CAMPHOR

Cinnamomum camphora

Text by Armando Gonzalez Stuart, Ph.D. 2003

Botanical family: Lauraceae

Common name in Spanish: Alcanfor

Medicinal parts: The oil extracted from the tree, although the leaves, root and stems are also used (Chevallier, 2000; Samuelsson, 1999).

History

This species is native to the Orient, principally Viet Nam, China and Japan, although it is present in many countries in the world, including the USA. In Florida, it is considered an invasive species and efforts are underway to curb its spread in that region. Camphor trees are tall, up to 30 meters (90 ft) in height, evergreen, with glossy alternate leaves and dark- purple fruits (Bremness, 1999). The tree produces red leaves that turn dark green as they mature (Chevallier, 2000)

Active principles

- Brown and yellow camphor volatile oil contains cineol, safrole (potentially carcinogenic), eugenol, lignans and terpineol. Synthetic camphor is DL –camphor (Brinker, 2000; Weiss and Fintelmann, 2000).
- White camphor oil, which is commonly used in aromatherapy does not contain safrole.

- Camphor contains antiseptic compounds (cineol, for example) that help fight some of the infectious microbes sometimes associated with respiratory conditions. (Schulz et al., 2001; Ody, 2000; Robbers and Tyler, 2000; Tisserand and Balacs, 1995).

Applications in herbal therapy

- Germany's Commission E has approved camphor for the treatment of rheumatism (externally), hypotension (low blood pressure), arrhythmia, cough, bronchitis and nervous heart complaints (Blumenthal, 2000; Weiss and Fintelmann, 2000).

- Camphor oil preparations have been used both internally and externally in many countries, for a variety of ailments, ranging from respiratory problems to rheumatic pain (Adame and Adame, 2000; Chevalier, 2000; Ody, 2000; Berdoncés, 1998; Martinez 1989; Lewis and Elvin-Lewis, 1977). Chemically speaking, camphor is a ketone that is either obtained from the tree by steam distillation or produced synthetically (Robbers and Tyler, 2000; Samuelsson, 2000).

- The principal use of camphor is as an antitussive agent to reduce coughs. The plant contains substances called mucilages (hydrophyllic colloids) which upon contact with water form viscous solutions that form a protective layer that covers the lining of the upper respiratory system, thus reducing mechanical irritation and preventing the cough reflex (Schulz et al., 2001; Robbers and Tyler, 2000).

- The essential oil is diluted in a suitable carrier (almond oil, for example) and employed as topically as rubefacient (to improve capillary circulation), and raise blood pressure (Schulz et al., 2001; Ody, 2000; Ott, 1994). The production of natural camphor has been replaced mainly by industrial synthesis employing pinene, a compound found in turpentine oil (Robbers and Tyler, 2000; Samuelsson, 1999).

- The vapors are inhaled as treatment for upper respiratory tract ailments (Adame and Adame, 2000; Weiss and Fintelmann, 2000; Blumenthal, 1998).

- Infusions or teas may be taken internally as expectorants (Blumenthal, 1998), although this form of application is not recommended due to Camphor's potential toxicity (Brinker, 2000; Chevallier, 2000), since the therapeutic dose approximates the toxic dose (Weiss and Fintelmann, 2000).

- Camphor oil is applied to the skin as a rubefacient to promote circulation (Robbers and Tyler, 2000; Chevalier, 2000; Weiss and Fintelmann, 2000) and to relieve itching (Samuelsson, 1999).

 Safety/Precautions:

- Avoid use in patients with epilepsy or Parkinson's disease.

- Camphor preparations should not be taken internally due to their potential toxicity (Brinker, 2000; Chevallier, 2000; Liebelt and Shannon, 1993).

- A case of *status epilepticus* has been reported in a 20 month old infant who ingested camphor (Emery and Corban, 1999).

- Camphor ingestion may cause seizures in susceptible individuals (Gouin and Patel, 1996).

- Brown and yellow camphor oil contain saffrole, a carcinogenic compound (Ody, 2000; Tisserand and Balacs, 1995; Lewis and Elvin-Lewis, 1977).

- Do not employ camphor in any form during pregnancy and lactation (Brinker, 2000).

WARNING: As with any other essential oil, never apply camphor oil directly to or near the nostrils of small children or asthmatic patients, as bronchial spasm and convulsions may occur, leading to respiratory arrest (Schulz et al. 2001; Brinker, 2000; Gruenwald, 2000).

- Camphor preparations applied to the skin during prolonged periods of time may be stored in body fat, causing neuro-intoxication (Brinker, 2001, 2000).

- Do not apply camphor oil on burned, injured or broken skin (Brinker, 2000; Blumenthal, 1998).

- Camphor oil applied to the skin may cause irritation and contact eczema in some persons (Blumenthal, 1998; Ott, 1994).

- The green fruits, leaves, and roots are toxic and the fruits are high in chemicals known to cause sterility in birds.

- To treat infections of the upper respiratory tract, perhaps it is better to use menthol or eucalyptus preparations, as these are relatively less toxic than camphor, and have very similar therapeutic effects (Schulz et al., 2001).

Keep all camphor-containing products away from children. If accidental ingestion occurs, call the nearest poison control center immediately.

Herb/Drug interactions

- Unknown

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