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Medicinal Importance and Phytochemical Constituents of *Aristolochia* Plant: A Short Review

Babu M.^{1*}, Ashok K.¹ and Kuberan²

¹Department of Microbiology and Biotechnology, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

²Department of General Surgery, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai, Tamil Nadu, India

*Corresponding Author

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Abstract: The historic usage of medicinal herbs in India includes the treatment of cancer. About 6000 medicinal plants are said to be utilised in folk and herbal remedies in India. Three thousand of them have been identified as having therapeutic uses, while the rest are unknown. Most of the plants' therapeutic effects are attributable to bioactive chemicals that they create as a by-product. Medical plants are used by more than 80 per cent of the world population. Comparatively, just 1-3 per cent of contemporary medications are used to treat skin conditions. Chinese, Ayurvedic, Unani and Biomedicine are useful in treating a variety of illnesses, especially in rural regions. This review provides phytochemical constituents of the plant *Aristolochia*.

Keywords: Medicinal plants, Cancer, Biomedicine, Phytochemical profiling

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Introduction

In the Greek language, the word *Aristolochia* is derived from the words *aristos*, which means best or most appropriate, and *lochia*, which implies delivery. The plant *Aristolochia indica* belongs to the *Aristolochiaceae* family (Dey and De, 2011). As a prominent medicinal plant, its therapeutic value has been well-known in India since ancient times, when it was first discovered. "Perumarundhu" is a frequent Tamil name for it. "Eesvaramuli" is a twinning herb that is endemic to India (Sati *et al.*, 2011).

Phytochemical constituents of Aristolochia species:

Aristolochia species are commercially important due to the presence of aristolochic acids and other chemical components (Shaohua *et al.*, 2010). This acid was extracted from the stems of *Aristolochia indica*, yielding 0.13 per cent of aristolochic acid (Latha *et al.*, 2015). The plant also contains potassium and β -sitosterol. Ishwarane and aristolochene, two sesquiterpene hydrocarbons found in the roots, were discovered. Pentacyclic

terpenes, nitrogen compounds, sitosterol, cinnamic acid derivatives, polyphenolic compounds, flavonoids and curcuminoids are all found in *Aristolochia indica*. Aristololide and aristolindiquinone as well as sesquiterpenes are also present (Berjano *et al.*, 2009). On the other hand, aristolochic acid and stigmast-4-en-3-1 have been isolated from different sections of the plant as well as friedelin and ceryl alcohol and β -sitosterol, cycloeucalene and rutin were also identified. An chloroform extract of *Aristolochia indica* aerial parts containing β -sitosterol was shown to have good anti-diabetic action (Heinrich *et al.*, 2009).

Most of the components of *Aristolochia indica* are essential oils including - caryophyllene and isohwarone as well as caryophyllene oxide and humulene (Kuo *et al.*, 2012). It was discovered that 15 different chemicals were found in the essential oil extracted from the dried mature stem of *Aristolochia indica*. This aristolochic acid biosynthetic intermediate is generated by the *Aristolochia indica* plant, and it is also an essential chemical component (Rajani *et al.*, 2020). It was discovered that *Aristolochia manshuriensis*, which belongs to the Aristolochiaceae family, contains Aristopyridinone A, a phenanthrene named aritoloamide II, and eight other phenanthrenes. Both aristolochic acid-A and -D were isolated from the plant (Nandhini *et al.*, 2017).

Aristolochia indica is a medicinal herb. Owing to its long history in obstetrics, Aristolochia species have been utilised in alternative medicine as anti-inflammatory drugs for conditions like gout, rheumatism, chronic inflammation, etc. It is therefore still in use, mostly as a natural medication. There are several different types of *Aristolochia indica*, bracteola, and tagala roots that are used in South India to treat toxic bites, skin disorders etc. (Damu *et al.*, 2003).

Aristolochia indica root is known to treat inflammations as well as dry coughs and biliousness. Toxins from cobras can be treated

using *Aristolochia indica* root or leaf (Mathew *et al.*, 2020). When taken for intermittent fever and diarrhoea, it is claimed to be a stimulant and febrifuge. In addition, it can be used to treat dropsy and lack of appetite. Honey and plant syrup have been used to treat dry cough and fever in youngsters (Maiti and Kumar, 2007).

Conclusion

The *Aristolochia* plant offers a wide range of therapeutic benefits. As a result, leaves are a viable option. This review aims to provide the phytochemical profile of the leaves. According to the current preliminary qualitative and quantitative phytochemical study of *Aristolochia* plant leaves, there are extremely significant quantities of alkaloids and relatively high quantities of phenolic compounds, including flavonoids and flavonols.

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