

Ivy versus Ambroxol in chronic bronchitis

A double-blind study to compare the clinical effectiveness and tolerance of dried ivy leaf extract and ambroxol

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Type of study: *monocentric, controlled double-blind study*

Patients: *99 patients with simple or obstructive chronic bronchitis*

Substances tested: *ivy leaf extract versus ambroxol*

Result: *There was no significant difference between the effectiveness of the phytotherapeutic agent and that of the synthetic mucolytic."*

Resume

In a double-blind randomised and controlled comparison study of 99 patients with medium-severe chronic and, in some cases, obstructive bronchitis a preparation of standardised dry ivy-leaf extract was contrasted with an ambroxol preparation.

The assessment of their effectiveness was based on spirometric and auscultatory findings. After four weeks' treatment with Prospan® Drops (manufacturer: Engelhard Arzneimittel GmbH & Co. KG, Frankfurt am Main) or ambroxol the phytotherapeutic agent proved the equal of the synthetic mucolytic in effectiveness. In each treatment tolerance was good to excellent.

Introduction

The treatment of chronic-obstructive respiratory disorders has always been a challenge to any medical practise, and it remains so today. No less than cardiac and circulatory disorders and painful joints, chronic and obstructive bronchitis, bronchial asthma and other respiratory disorders now constitute a mass illness.

Respiratory disorders are the principal cause of absenteeism due to illness, being responsible for 30% of cases. These complaints account for 40,000 deaths and over 10,000 early retirements each year. The world-wide incidence of bronchitis, bronchial asthma and pulmonary emphysema is on the increase, not least because of rising emissions of pollutants which cause constant irritation of the airways.

The German League for Combating Respiratory Disorders believes a significant factor in successful treatment to be timely recognition (1). Diagnostic discrimination is certainly difficult, especially in the early stages.

The term 'bronchitis' subsumes all illnesses characterised by coughing and expectoration. In the early stages, however, expectoration may be absent. The demarcation line between bronchitis and bronchial asthma is often fluid.

Classical medication for chronic bronchitis, depending on the gravity of the condition, includes beta-2-sympathomimetics, theophylline and corticosteroids. Where coughing is unproductive and expectoration difficult, mucolytics are also given, normally bromhexine or its metabolite ambroxol. Both substances increase lysosome formation and activate the hydrolytic enzymes, thus

breaking down acidic mucopolysaccharides and with them the fibres of the bronchial mucus.

Serious cells are also activated (2). However, adverse reactions are common: nausea, vomiting and headaches.

Respiratory disorders cause 30% of all absenteeism due to illness.

In phytotherapy, besides coltsfoot and thyme, ivy leaf extract made a name for itself in the treatment of bronchitis. Ivy, *hedera helix* of the araliaceae family, is an inconspicuous plant which prefers to creep along walls (fig. 1). As early as the Middle Ages various medicinal qualities were ascribed to preparations of ivy leaves.



Fig 1: Ivy, *hedera helix*

The first scientific investigations were conducted at the beginning of the 20 th century by Leclerc and Jahnsen (3) and Madaus (4). Ivy leaf extracts have proved to be especially effective in the treatment of chronic respiratory disorders. Because of the glycosidic saponins it contains, *hedera helix* has a bacteriotoxic effect (on gram-positive bacteria such as *staphylococcus aureus* (5,6) and an antimycotic effect on yeasts and fungi (7). According to investigations by Bucher (8), standardised ivy leaf extract also has spasmolytic and secretolytic effects, as well as slightly sedating the coughing centre.

Rath (14) demonstrated the effectiveness of Prospan® in a double-blind study of 100 children with various respiratory-tract disorders.

Bucher (8) also demonstrated that ivy leaf extract was extremely