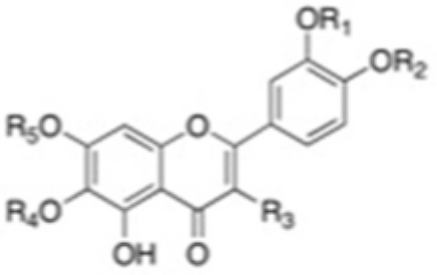
Planta Med 2015; 81 - PW_202
DOI: 10.1055/s-0035-1565826

Artemisia indica is used as antipyretic in malarial fevers during malaria outbreaks in India [1]. We selected this plant because reports concerning the presence of artemisinin is contradictory, the content of methoxyflavonoids that potentiate the antimalarial efficacy of artemisinin has remained unstudied and the essential oil of the plant from different regions shows great chemical variations. Solvent extracts [petroleum ether, *n*-hexane, dichloromethane, acetone, MeOH or EtOH (96, 80 or 60% v/v), and hot water] of *A. indica* leaves originated from the West Bengal region (India) were assessed by HPLC-DAD and HPLC-MS for the content of artemisinin and the characteristic *Artemisia* methoxyflavonoids, eupatin, casticin, chrysoplenetin, cirsilineol, chrysosphenol-D and artemetin. None of the extracts contained artemisinin or the methoxyflavonoids chrysosphenol-D and artemetin, while all extracts contained chrysoplenetin. Eupatin, casticin and cirsilineol were found in all extracts except for the p. ether, *n*-hexane and hot water infusion. The acetone and EtOH extracts contained the highest levels of polymethoxyflavonoids (1.15 – 1.17%), whereas the infusion was devoid of them. The essential oil of the plant was obtained by hydrodistillation and analyzed by GC and GC-MS simultaneously. Of the 92 compounds detected in the oil, camphor (13.0%) and caryophyllene oxide (10.87%) were the major components. All solvent extracts and the volatile oil showed *in vitro* antimalarial activity (1.8 – 20 µg/mL). Except for the infusion, all extracts were also active against other parasitic protozoa (*Trypanosoma b. rhodesiense, T. cruzi, Leishmania donovani*). This is the first study investigating both artemisinin and polymethoxyflavonoid content and detailed *in vitro* antiprotozoal potential of *A. indica* extracts and the essential oil.



Eupatin	R_1=H, R_2=Me, R_3=OH, R_4=R_5= Me
Casticin	R_1=H, R_2=Me, R_3=OMe, R_4=R_5=Me
Chrysoplenetin	R_1=Me, R_2=H, R_3=OMe, R_4=R_5=Me
Cirsilineol	R_1=Me, R_2=R_3=H, R_4=R_5=Me
Chrysosphenol-D	R_1=R_2=H, R_3=OMe, R_4=R_5=Me
Artemetin	R_1=R_2=Me, R_3=OMe, R_4=R_5=Me

References:

[1] Chatterjee A, Pakraõshi SC. The treatise on Indian medicinal plants. New Delhi: National Institute of Science Communication CSIR; 1997: 142 – 143