

POSTER PRESENTATION

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Evaluation of anti-viral activity of *Jatropha curcas* leaf extracts against potentially drug-resistant HIV isolates

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Background

Drug-resistant HIV, a major global concern, warrants the development of novel anti-virals as alternative and inexpensive therapy. In the current study, we isolated potentially drug-resistant HIV and assessed previously unreported anti-viral activity of *Jatropha curcas* leaf extracts.

Methods

In vitro micro-co-culture was employed for virus isolation followed by drug susceptibility assays to determine resistance to Azidothymidine (AZT) and Lamivudine (3TC).

Jatropha curcas leaves were extracted using Soxhlet apparatus. Methanolic (ME) and aqueous (AE) extracts were chosen for further study. Secondary metabolites were detected by High-Performance Thin Layer Chromatography and *in vitro* cytotoxicity established by MTT assay. Anti-viral activity was evaluated by p24 inhibition post- and pre-infection interaction studies.

Results

Seven HIV isolates were obtained (isolation rate: 23.33%) with drug IC₅₀ values ranging from 0.001418-82.73 μM AZT and 2.645-15.35 μM 3TC.

Tannins, flavonoids, saponins were detected in AE and flavonoids, saponins in ME while CC₅₀ values were 32.07 mg/mL AE and 35.5 mg/mL ME.

In post-infection studies (4 isolates), IC₅₀ values were ranging from 0.0255-0.4137 mg/mL AE and 0.00073-0.1278 mg/mL ME; pre-infection studies (1 isolate)

showed 100% p24 inhibition by ME and 97.19% p24 inhibition by AE at 25 mg/mL each.

Conclusion

HIV isolates potentially resistant to AZT/3TC were obtained; genotypic drug resistance is being ascertained. *Jatropha curcas* leaf extracts showed effective anti-viral and probable entry inhibition activity against potentially drug-resistant HIV, which has not been reported earlier. We conclude that *Jatropha curcas* is a good candidate for anti-HIV therapy with further research.

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