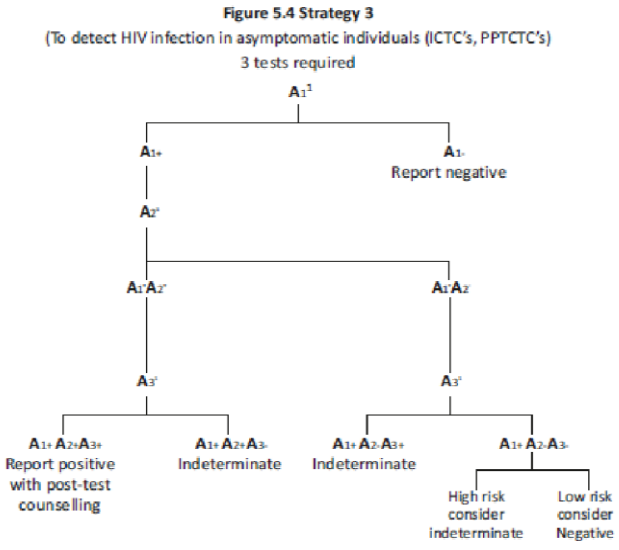
Test for HIV diagnosis in adults are broadly divided into 3 major categories, rapid card test, Enzyme Linked Immunosorbent Assay (ELISA) & Polymerase Chain reaction (PCR) test. In majority of private laboratories & hospital based laboratories a 4th generation ELISA test which detects simultaneously p24 antigen and HIV 1/2 antibody combination is used.

In India, the testing algorithm provided by NACO is usually followed which is also in accordance with the NABL standards for laboratory testing. In US & UK, the HIV Testing Algorithm by CDC is followed.

NACO ALGORITHM: (See Figure 1)

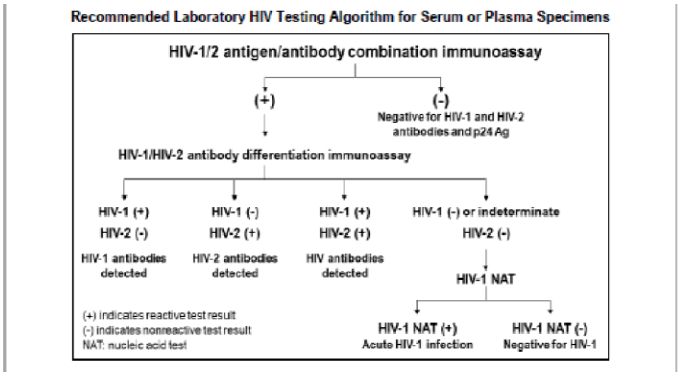
- Strategy III is used for the diagnosis of HIV infection in asymptomatic individuals.
- HIV testing done is similar to strategy 2 (using two test), with the added testing of a third test fora positive result.
- Positive confirmation of a third reactive E/R (ELISA/RAPID) test is required for a specimen to be reported HIV positive.
- If the specimen gives a reactive result with two E/R and non-reactive result with the third assay, it is reported as "indeterminate" and the patient is called again for repeat testing after 2-4 weeks.
- The test utilized for the first screening should be the one with the highest sensitivity and those used for the second and third tests are those with the highest specificity (to minimize false positive reactions).
- This strategy is used for the diagnosis of HIV infection in asymptomatic individuals at ICTCs and PPTCT centers. Counseling, informed consent, and confidentiality are a must in these cases.
- Three different kits, with different antigen systems, and/or different principles of testing are required to follow this strategy.

Figure 1: NACO ALGORITHM: Strategy 3- detection of HIV infection in asymptomatic individuals



1. Assays A1, A2, A3 represent 3 different assays based on different principles or different antigenic compositions. Assay A1 should be of high sensitivity and A2 and A3 should be of high specificity. A2 & A3 should also be able to differentiate between HIV 1 & 2 infection. Such a result is not adequate for diagnostic purposes: use strategies 2B or 3.
2. Whatever the final diagnosis, donations, which were initially reactive should not be used for transfusions or transplants. Refer to ICTC after informed consent for confirmation of HIV status.
3. Testing should be repeated on a second specimen taken after 14-28 days. In case the serological results continue to be indeterminate, then the specimen is to be subjected to a WB/PCR if facilities are available or refer to the NRL for further testing.

