



# Use of active principles isolated from medicinal plants commercially

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## I. INTRODUCTION

The nature has been a natural source of several medicines for the cure of all diseases in human as well as animals since inception of medicinal systems. In India this traditional medicinal system is known as "Ayurveda". In ayurveda, a number of plants or their extract are used and prescribed for the cure of diseases. In modern sciences from these plants or their extracts a number of active principles have been isolated and the efficacy of these compounds have also been proved following protocol in a scientific manner. With this a new branch known as "Phytochemistry" is developed. On the basis of structure of the compounds they have been classified under various categories like steroid, alkaloids, saponins etc.

Now a days a number of active principles initially isolated from plants are synthesized commercially by drug manufactures.

## II. DISCUSSION

On reviewing the literature it was observed that all part of the world researches are going on in this field, therefore we decided to undertake this review article. In this review we are considering some of the common diseases.

### Anti-inflammatory

Steroidal constituent isolated from bark of the *Aesculus hippocastanum* by Senatore et al has shown anti-inflammatory activity<sup>1</sup>. Murayama et al has reported the anti-inflammatory activity of an alkaloid; aconitine isolated from *Aconitum species*<sup>2</sup>. Ozaki et al have studied and reported anti-inflammatory effect of *Myristica fragrans* Hout<sup>3</sup> and active principle isolated from it. In the year 1996 Ozaki et al carried out similar study on *Trichosanthes kirilowii Maxim* and various part of this plant and reported the anti-inflammatory effects<sup>4</sup>. Duwiejua et al reported the anti-inflammatory effects of plants namely *Polygonum bistorta*, *Guaiacum officinale* and *Hamamelis virginiana*<sup>5</sup>. Hughes – Formella et al prepared a

lotion of *Hamamelis virginiana* using its bark which is known to contain Tannins, proanthocinidins, have reported its anti-inflammatory effects<sup>6</sup>. Duke<sup>7</sup> in his book has reported *Paeonia albiflora* root, *Urtica dioica* root and aerial parts and *Zingiber officinale* rhizobia which contains borneol and shogaols to possess anti-inflammatory properties. Wei et al isolated quercetin – 3-O- methyl ether from plant of *Rhamnus spp.* Which they reported to exhibit anti-inflammatory properties<sup>8</sup>. Gokhale et al anti-inflammatory activity of plant *Saussurea lappa*<sup>9</sup>. A flavonoid, Epicatechin isolated from *Theobroma cacao* has been reported for its anti-inflammatory activity<sup>10</sup>.

### Antifertility

It has been observed that a very little attention has been paid to male antifertility aspect. Even than a plants and active principles are reported to show male antifertility properties. Benzene extract of bark obtained from plant *Alstonia scholaris* is reported to show antifertility activity in male Wistar rats<sup>11</sup>. Active principle a-Amyrin Acetate and Lupeol Acetate isolated from *Alstonia scholaris* are also reported for male antifertility activity<sup>12, 13</sup>. In the year 1990 Gupta et al conducted a study on isoquinoline an alkaloid isolated from plant *Aristolochia indica*. The isoquinoline isolated showed antispermatogenic properties ie male anti-fertility activity<sup>14</sup>. Vincalokoblastin an active principal has been isolated from *Catharanthus roseus*. Mathur and Chouhan in the year 1995 have conducted a study on this plant and have reported to possess antifertility properties<sup>15</sup>. Chloroform extract of *Opuntia dillenii* when administered to wistar rats it showed antispermatogenic acyivity<sup>16</sup>. Mandrich et al has reported antifertility activity of various flavonoids isolated from medicinal plant<sup>17</sup>. Kong et al in the year 1989 have reported Rutin isolated from plant *Ruta graveolens* as active antifertility component<sup>18</sup>.



### Antitumor/ Cytotoxic Activity

*Aloe vera* (*Aloe barbadensis* Miller) gel is reported for its cytotoxic properties by Avila et al<sup>19</sup>. Cytotoxic activity and antitumor properties of certain taxa of Umbelliferae with special reference to *Centella asiatica* (*L*) was studied and reported by Babu et al in the year 1995<sup>20</sup>. An active principle curcumin was isolated from the seeds of *Jatropha curcas* which has been reported for antitumor activity<sup>21</sup>. In Brazil a study was conducted by Mans et al who has reported anticancer compounds isolated from plants<sup>22</sup>. An active principle capsaicin isolated from *capsicum* spp. has shown cytotoxic activity in monkey kidney cells<sup>23</sup>. New derivatives of active principle vinblastine from *Catheranthus roseus* has been derived, which showed antitumor activity have been reported by Bolcskei et al<sup>24</sup>. Duke in his book has reported *Cephalodaxus* spp. for antitumor activity<sup>7</sup>. Raffauf et al in the year 1978 has reported some constituents of *Cinchona pubescens* as antitumor<sup>25</sup>. An active principal cinicin isolated from plant *Cnicus benedictus* L. is proved to have antitumor activity<sup>26</sup>.

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