Pharmacological Activities of Mentha piperita- Mini Review

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Peppermint (Mentha × piperita) is a hybrid mint, a cross between watermint (Mentha aquatica) and spearmint (Mentha spicata). The plant is indigenous in Europe and now widespread in cultivation throughout all regions of the world. It is found wild occasionally with its parent species

Pharmacological Activities of Mentha piperita
Antimicrobial activity
Extracts of Folium Menthae Piperitae have antibacterial and antiviral activity in vitro. Addition of ground leaves to the agar medium inhibited the growth of Salmonella typhimurium, Staphylococcus aureus and Vibrio parahaemolyticus at concentrations of 0.1–2.0% (w/v). Aqueous and ethanol extracts of the leaves reduced the number of plaques of the rinderpest virus at concentrations of 4–8mg/ml. Aqueous extracts of the leaves demonstrated activity against the following viruses in egg and cell culture: Newcastle disease, herpes simplex, vaccinia, Semliki Forest and West Nile.

Smooth muscle contraction
A 31% ethanol extract of the leaves inhibited both acetylcholine- and histamine-induced smooth muscle contractions in guinea-pig ileum in vitro at a concentration of 10 ml/l. The results were similar to those obtained with 0.13 mg atropine3,4. An aqueous flavonoid fraction isolated from a leaf extract inhibited barium chloride-induced muscle contractions of guinea-pig ileum in vitro at a concentration corresponding to 0.5 g leaves/ml5.

Choleretic activity
Injection of a leaf infusion (0.5 ml) or a flavonoid fraction (equivalent to 3.3 g leaves/kg body weight) increased the amount of bile acids in cannulated rats and dogs (dose 0.4 mg/kg body weight)\textsuperscript{5,6}. A mixture of flavonoids, isolated from the leaves, had choleretic activity in dogs (2mg/kg body weight)\textsuperscript{7}. Flavomentin, a flavonoid isolated from the leaves, stimulated bile secretion and the synthesis of bile acids in dogs (2mg/kg body weight)\textsuperscript{8}. Intragastric administration of a 30\% ethanol extract of the leaves to rats (1ml/kg body weight) increased bile flow by 43\%. The extract did not induce sedation in mice at doses up to 10 ml/kg body weight\textsuperscript{4}.

**Anti-oedema activity**

Topical application of a methanol leaf extract to mice (2.0mg/ear) inhibited ear oedema induced by 12-\textit{O}-tetradecanoylphorbol-13-acetate\textsuperscript{9}.

**Analgesic activity**

Intragastric administration of a 30\% ethanol extract of the leaves inhibited phenylbenzoquinone-induced writhing in mice (ED50 2.1 ml/kg body weight)\textsuperscript{4}.

**Toxicology**

Intragastric administration of a leaf extract (50 g leaves infused with 500 ml hot water for 10 minutes, then spray-dried) to 12 mice (4 g/kg body weight as a single dose) did not result in central nervous system depression, toxic effects or mortality\textsuperscript{10}.

**References**

5. Lallement-Guilbert N, Bézanger-Beauquesne L. Recherches sur les flavonoides