CDC ALGORITHM (fig 2):



1. Laboratories should conduct initial testing for HIV with an FDA-approved antigen/antibody combination immunoassay* that detects HIV-1 and HIV-2 antibodies and HIV-1 p24 antigen to screen for established infection with HIV-1 or HIV-2 & for acute HIV-1. No further testing is needed for specimens that are non-reactive on initial immunoassay.
2. Specimens with a reactive antigen/antibody combination immunoassay result (or repeatedly reactive, if repeat testing is recommended by the manufacturer or required by regulatory authorities) should be tested with an FDA-approved antibody immunoassay that differentiates HIV-1 antibodies from HIV-2 antibodies. Reactive results on the initial antigen/antibody combination immunoassay and the HIV-1/HIV-2 antibody differentiation immunoassay should be interpreted as positive for HIV-1 antibodies, HIV-2 antibodies, or HIV antibodies, undifferentiated.
3. Specimens that are reactive on the initial antigen/antibody combination immunoassay and nonreactive or indeterminate on the HIV-1/HIV-2 antibody differentiation immunoassay should be tested with an FDA-approved HIV-1 nucleic acid test (NAT).
   - A reactive HIV-1 NAT result and nonreactive HIV-1/HIV-2 antibody differentiation immunoassay result indicates laboratory evidence for acute HIV-1 infection.
   - A reactive HIV-1 NAT result and indeterminate HIV-1/HIV-2 antibody differentiation immunoassay result indicates the presence of HIV-1 infection confirmed by HIV-1 NAT.
   - A negative HIV-1 NAT result and nonreactive or indeterminate HIV-1/HIV-2 antibody differentiation immunoassay result indicates a false-positive result on the initial immunoassay.
4. Laboratories should use this same testing algorithm, beginning with an antigen/antibody combination immunoassay, with serum or plasma specimens submitted for testing after a reactive (preliminary positive) result from any rapid HIV test.

** Exception: As of April 2014, data are insufficient to recommend use of the FDA-approved single-use rapid HIV-1/HIV-2 antigen/antibody combination immunoassay as the initial assay in the algorithm.*

BEST PRACTICES:

To decrease the window period of HIV detection; p24 antigen antibody assay by automated ELISA or similar method is preferred.

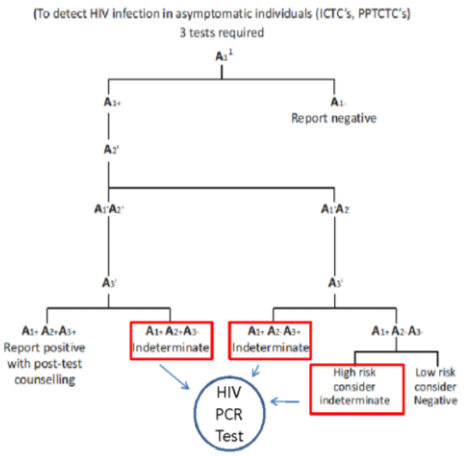
As per NACO guidelines, sometimes the final report as indeterminate or negative depends on the history of the patient whether it is high risk or low risk respectively. However, in clinical practice in certain scenarios reliability of clinical history on risk behavior maybe questionable. In such cases, to come to a final conclusion, a false negative report can be avoided by doing a PCR test. As per NACO guidelines, for an indeterminate result a repeat testing after 2-4 weeks is recommended. This can lead to anxiousness which may hamper the quality of life until a final conclusive report is released.

We can look into the CDC testing protocol in centers which have PCR testing facility available to give out final report as Reactive/Non-reactive for HIV and help decrease patient apprehension by avoiding indeterminate reports and waiting period of 2-4 weeks.

It is important to note that single HIV PCR test for screening is not recommended as it will give false negative results if patient is on ART. Though incorporating PCR testing in the routine lab testing protocol has cost issues, but it is best to sensitize the clinical administration about its benefits to get sanction for the same so patients' are benefited without extra cost.

