Antiretroviral regimen simplification for individuals receiving maraviroc

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Background

Maraviroc is a CCR5 chemokine receptor antagonist licensed for antiretroviral therapy (ART)-experienced individuals in Europe. BHIVA guidelines recommend its use in individuals with treatment failure or extensive drug resistance, however locally it does not feature in any ART regimens recommended for switch. Maraviroc is costly and, since its license in 2007, has been superseded by other options. The 2022 National Antiretroviral Prescribing Toolkit recommends that all maraviroc use should be discussed at multidisciplinary team meetings and, where possible, a switch to other feasible regimens is recommended. We aimed to establish whether there were feasible switch options for individuals receiving maraviroc at our centre according to our local treatment algorithm. Potential benefits include decreased pill burden, decreased polypharmacy and potential cost savings. Our service delivers care to 2500 people living with HIV (PLWH) in a diverse, urban setting.

Methods

We interrogated pharmacy records to identify maraviroc prescriptions from December 2020 to December 2021. We collected demographic and clinical data using electronic clinical records. We reviewed the potential for switch and calculated cost saving for each individual.

Results

Thirty-four people on maraviroc-containing regimens were identified, of whom 71% were male, 82% aged > 50 years. They are a highly treatment-experienced group, on ART for mean 18 years (Table 1).

Table 1: Patient demographics

	Median	Range
Years on ART	17	8-33
Years on maraviroc	8	1-13
Number of previous ART regimens	8.5	1-25
Number of regimens containing maraviroc	2	1-6
Years on current ART	4	0-11

Current regimens

Regimens contained a median of 4 medicines (range 2-6) from median 3 (2-4) ART classes. Although 82% had current HIV RNA <40 copies/mls, only 58% had HIV RNA <40 copies/ml consistently since starting current regimen.

Potential for simplification

In 18 individuals (53%) there was potential for simplification according to local treatment algorithm, considering previous resistance and concomitant medication. These 18 individuals take a median 5 daily tablets (range 2-10) with potential to reduce to 3 (range 1-8) post simplification.

Table 2: ART regimen changes in 18 eligible individuals

Potential changes to ART regimen	Number of individuals eligible for switch (%)
Remove maraviroc	9 (50%)
Switch maraviroc to INI (INI naïve)	3 (16.6%)
Switch maraviroc to darunavir/ ritonavir and dolutegravir	2 (11.1%)
Switch maraviroc to dolutegravir/ lamivudine	2 (11.1%)
Switch maraviroc to tenofovir / darunavir/ ritonavir	1 (5.5%)
Switch maraviroc to doravirine	1 (5.5%)

Table 3: Potential cost saving due to ART simplification

	Costs
Current average monthly cost for all 34 individuals taking maraviroc	£ 670.67
Average monthly cost if simplification made where possible	£ 503.98
Average saving per patient (out of all 34 patients taking maraviroc)	£ 166.69
Total potential savings (monthly)	**£5,667.40**
Total potential savings (yearly)	**£ 68,008.80**

Individuals who were unable to have regimen simplification

There were 16 individuals prescribed maraviroc based regimens for whom there was no simplification available.

- 56% was due to extensive antiretroviral drug resistance.
- 37% was due to the individuals already receiving a dual therapy regimen (boosted PI and maraviroc). Removing maraviroc would lead to a unrobust regimen, and there were no other feasible changes available.
- 1 individual had limited options for simplification due to renal transplantation and drug-drug interactions with immunosuppressive treatment.

Conclusions

Over half of people on a maraviroc-containing regimen have a potential for simplification and consequent significant cost-savings. Of these individuals, 44% could have maraviroc removed completely from their regimen with no other changes which would lead to a direct decrease in pill burden.

This study highlights the importance of regular review of ART regimens, particularly in experienced individuals and as newer agents are developed. Methods to identify or review both older and complex ART regimens are important to permit simplification for ART-experienced individuals, reduction of polypharmacy, as well as cost-savings.

Going forward we plan to discuss the cases of individuals prescribed maraviroc at our local multidisciplinary team and offer them the proposed switches to ensure their regimens are in line with local and national policy.