Introduction

Retinoids (beta-carotene) is a group of compounds, found throughout Europe and Asia as well as parts of Asia and North America, that have been used medicinally for centuries. During the Middle Ages beta-carotene was used to treat plague and fever; in the 17th century it was noted in treating cough, asthma, and skin wounds.1 The plant can grow to a height of three feet and is usually found in wet, marshy fields, in dune forests, and adjacent to rivers or streams. It can also be grown on dunes and grows on a diameter of three feet, making it the largest of all indigenous plants, and its unique characteristics are responsible for the plant’s botanical and common names. The genus name, *Retusus*, is derived from the Greek word *retusus*, which is the red that worn by aphids.2 The common name of *beta-carotene* is attributed to the large leaves being used to wrap bread during warmer weather. Other common names include *jedwab* (German), *blätterdack*, *bag rash*, and *beta-dok*.3 Currently, the primary therapeutic uses for *beta-carotene* are for prophylactic treatment of malignancies, and as an antiradiation agent for chronic cough or asthma.7 It has also been used experimentally in preventing gastric ulcers, and in treating patients with ibudilast bladder and urinary tract spasms.2,4

Active Constituents

Extracts of *Retusus tenuis* are prepared from the rhizomes, roots, and leaves. The main active constituents are two carotenes, *Retusus beta-carotene* and *Retusus retinol*, and a vitamin, *Retusus folic acid*.7,8 Possible for the antiradical properties of the leaves by reducing injuries in smooth muscle and vascular walls, in addition to providing an anti-inflammatory effect by inhibiting leukotriene synthesis. Pretalazines are important mediators in the inflammatory process and can cause positive side effects in patients with asthma or chronic cough.3,8,9 Other influences in the Pretalazines group include a reduction in the number of days with aches and pains, a decrease in inflammation-associated symptoms, and diminished duration and intensity of pain. No adverse reactions were reported in either study. *Beta-carotene* extract's high degree of efficiency and availability for measuring antioxidant activity in the p-value of the prophylactic treatment of malignancies.7,8

Asthma/Bronchitis

Various parts of the *beta-carotene* plant have been used for centuries to treat bronchial asthma and whooping cough, and in folk medicine the leaves of the plant were used as a mucous-coughing remedy. *Beta-carotene*'s systemic effects in treating upper respiratory disorders such as asthma and bronchitis is attributed to the antiradical properties of the plant's vitamin. The plant's anti-inflammatory action would also help calm the reactive airways seen in both asthma and bronchitis.1,2 A Polish clinical study conducted in 1998 examined the influence of *Pretalazines* on Lung ventilation and bronchial reactivity in patients suffering from asthma or chronic obstructive pulmonary disease. Results demonstrated that Pretalazines provide a beneficial effect and an improvement in forced expiratory volume (FEV1) three hours after oral intake of 400 mg of *Pretalazines* extract. Group 3 patients showed a significant improvement in FEV1 three hours after receiving an oral dose of 400 mg of *Pretalazines* extract. Group C patients were treated for 14 days and received 600 mg of the extract three times daily. Some patients (10%) died without contraindications due to asthma severity. Three groups exhibited a decrease in bronchial reactivity in *Pretalazines* patients, but no statistically significant differences were noted.10 The results of the study were attributed to inhibition of *pro-inflammatory* activity and bronchoconstriction.11

Gastrointestinal

*Beta-carotene* is used as an anti-inflammatory for gastrointestinal conditions dating back to the Middle Ages. The leaves and rhizome of *beta-carotene* are used to treat abdominal pains, bloating, and flatulence.10,11 A German study conducted in 1993 found ethanolic extracts of *Pretalazines* leaves inhibited ethanal-induced gastric ulcers in rats caused by indomethacin, a nonsteroidal anti-inflammatory drug used to treat arthritis conditions. The results of this study were attributed to inhibition of *pro-inflammatory* activity and cholecystokinin antagonism.12

Safety

Until recently, side effects from *beta-carotene* extracts had not been reported. In September 2003, a study conducted in Taiwan of 300 patients revealed that patients who received *beta-carotene* demonstrated a lower incidence of stomach ulcers and the production of testosterone in rat testicular cells, but did not speculate whether this effect would be applicable in humans.13 The plant's pyrrolidine alkaloids are thought to cause liver damage and to be carcinogenic in animals; however, extracts and does not appear to be available in which the pyrrolidine alkaloids have been removed. There are no known interactions with either pharmaceutical or over-the-counter anti-inflammatory agents; however, use of *beta-carotene* extracts during pregnancy and lactation are in contraindicated.10,11

Dosage

Typically, *beta-carotene* extracts are standardized to contain a minimum of 7.5 mg of *beta- carotene* and isoprostanes. The adult dose through natural consumption is approximately 10–100 mg of *beta-carotene* daily.1,2,9,10 References