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Review Article

**A Review on the Pashanbheda Plant "*Aerva javanica*"**

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ABSTRACT

Medicinal plants may serve as a vital source of potentially useful new compounds for the development of effective therapy to combat a variety of kidney problems. Many herbs have been proved to be effectual as nephroprotective agents while many more are claimed to be nephroprotective but there is lack of any such scientific evidence to support such claims. Developing a satisfactory herbal therapy to treat severe renal disorders requires systematic investigation of properties like acute renal failure, nephritic syndrome and chronic interstitial nephritis. Herbal medicines possess curative properties due to the presence of their chemical components. The present review is aimed to elucidate the one of the Pashanbheda category plant, *Aerva javanica* possessing nephroprotective activity. The present review includes ethnomedicinal, pharmacognostical, phytochemical and different pharmacological activity of the plant *Aerva javanica*.

Keywords: *Aerva javanica*, Pashanbheda.

INTRODUCTION

Nephrotoxicity is one of the most common kidney problems and occurs when body is exposed to a drug or toxin.¹ A number of therapeutic agents can adversely affect the kidney resulting in acute renal failure, chronic interstitial nephritis and nephritic syndrome because there is an increasing number of potent therapeutic drugs like amino glycoside antibiotics, chemotherapeutic agents and NSAIDs.² Exposure to chemical reagents like ethylene glycol, carbon tetrachloride, sodium oxalate and heavy metals such as lead, mercury, cadmium and arsenic also induces nephrotoxicity. Prompt recognition of the disease and cessation of responsible drugs are usually the only necessary therapy.³ Nephroprotective agents are the substances, which possess protective activity against Nephrotoxicity. Medicinal plants have curative properties due to the presence of various complex chemical substances. Early literatures have prescribed various herbs for the cure of renal disorders. Co-administration of various medicinal plants possessing nephroprotective activity along with different nephrotoxic agents, which may attenuate its toxicity. The term renal failure primarily denotes failure of the excretory function of kidney, leading to retention of nitrogenous waste products of metabolism in the blood.⁴ In addition to this, there is a failure of regulation of fluid and electrolyte balance along with endocrine dysfunction. The renal failure is fundamentally categorized into acute and chronic renal failure.⁵ Acute renal failure (ARF) refers to the sudden and usually reversible loss of renal function, which develops over a period of days or weeks. There are many causes for ARF, which includes acute tubular necrosis that commonly accounts for 85% of incidence. Mostly acute tubular necrosis occurs due to either ischemia or toxins. The toxins may be exogenous or endogenous. The

exogenous agents are radio contrast agents, cyclosporine, antibiotics, chemotherapeutic agents, organic solvents, acetaminophen and illegal abortifacients.⁵ Chronic renal failure (CRF) is an irreversible deterioration in the renal function, which classically develops over a period of years, leading to loss of excretory metabolic and endocrine functions. Various causes of renal failure have been recognized like hypertension, diabetes mellitus, antineoplastic agents like cyclophosphamide, vincristine, cisplatin etc.⁴

Ancient literature has prescribed various herbs for the cure of kidney disease. The term "Pashanbheda" has been cited in the literature to identify the group of plants, which extensively used in the indigenous system of medicine to dissolve urinary calculi and stones like *Coleus aromaticus*, *Aerva lanata*, *Aerva javanica*, *Rotula aquatica*, *Kalanchoe pinnata*, *Ocimum basilicum*.

The present review is about the one of the Pashanbheda category plant, *Aerva javanica* possessing nephroprotective activity. The plant *Aerva javanica* belonging to the family *Amaranthaceae* is a tall and woolly under shrub found plentiful in rainy season. This plant is used as Pashanbheda means one, which breaks the kidney stone.⁶ Therefore, in Gujarati it is commonly known as Patharphod. Roots and flowers are reported to possess medicinal properties against rheumatism and kidney troubles.⁷

The plant *Aerva javanica* belonging to the family *Amaranthaceae* is a tall and woolly undershrub found plentiful in rainy season in Bhavnagar district of Gujarat state in India. Any drug used as Pashanbheda means which breaks the kidney stone.⁶ Roots and flowers of *Aerva javanica* are reported to possess medicinal properties against rheumatism and kidney troubles.⁷

