Noni

Morinda citrifolia L.

Also known as great morinda, Indian mulberry, nunaakai, dog dumpling, mengkudu, beach mulberry, vomit fruit and cheese fruit

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PREPARATIONS: The fruit is sometimes eaten as a food, especially in the Pacific Islands, although it has a strong smell and bitter taste. The seeds are edible if roasted. The root, leaves, bark, flowers, fruit and seed oil are all used medicinally. Roots, stem, bark, leaves and fruit may be applied externally as a poultice or consumed as an infusion or juice. Flowers and leaves may be taken as tablets or teas and the fruit is often juiced.

ACTIVE CONSTITUENTS: Approximately 200 compounds have been isolated from noni, including a number of anthraquinones and anthraquinone glycosides, fatty acids and their derivatives, iridoids and iridoid glycosides, lignans, neolignans, flavonol glycosides, phenylpropanoids, saccharides, triterpenoids and fatty acids.[1] The fruit provides a good source of vitamin C and potassium. In vitro research is being conducted into some of the anthraquinones and lignans but no ingredient has yet to be proven as a useful biologically active compound. Wide-ranging benefits have been attributed to an alkaloid called xeronine, which is reported to exist in noni as its precursor, proxeronine. However the presence of xeronine and proxeronine has not been confirmed in any peer-reviewed scientific publication nor have the structures of xeronine and proxeronine been provided.[1]

MAIN USES: Noni has been used as a medicine throughout South East Asia, Polynesia and the Caribbean for centuries. Externally it is applied to cuts, sores and stings from poisonous fish. The green fruit, leaves and root traditionally have been used to treat menstrual cramps, bowel irregularities and urinary tract infections. More recently noni preparations have been promoted as treatment for cancer. Noni is purported to have a diverse range of effects including analgesic, anti-inflammatory, antimicrobial, anti-tubercular, antihypertensive and anticancer.[1] Its promotion as a panacea has led to a dramatic rise in its use in North America, Europe and Australasia and it is now widely available in pharmacies, health food stores, pharmacies and via the Internet.

Summary Message

Evidence for the efficacy of noni for the wide range of medicinal purposes for which it may be used is not available. Health professionals should be aware of the possibility of (undisclosed) use of noni and its use should be avoided, or at least used only with caution, in patients on warfarin. Suspected adverse drug reactions should be reported to CARM. As with all herbal medicines, different noni products vary in their pharmaceutical quality, and the implications of this for efficacy and safety should be considered.

Herbal medicines are a popular health care choice, but few have been tested to contemporary standards. **CHARMS & HARMS** summarises the evidence for the potential benefits and possible harms of well-known herbal medicines.

EVIDENCE FOR EFFICACY: A number of in vitro and animal studies involving noni extracts have been conducted, but there has been very little research conducted under clinical trial conditions, and hence no Cochrane systematic review of trials of noni has been undertaken.

ADVERSE EFFECTS: Daily consumption of noni juice has led to hyperkalaemia in some patients on potassium-restricted diets. There have also been reported cases of clinically significant elevation in liver enzymes, including transaminases and lactate dehydrogenase, from daily noni juice, with return to normal once the noni was discontinued. However, recent in vitro tests suggest that a normal dose of noni fruit juice is unlikely to induce adverse liver effects.[2]

DRUG INTERACTIONS: There is some evidence that noni may interact with warfarin[3] and that it may have an angiotensin I converting enzyme (ACE) inhibiting effect.[1]

Key references

1. Pawlus AD, Kinghorn DA. Review of the ethnobotany, chemistry, biological activity and safety of the botanical dietary supplement Morinda citrifolia (noni). J Pharm Pharmacol. 2007 Dec;59(12):1587–609.
2. West BJ, Su CX, Jensen CJ. Hepatotoxicity and subchronic toxicity tests of Morinda citrifolia (noni) fruit. J Toxicol Sci. 2009 Oct;34(5):581–5.
3. Carr ME, Klotz J, Bergeron M. Coumadin resistance and the vitamin supplement 'Noni'. Am J Hematol. 2004 Sep;77(1):103.

String of **PEARLS**

Practical Evidence About Real Life Situations

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- Watch and wait is usually as effective as antibiotics in children over six months of age with acute otitis media
- Antihistamines and/or decongestants are not recommended for children with otitis media with effusion
- Grommets are effective for recurrent acute otitis media
- Autoinflation for otitis media with effusion is helpful in the short-term
- Topical treatments are better than systemic antibiotics for chronically discharging ears
- Intranasal corticosteroids may improve nasal obstruction symptoms in children with adenoidal hypertrophy
- Tonsillectomy or adeno-tonsillectomy are effective for chronic and recurrent acute tonsillitis

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