RESEARCH ARTICLE — FOOD SCIENCE RESEARCH JOURNAL — Volume 3 | Issue 1 | April, 2012| 107-110

Antiplatelet aggregation and antimicrobial activities of bael (*Aegle marmelos* Linn.) extracts

S.J. PRASHANTH, D. SURESH, V. H. POTTY AND P. SADANANDA MAIYA

Bael (*Aegle marmelos* Linn.) has been used in the Indian traditional systems for treating various ailments. In the recent past there have been numerous studies indicating various bioactivities with different parts of the plant. A study has been undertaken to assess the antiplatelet aggregation activities and antimicrobial activities of the Bael. Five solvent extracts from different parts of the plant were analysed for the antibacterial activity against seven bacteria. It was found that methanol extract of pulp, rind and seed has shown the inhibitory zone of 4mm against *Klebsiella pneumoniae* and *Staphylococcus aureus* and the hexane extract of rind and seed has shown inhibitory zone for *Pseudomonas aerogenosa.*The methanol extract was analysed for antiplatelet aggregation assay. It was found that highest per cent activity was found in freeze-dried pulp (32.50%), rind (28.33%) and seed (10.13%). The bael plant part extracts shown to be potential antibacterial and anti-platelet aggregation activities.

How to cite this article **:** Prashanth, S.J., Suresh, D., Potty, V. H. and Maiya, P. Sadananda (2012). Antiplatelet aggregation and antimicrobial activities of bael (*Aegle marmelos* Linn.) extracts. *Food Sci. Res. J.,* **3**(1): 107-110.

Key Words **:** Bael, Extracts, Antimicrobial, Antiplatelet aggregation

INTRODUCTION

Bael has been extensively used for various purposes since ancient times in India. Recently there has been a surge in the literature with regard to potential bioactivities for various parts of the plant. A recent study examined the antidiabetic potential of Bael bark in a diabetic rat model. Treatment with *Aegle marmelos* significantly increased insulin level, resulted in the regenerative effect on the β-cells and also increased insulin-immunoreactive β-cells of diabetic rats Gandhi *et al.* (2012). A study evaluated the immunomodulatory potential of methanol extract of *Aegle marmelos* in an experimental animal model. The methanol extract of *Aegle marmelos*showed immunomodulatory potential by stimulating cellular and humoral immune mechanisms. Low dose of methanol extract of *Aegle marmelos* was more effective for augmenting cellular immunity, whereas, high dose was more inclined towards humoral immunity Govinda and Asdaq (2011). Leaves of *Aegle marmelos* were tested for its β-amylase inhibitory activity to establish antidiabetic potential.The plant extracts of aqueous, 50 per cent methanol and 100 per cent methanol were subjected to an *in vitro* amylase inhibitory assay using starch as a substrate and pancreatic amylase as the enzyme.The results show that *Aegle marmelos*has shown inhibitory activity and, therefore, might be effective in lowering postprandial hyperglycemia Saha and Verma (2012).

A study has been investigated to study the effect of *Aegle marmelos* leaf extract on early stage DCM in alloxan-induced diabetic rats.Aegle marmelos extract (AME) was found to decrease the levels of FBG, total cholesterol, TBARS, LDH and CK, and increase the levels of GSH, CAT and SOD dose dependently as compared to diabetic control groups.The investigations revelaed that treatment with the extract attenuates the severity and improves the myocardium in the early stages of alloxan-induced DCM at a dose of 200 mg kg

MEMBERS OF RESEARCH FORUM

Address for correspondence :

D. SURESH, Department of Studies and Research in Chemistry and Centre for Nanoscience Research, Tumkur University, TUMKUR (KARNATAKA) INDIA

E-Mail: pbdsuresh@gmail.com

Associate Authors :

S.J. PRASHANTH, Health Food Divison, R & D Centre, The Himalaya Drug Company, Makali, BENGALURU (KARNATAKA) INDIA

V.H. POTTY AND P. SADANANDA MAIYA, Department of Chemistry and Centre for Nanoscience Research, Tumkur University, TUMKUR (KARNATAKA) INDIA