

## **ANTILEPTOTICS**

Leprosy is a chronic disease caused by the bacteria *Mycobacterium leprae* that causes damage to the skin and the peripheral nervous system. The disease develops slowly (from six months to 40 years) and results in skin lesions and deformities, most often affecting the cooler places on the body (for example, eyes, nose, earlobes, hands, feet, and testicles). Substances that suppress *Mycobacterium leprae*, ameliorate the clinical manifestations of leprosy, and/or reduce the incidence and severity of leprosy

### **Chaulmoogra oil**

#### **Synonyms**

Hydnocarpus oil

#### **Biological Source**

Chaulmoogra oil is the fixed oil obtained by cold expression from ripe seeds of *Hydnocarpus wightiana*, *H. anthelmintica*, *H. heterophylla*, and other species of *Hydnocarpus*, belonging to family **Flacourtiaceae**.

#### **Geographical Source**

The plants are tall trees, up to 17 m high, with narrow crown of hanging branches; native to Burma, Thailand, eastern India, and Indo-China.

#### **Characteristics**

The oil is yellow or brownish yellow. Below 25°C it is a soft solid. It has peculiar odour and sharp taste. It is soluble in benzene, chloroform, ether, petrol; slightly soluble in cold alcohol; almost entirely soluble in hot alcohol and carbon disulphide.

#### **Chemical Constituents**

Chaulmoogra oil contains glycerides of cyclopentenyl fatty acids like hydnocarpic acid (48%), chaulmoogric acid (27%), gorlic acid with small amounts of glycerides of palmitic

acid (6%), and oleic acid (12%). The cyclic acids are formed during last 3–4 months of maturation of the fruit and are strongly bactericidal towards the *Micrococcus* of leprosy.

The seeds of *H. wightiana* contain a flavonolignan hydnocarpin; isohydnocarpin, methoxy hydnocarpin, apigenin, luteolin.

### **Uses**

The oil is useful in leprosy and many other skin diseases. The cyclopentenyl fatty acids of the oil exhibit specific toxicity for *Mycobacterium leprae* and *M. tuberculosis*. The oil has now been replaced by the ethyl esters and salts of hydnocarpic and chaulmoogric acids. At present organic sulphones have replaced Chaulmoogra oil in therapeutic use.