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Case Report *Medical research*

Effectiveness of raltegravir in combination with Atazanavir/Ritonavir and Lamivudine as secondline ART- A case report

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ABSTRACT

Increase in the number of people being initiated on Anti retroviral therapy, there is inevitably an increase in the number of people failing first-line therapy. The choice and rationale for selection of second-line therapy is limited. Constructing a second line regimen is a challenge for patients who have been exposed to all classes of NRTI's in resource poor settings. The combination of Raltegravir with boosted atazanavir is a viable option if proved effective in trials with sufficient statistical power. We report a case of 48 week follow-up data of a patient started on Boosted atazanavir with Lamivudine and Raltegravir as secondline.

INTRODUCTION

An estimated 9.7 million people in low- and middle-income countries are now receiving antiretroviral therapy (ART) with the number of people receiving therapy globally tripling over the last five years [1]. With this increase in the numbers of people initiating therapy, so there is inevitably an increase in the number failing first-line therapy. The choice and rationale for selection of second-line therapy is limited.

In 2010 World Health Organization (WHO) recommended phasing out of Stavudine based regimens from public health program and as a result India also phased out Stavudine from the National Aids Control Program (NACO) substituting Stavudine with either Zidovudine or Tenofovir for patient already on Stavudine based regimen. The Tenofovir regimen used was Tenofovir + Lamivudine + Nevirapine. In 2012 Tang et al [5] in their meta analysis reported that the above regimen have high virological failure rate (21 – 30%) and recommended against its use. In spite of this above regimen continued to be in WHO and NACO guidelines and eventually led to treatment failure in thousands of patients. The WHO recommends a boosted-protease inhibitor plus two nucleoside analogues as the first option for second-line therapy [1]. This approach maximizes the use of more commonly available combination antiretroviral therapies (cART), however it does not address the need for suitable regimens for people who have been exposed to all NRTIs, in order to maintain long term suppressive therapy.

The Week 48 report of the SECOND-LINE trial and the Week 96 results of the EARNEST study have reported outcomes of randomized trials that examined the safety and efficacy of experimental regimens of cART for treatment of people who were failing first line therapy [3, 4]. Both studies demonstrated non-inferior outcomes for an experimental regimen of cART containing Raltegravir plus Ritonavir-boosted Lopinavir (LPV/r), a very simple regimen, compared to 2–3N(t)RTI + LPV/r. Boosted Lopinavir is 3 times costlier than boosted Atazanavir making it less accessible in resource poor settings. Since Atazanavir has a low genetic barrier it is not recommended in combination with Raltegravir. Here we report the 48 week follow-up data of a patient started on Boosted Atazanavir with Lamivudine and Raltegravir as second line.

CASE DETAILS

A 42 year old male HIV patient was admitted to the hospital presenting with ulcers in the lips since 3 months and difficulty in swallowing food since 2 months and was diagnosed as chronic Herpetic Labialis with Steven Johnson's Syndrome and Esophageal Candidiasis. He was started on Acyclovir 800 q 6^{th} hourly, Prednisolone 30 mg on alternate days. He also had a Serum for Crypto Antigen – Positive with CSF for Crypto Antigen – Negative which was treated with oral Fluconazole. He improved with treatment and later developed Fluconazole induced hepatotoxicity after 7 days hence changed over to Itraconazole. His CD4 count was observed to be 70 cells/cumm and HIV-1 Viral load was 1,26,471 copies/ml. He was on ART for last 8 years with > 95% adherence. He was initially on Stavudine + Lamivudine + Nevirapine which was changed over to Tenofovir + Lamivudine + Nevirapine as Stavudine was phased out from NACO program. He was diagnosed to have first line ART failure and was started on Raltegravir 400 mg 1-0-1, Lamivudine 150 mg 1-0-1 and Atazanavir + Ritonavir 300 mg+100 mg 0-0-1 because he could not afford a Lopinavir based regimen. On follow up after six months his CD4 counts improved to 127 cells and viral load was < 260 copies/ml.

DISCUSSION

Constructing a second line regimen is a challenge for patients who have been exposed to all classes of NRTI's or is not tolerating them in resource poor settings. The failure of the Tenofovir + Lamivudine + Nevirapine regimen has pushed thousands of people to face imminent death because of non availability of affordable alternate regimens. Resistance testing before ART initiation as followed in developed countries may not be viable in resource poor settings due to the higher costs and because of the possibility of archived mutations. This warrants the use of Integrase Inhibitors in first line in resource poor settings which has been already recommended by 2015 DHHS guidelines.

CONCLUSION

The combination of Raltegravir with boosted Atazanavir is a viable option if proved effective in trials with sufficient statistical power. The new generation of Integrase inhibitors with high genetic barrier like Dolutegravir and Elvetigravir offer new avenues for combination therapy with boosted Atazanavir. This case is one such finding which needs further extensive considerations for reducing the HIV associated morbidity and mortality.

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