ABSTRACT
Abstract

Asthma is one of the most common chronic diseases in modern society widely recognized as a chronic inflammatory lung disease characterized by reversible bronchoconstriction, elevated basal airway tone, eosinophils and lymphocyte accumulation and activation, epithelial cell dysfunction and damage. It is manifested by narrowing of the airways resulting in difficulty in breathing, cough and wheezing and there is increasing evidence to suggest that its incidence and severity are increasing.

_Clerodendrum serratum_ Linn (Verbenaceae) known as ‘Bharangi’ in Ayurveda and “Siriutekku” in Siddha system of medicine. The roots are claimed to be useful in pain, inflammation, respiratory disorders and malarial fever. The plant has been investigated for analgesic, antipyretic, anti-inflammatory and hepatoprotective properties. The literature survey of the plant revealed the presence of flavonoids, sterols and saponins. The study suggests that these phytoconstituents play a major role in the treatment of asthma. Hence it was thought worthwhile to explore antiasthmatic potentials of the roots, stems and leaves of the plant and to isolate possible chemical moieties which may be responsible for its antiasthmatic properties.

The roots, stems and leaves of _Clerodendrum serratum_ Linn were investigated for antiasthmatic activity by employing various in-vitro and in-vivo experimental animal models. The results of the animal study revealed that the ethanolic extract of the roots possess significant antiasthmatic activity as compared to stems and leaves of the plant. Further isolation and characterization studies of the ethanolic extract confirmed the presence of a flavonoid, Apigenin-7-glucoside and a new pentacyclic tri-terpenoid saponin, Icosahydropicenic acid (IHPA). The IHPA was found to be the antiasthmatic constituent when subjected to pharmacological screening in experimental animal models. The present study confirmed the antiasthmatic potentials of the plant which may be attributable due to presence of chemical moieties like Apigenin, Icosahydropicenic acid, various plant sterols and alkaloids present in it and thus justifies its use in traditional treatment for asthma.