

Neem (Azadirachta indica) as an Alternative Therapy for Tobacco Cessation

Addictive tobacco habit, both oral use and smoking, continues to be a major public health problem despite the availability of pharmacotherapeutic cessation aids. Long lasting abstinence rates following tobacco cessation measures remain less than optimal. Several alternative treatments have been studied for tobacco cessation including natural products, such as *Avena sativa*¹, lobeline², mint snuff³, black pepper extract⁴, St. John's wort⁵ and herbal tea preparation⁶. Although there is a lack of convincing evidence of efficacy, patients do use above alternative herbal drugs.

We recently came across an interesting case of a chronic tobacco chewer, who got rid of this habit by chewing tender *neem* leaves. As this observation has potential of developing a novel and effective remedy from herbal sources for achieving tobacco cessation we wish to share this experience with scientific community.

A-55-year-old male, an avid tobacco chewer for the last 10 years presented to us for his anginal pain. In view of his hypertension, previous coronary episode, stable angina and central obesity, he was advised standard anti-ischaemic treatment along with strict life style measures like zero tobacco chewing, morning walk and appropriate diet. He was also advised to come for review a month later. On second visit after a month, he was symptomatically much better, his angina had almost disappeared and his craving for tobacco chewing was no more. During the course of examination we noticed that the patient had a peculiar and unpleasant oral smell which was definitely not there during his previous admission. When enquired that how could he get rid of tobacco chewing, he disclosed that he experimented chewing tender *neem* leaves (*Azadirachta indica*) to quell the urge of tobacco chewing. He has been chewing about 5 grams of *neem* leaves per day for about one month regularly. This had completely abolished his tobacco urge. However, it did leave a bad odour and bitter taste in his mouth.

The *neem (Azadirachta indica)* tree, is an evergreen tree native to the Indian subcontinent. It has been popularly used for oral and cutaneous sepsis since centuries. Scientific studies have demonstrated *neem* to be having anti-proliferative, anti-oxidant, cytotoxic and anti-inflammatory properties.⁷ A number of bioactive components commonly referred to as limonoids have been isolated from various parts of the *neem* tree, which include azadirachtin, salannin, meliantriol, and nimbin. Azadirachtin constitutes the major component.

The bitter taste of the tender leaves lead this patient to chew the leaves intuitively to curb the urge of tobacco chewing and it turned out to be a successful attempt.

The very fact that tender *neem* leaves have plenty of chlorophyll and anti-infective and anti-mitotic properties make it a very attractive option to counteract the harmful effects of tobacco on oral mucosa. Further role of *neem* as an anti-diabetic and anti-oxidant makes it useful for other comorbidities so often associated with tobacco consumption. One of the question which need to be examined is whether *neem* leaves would be equally effective in smoking or not and their possible adverse effects, if taken for a long time.

Our finding provides a novel lead on the use of *neem* leaves for tobacco cessation for further research. *This case also highlights the fact that a physician should always listen to the patient as they at times themselves give clues to the diagnosis and treatment.* This aptly reminds us of William Osler's prudent aphorism 'Listen to your patient, he is telling you the diagnosis'. Should we not add 'patient sometimes hints at you the best therapy too' 'provided we are receptive enough to lend our ears to him'.

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