

## Miraculous honey: A sweet and valuable remedy in dentistry!!

Sir,

The curative properties of honey bee products (apitherapy) have been seen with an eye of speculation since ancient times. The antibacterial property of honey was first recognized in 1892 by van Ketel.<sup>[1]</sup> The potent and anti-inflammatory property of honey rapidly reduces pain and inflammation. Topical application of honey has many advantages including antibacterial, antifungal, and anti-inflammatory properties.<sup>[2]</sup> The antimicrobial activity of honey is due to high osmotic pressure, physical properties, and enzymatic glucose oxidation reaction. Hydrogen peroxide is the main antibacterial substance produced by enzymatic reaction from honey.<sup>[3]</sup> Honey contains a substantial level of antioxidants. In clinical trials, the anti-cancer properties of honey have been tested in rats. Honey proved to be moderately effective against tumors and significantly effective against metastatic growths. It also enhanced the anti-cancer activity of 5-fluorouracil and cyclophosphamide.<sup>[4]</sup> However, literature is sparse as far as the field of dentistry is concerned.

Honey consists of polyphenols that have beneficial effects on dental caries, oral cancer, and periodontal diseases.<sup>[5]</sup> Honey can be used to develop oral hygiene products such as toothpastes and mouthwashes to prevent dental caries. Manuka and acacia honey have been successfully used against halitosis (malodour).<sup>[6]</sup> In a study on 10 cases of dental infections, the local use of natural honey in dental abscesses and chronic osteomyelitis proved to have antibacterial effects.<sup>[4]</sup> The use of honey chewing-gum 3 times a day after meals significantly reduces plaque and the risk of gingivitis. One study suggested that chewing "honey leather" can reduce inflammation of the gingiva. Honey is also useful in the treatment of oral ulcers and stomatitis following radiotherapy.<sup>[5]</sup>

Honey is said to be very soothing and harmless. Topical application of bee honey seems to be effective in the treatment of some common oral lesions where they are routinely treated with cortisone therapy, and so it seems promising for some oral lesions. Aphthous stomatitis, as well as other oral lesions such as recurrent herpes labialis, recurrent intraoral herpes, atrophic/erosive oral lichen planus, oral candidiasis, and oral psoriasis can be successfully treated with honey. Honey significantly increased the resolution of the inflammatory and ulcerative oral lesions. It significantly

lowered the pain sensation, reduced the duration of some lesions, and increased the number of pain-free days.<sup>[7]</sup>

Cases of honey poisoning are also reported in literature. Observed symptoms of such honey poisoning are vomiting, headache, stomach ache, unconsciousness, delirium, nausea, and sight weakness. Poisonous plants are known to local beekeepers and hence honey which can possibly contain poisonous substances is not marketed. To minimize the risk of honey-borne poisoning in countries where plants with poisonous nectar are growing, tourists are advised to buy honey from shops only and not on road and from individual beekeepers.<sup>[8]</sup>

Nowadays, modern medicine is not the sole remedy for infections. Researchers are looking back to the past for the alternative approaches with least possible side effects such as apitherapy. Consequently in the modern era, honey can be effectively used for dental spa. Summarizing the different findings, it can be concluded that honey is probably not as cariogenic as other sugars and in some cases can be also carioprotective, especially when strong antibacterial honey is ingested.

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