OL20. Antioxidant and Radioactive Properties of Components from various Indian Medicinal Plants

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Indian plants were used medicinally in many ancient cultures including Ayurveda, Greek, Roman, Siddha and These plants have extensive number of therapeutic applications such as cardiopathy, haemopathy, leucopathy, asthma, bronchitis, hepatopathy, lumbago, ophthalmic, verminosis and skin diseases. Antioxidative and protective properties of some plant constituents have been reported recently. Plants were extracted with different solvents. Some of the extracts of plant showed to reduce the toxicity and augment the activity of the well known radio protector. We have reported that polysaccharide isolated from Tinospora Cordifolia can be promising lead to our understanding of the mechanism of action of these compounds. The antioxidant properties of two polysaccharides isolated from Ocimum Sanctum and Tinospora Cordifolia were evaluated. In addition, some of the components isolated from Swertia Decussata, Zingiber Officinalae and Psoralea Corylifolia, antioxidant properties will be discussed.

IL64. Free Radical Scavenging and Antioxidant Activity of Flaxseed Chutney

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Linum Usitatissimum L is commonly known as linseed or flaxseed belongs to the family Linaceae. Flax is exceptionally a rich source of mammalian lignan precursor secoisolariciresinol diglucoside (SDG) present at least 40 times greater than any other plant known to this date. Scientists at American National Cancer Institute out flaxseed as one of six nutricaceuticals for food applications. In southern India, flaxseed is partly being consumed at lower levels as flaxseed chutney. Although flaxseed has long history of use in India, the scientific basis of its use is very limited. There is some claim for beneficial effects in cancer and lupus nephritis. These claims could be related to its ability to scavenge oxygen radicals. However, its antioxidant activity is not known. Preliminary studies on flaxseed chutney from our laboratory showed encouraging results on lipid lowering action and protection against free radical damage. However, systematic studies on health benefits of flaxseed chutney have not been worked out so far. The aim of the current study was to evaluate the in vitro antioxidant activities of flaxseed chutney extract.

Methanol (70%) extract of flaxseed chutney was used to study in vitro antioxidant activity, scavenging of free radicals, superoxide anions, nitric oxide, hydrogen peroxide, peroxynitrite, singlet oxygen, hypochlorous acid, and reducing power by the scavenging capacity of these free radicals. Total antioxidant activity of the extract was found to be 93.08 ± 0.21 μg/ml, 11.44 ± 0.38 μg/ml and 17.42 ± 2.24 μg/ml. Similarly, the IC50 values for the scavenging activities of superoxide and hypochlorous acid scavenging activities were recorded 405.30 ± 2.26 μg/ml, 28.06 ± 3.32 μg/ml, respectively. Methanolic extract of flaxseed chutney exhibited a potent iron chelating activity with IC50 = 54.62 ± 0.74 μg/ml. As the amount of methanolic extract of flaxseed increased, the reducing power increased. The extract (100μg/ml) gave 43.27 ± 0.002 mg/ml gallic acid-equivalent phenolic content. The presence of methanolic extract of flaxseed chutney was evident that a 70% methanolic extract of flaxseed chutney is potential source of natural antioxidants.

IL65. PIPER BETLE: Stick to the essentials and chew towards good health

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The leaves of Piper betle have long been chewed in many Asian countries, including Malaysia and Indonesia, has come under a lot of bad press, substantiated by many researchers. However, intake of the leaves...
Study of Serum Catalytic Iron as a Marker of Cardiovascular Disease in Chronic Kidney Disease


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Cardiovascular disease increases with increasing stage of chronic kidney disease (CKD) and is known to increase oxidative stress. Catalytic iron takes part in generation of reactive oxygen species.

Serum catalytic iron (SCI) is a marker of oxidative stress and increased SCI in CKD patients serves as a biomarker for cardiovascular disease.

40 CKD patients (56 males and 14 females), having mean age of 51.44 ± 11.97 years were enrolled between the period of September 2007 to December 2008 after informed consent. Patients on maintenance hemodialysis and those who had received renal allograft were excluded. Patients were evaluated for their cardiovascular disease by stress echocardiography (DSE) and carotid intimal medial thickness (IMT). SCI was measured by the Bleomycin assay. Statistical analysis was done using SPSS 15.

SCI in the healthy subjects was 0.11 ± 0.01. Mean value of SCI in CKD was 1.22 ± 0.2 μmol/L (p < 0.0001). SCI increased with increasing stages of CKD as shown in table. Mean SCI in in patients with positive DSE (n=12) was 79 ± 19 μmol/L as compared to those having negative DSE (n=58) was 1.06 ± 0.18 μmol/L (p < 0.0001).

<table>
<thead>
<tr>
<th>STAGE</th>
<th>N</th>
<th>Left Ventricular mass (gm/m2)</th>
<th>Left Ventricular End Diastolic volume (ml/m2)</th>
<th>Serum Catalytic iron (μmol/L)</th>
<th>hsCRP (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a1</td>
<td>3</td>
<td>139.9 ± 36.3</td>
<td>57.89 ± 13.02</td>
<td>0.29 ± 0.14</td>
<td>5.36 ± 8.18</td>
</tr>
<tr>
<td>a2</td>
<td>7</td>
<td>126.66 ± 21.26</td>
<td>60.13 ± 9.27</td>
<td>1.41 ± 1.67</td>
<td>5.5 ± 5.76</td>
</tr>
<tr>
<td>a3</td>
<td>17</td>
<td>118.05 ± 20.87</td>
<td>59.62 ± 14.36</td>
<td>0.65 ± 1.15</td>
<td>6.69 ± 5.41</td>
</tr>
<tr>
<td>a4</td>
<td>28</td>
<td>149.12 ± 32.99</td>
<td>64.83 ± 10.50</td>
<td>1.07 ± 1.39</td>
<td>6.17 ± 5.29</td>
</tr>
<tr>
<td>a5</td>
<td>15</td>
<td>147.08 ± 35.79</td>
<td>68.95 ± 12.12</td>
<td>2.23 ± 2.41</td>
<td>9.18 ± 4.89</td>
</tr>
</tbody>
</table>

Values mean ± SEM

Serum catalytic iron (SCI) increases as CKD stage increases with other markers of inflammation like hsCRP. Patients having coronary artery disease as evidenced by positive DSE have significantly high SCI levels.