Rilpivirine in Clinical Practice

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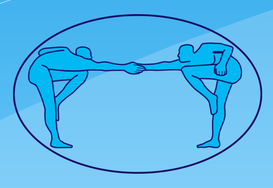


Introduction

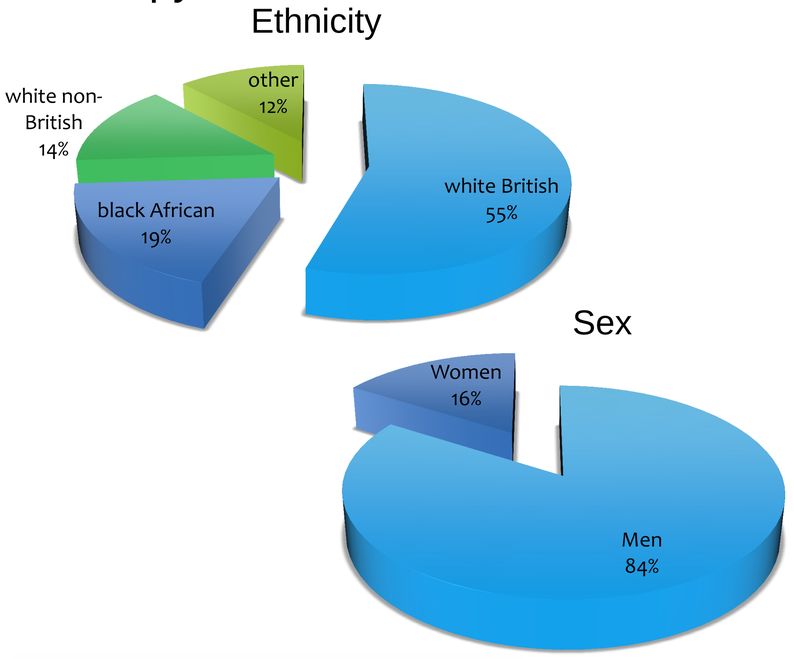
Rilpivirine (RPV) is a second generation non-nucleoside reverse transcriptase inhibitor which is available as a single agent or in a fixed drug formulation with emtricitabine and tenofovir as Eviplera. The ECHO and THRIVE studies looked at rilpivirine in treatment naïve patients and demonstrated virological non-inferiority to efavirenz (EFV) with superior tolerability and lower increases in plasma lipids[1,2]. The SPIRIT trial compared virologically suppressed patients switched to Eviplera to those maintained on a protease inhibitor (PI) based regimen and demonstrated non-inferior efficacy but improved Framingham risk scores, and fewer patient reported symptoms[3]. The intention of this study was to look at the use of rilpivirine in two large HIV units.

Methods

A retrospective case note review was conducted looking at patient demographics, reasons for the use of RPV and patient outcomes following RPV use. Laboratory parameters from 4 weeks after switch were used; where patients had had more than one set of bloods a mean was calculated. The mean values for all patients prior to and following rilpivirine initiation were compared using paired t tests.

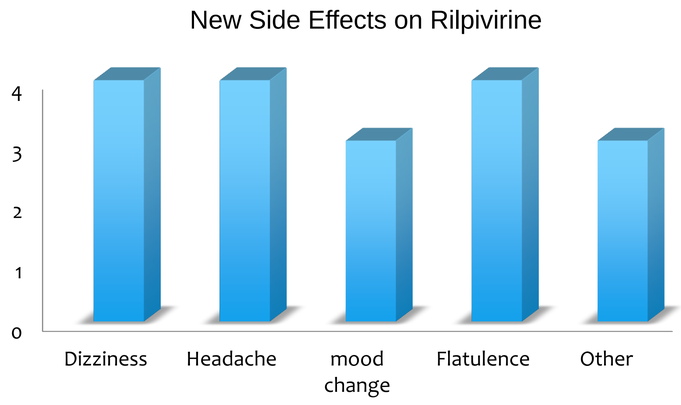
Results

Between January 2011 and October 2012 104 patients initiated RPV; 98 patients switched to a RPV containing regimen and 6 were restarting or naïve to therapy.