Strategies for testing

HIV tests are usually done as part of diagnosis—in patients with signs or symptoms suggestive of HIV- or to screen for infection in people without symptoms. Most screening is done at the patient's request or because a healthcare worker judges a patient to be at increased risk for HIV infection and seeks consent for testing.



In many healthcare settings (US & UK), people are offered an HIV test on an 'opt-out' basis. This simply means that the healthcare worker suggests that it would be good idea to take a test, and that it will be carried out unless the patient asks for it not to be done. One way to increase knowledge of HIV infection status is to use an opt-out approach to testing. This approach, which is also voluntary, considers HIV testing to be a standard part of medical care. No judgment is made about an individual patient's risk of infection. Patients are given information about HIV, how the test will be done, and are tested unless they specifically decline.

To conclude, path forward in field of HIV testing would be an added algorithm (see Figure 3) by NACO for indeterminate results which includes additional PCR test to give final conclusive report for centers which have PCR testing available & move towards Opt out strategy so that each citizen of is aware of their HIV status.

Figure 3: Algorithm with PCR test (proposed)

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Story of Dr. Jyothi S: An ART Medical Officer

I was born into a middle-class family in Kanakapura town, Karnataka. My father had to leave school at a very early age and work as a carpenter to support the family. My mother, studied upto 10th standard, and managed the household. I have an elder sister and a younger brother. My parents took us from Kanakapura to Ramanagara where we stayed with family of 11 members. Here I started my schooling at Tilak Memorial English School, Ramanagara. At the age of 9, I lost my father. I stayed with him only for 4 years. He taught me the value of life. My grandfather took the responsibility of bringing us up and hence we moved back to Kanakapura, where I completed my primary school education. I later joined the Rural Education Society to complete my secondary education and pre-university.

At that time, what I had in my mind was to study the subject which was affordable. With my family support I got good marks in PU and CET. It was not my dream to become a doctor because of financial issues. In this situation my family supported me and somehow arranged money to take a medical seat in the Hassan Institute of Medical Sciences, a Government Medical College. I passed out in the year 2012.

Internship was the best time. I learnt so many things like how to approach a case and how to speak with patients. After internship, I moved to my native place and as per the government order I did rural service near my native place Chakanahalli PHC. I gave the service required for rural people with the best of my knowledge. Later I worked as a Medical Officer in the Sick Neonatal Care Unit, Ramanagara District Hospital. I worked here for 6 months and prepared for the entrance exam but I didn't get a seat in a clinical subject of my choice. Then, I worked in the Indian Red Cross Society and the Bangalore Hospital as a medical officer.

While working, I started recollecting my internship days. During that time, as a part of Community Medicine postings, I had visited Vivekananda Memorial Hospital (SVYM), Saragur though I don't remember the exact date, it was Vivekananda Jayanthi. I am a big follower of Swami Vivekananda. At SVYM, I was also inspired by the infrastructure, radio station, and the service being provided to poor people, both curative and preventive.

Despite everyone's opposition, I joined the Fellowship in HIV Medicine course at SVYM. During my fellowship, I want to express my gratitude to Dr. Padmaja T J, at SVYM who supported me every time and taught me the lesson - life should be lived to express yourself and not impress anyone. Here, I realized that I needed to work in the government sector, because most of the people who come there are poor. So I applied for an ART medical officer's post. I was appointed near to my native place and have started my work from 9th of October 2017. The staff here are working from 2009. There are all well qualified and experienced. Presently I am satisfied with my work. Even patients are feeling happy for the service they are getting at our ART center.

Since starting work as an ART medical officer, patients have told me that they are happy that a doctor touches them and examines them. This is very satisfying for me and others who are a part of my team. Along with my team, I have also conducted programs and street plays. Here is a link to our December 1st (World AIDS Day skit): https://www.youtube.com/watch?v=f4xbLc1TLyE. This work is giving me a lot of personal and professional feeling of fulfilment. There are so many programmes in the government to improve health. If these are executed well, they can have a transformational effect on the health of our people.

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