

POSTER PRESENTATION

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P01.36. Assessment of commercial formulations of mucuna pruriens seeds for Levodopa (L-DOPA) content

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Purpose

Mucuna pruriens (*mucuna*) seeds contain 3-6% L-DOPA, and have been used in traditional Ayurvedic medicine to treat diseases resembling Parkinson's disease (PD). Pilot studies in PD show that *mucuna* seed powder has similar effects to conventional levodopa/carbidopa medication. Formulations of *mucuna* seed are readily available through the internet, and are used by some PD patients as an alternative to conventional levodopa/carbidopa medication. The purpose of this study was to examine the L-DOPA content of a range of popular *mucuna* products in order to assess the veracity of label claims.

Methods

Six different brands of *mucuna* product were ordered through the internet. Certificates of analysis were obtained where possible. A standard amount of each product was extracted using methanol: formic acid for analysis using reversed-phase high performance liquid chromatography (HPLC) with ultraviolet and fluorescence detection. L-DOPA content was calculated using a standard curve prepared using L-DOPA (Sigma-Aldrich) as reference.

Results

The claimed L-DOPA content ranged from 25 to 250mg per dose for the six products. HPLC analysis revealed that only two of the products had L-DOPA values close to the value claimed. The remaining products contained considerably less L-DOPA, <10% in two cases, than implied on the label. Certificates of analysis suggested

that not all manufacturers routinely measure L-DOPA content of their *mucuna* product.

Conclusion

Four of six products examined showed a large discrepancy between label claim and L-DOPA content, independently measured by HPLC. This finding warrants further investigation as these deficiencies could impact both patients, and the outcome of clinical studies using these products.

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