Of the 98 patients who were switching therapy, 57 had previously been on an efavirenz based regimen, and 30 had been on a PI based regimen. The most common treatment before switch was Atripla. The main reasons for switching were CNS side effects (59%) and pill burden (26%). None switched because of virological failure.

All but 5 patients switched to Eviplera. 8 patients (7.7%) discontinued RPV; 1 because of deteriorating renal function, 1 because of abnormal LFTs, 3 because there was no improvement (in mood, fatigue and diarrhoea) and 3 because of new CNS side effects. New side effects were documented for 18 patients in total.



Of the 51 patients on EFV based regimens switching because of CNS side effects who continued with RPV 44(86%) reported a complete or partial improvement. In 28 patients this was examined more closely. Where the primary reason for switching was sleep disturbance there was almost complete resolution (15/16); where it was mood disturbance 4/6 improved, where it was both 2 noticed an improvement, 2 did not and 2 reported an improvement in sleep but not mood.

Laboratory parameters were compared prior to and after initiation of rilpivirine. Overall no statistically significant differences were found in ALT, HDL, LDL and triglyceride in patients before and after initiation. A statistically significant difference was observed in mean creatinine (79.5, 83.8 p<0.001) and total cholesterol (5.06, 4.71 p<0.005) overall and in those switching from Atripla to Eviplera (mean creatinine 79.8, 84 p<0.001, mean total cholesterol 5.1, 4.1 p<0.005).

This was not observed in patients switching from Truvada/PI regimens but the numbers involved were smaller.

At the time of switch 89% had VL<50 copies/ml, 96% VL<400 copies/ml and in those who continued 90% had VL<50 copies/ml and 99% VL<400 copies/ml at a median of 12 weeks (range 4-24 weeks). There was one virological failure in a patient with poor adherence. Of the 6 patients who were naive to treatment or restarting there were no discontinuations.

Conclusion

Our study demonstrated that rilpivirine is a well tolerated drug in treatment experienced individuals. In those switching from an efavirenz based regimen a high proportion reported an improvement in CNS SEs, particularly when sleep disturbance was the main issue. We also noted a statistically significant reduction in total cholesterol after switch. The statistically significant increase in creatinine found has been observed in other studies and is likely to be mediated by inhibition by rilpivirine of the OCT2 creatinine transporter which has been observed in vitro[4].

References

1. 1. Cohen CJ, Andrade-Villanueva J, Clotet B, et al; THRIVE study group. Rilpivirine vs efavirenz with 2 background nucleoside or nucleotide reverse transcriptase inhibitors in treatment-naive adults infected with HIV-1 (THRIVE): a phase 3, randomised, non-inferiority trial. *Lancet*. 2011;378(9787):229-237.
2. Molina JM, Cahn P, Grinsztejn B, et al; ECHO study group. Rilpivirine vs efavirenz with tenofovir and emtricitabine in treatment-naive adults infected with HIV-1 (ECHO): a phase 3 randomised double-blind activec ontrolled trial. *Lancet*. 2011;378(9787):238-246.
3. Fisher M, Palella F, Tebas P, et al. SPIRIT: switching to emtricitabine/rilpivirine/tenofovir DF single-tablet regimen from boosted protease inhibitor maintains HIV suppression at week 48; Presented at the Eleventh International Congress on Drug Therapy in HIV Infection; Glasgow, UK. November 11–15, 2012.
4. Mills A, Cohen C, De Jesus E, et al. Switching from efavirenz-emtricitabine/tenofovir disoproxil fumarate (EFV/FTC/TDF) single table regimen (STR) to emtricitabine/rilpivirine/tenofovir disoproxil fumarate (FTC/RPV/TDF) STR in virologically suppressed, HIV-1 infected subjects; Presented at the 51st Interscience Conference on Antimicrobial Agents and Chemotherapy; Chicago, IL. September 17–20

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