The 10th International Conference on Oriental Medicine 2006

Oriental Medicine as Evidence Based Medicine 2006
September 28 (Thursday), 2006

COEX Conference Center 320BC, Seoul, Korea

Host
Institute of Oriental Medicine, Kyunghee University, Seoul, Korea
College of Oriental Medicine, Kyunghee University, Seoul, Korea
Brain Korea 21 Oriental Medical Science Center, Kyunghee University, Seoul, Korea

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The 10th International Conference on Oriental Medicine 2006

Hyperlipidemia effect in Enterococcus Faecalis (EF 2001)

Yeunhwa Gu1,2, Yuka Itokawa1, Masahiro Iwasa2, Hiroyuki Iwasa2, Takashi Nakamura1, Toshihiro Miura1,2, Masami Oshima1, Toshihiro Maenaka1, Torao Ishita1,2, Kaori Tano2, Ikukatsu Suzuki1, Takeo Hasegawa1, Tetsuo Takeuchi2 and Kyoo Seok Ahn3

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Abstract

Recognition of ill severity is low in hyperlipidemia in comparison with life-style related diseases such as diabetes mellitus or high blood pressure. In this study, we used an Enterococcus Faecalis 2001 (EF 2001), and studied anti-hyperlipidemia using a model mouse of hyperlipidemia. We used an HcB-19/Dem (HcB-19) mouse for animal used for experiment and we divided it into control group, EF2001 250mg/kg treated group, EF2001 400mg/kg treated group and tested it. We performed fast of 12 hours before drawing blood and we collected blood by fundi drawing blood in a hungry state and took out serum after centrifugal separation and measured total cholesterol, quantity of triglyceride than the serum. In addition, we measured a lipoprotein of surplus triglyceride, plasma apolipoprotein B of surplus cholesterol. As for the total cholesterol, the total cholesterol value showed a low value in comparison with Control group. We compared it with Control group, and, in measurement results of triglyceride, significant difference was seen with 250mg/kg treated group five weeks later, three weeks later two weeks later. In addition, significant difference was seen with 400mg/kg treated group in comparison with Control group five weeks later, three weeks later two weeks later. As for the cholesterol fall action of EF2001, it is speculated with a thing by constancy of the polysaccharides that are included a lot in EF2001, immune system by other various active principles, endocrine system.
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研究方法1

研究資料および方法

実験動物にHcB-19/Dem(HcB-19)マウスを用い、22±3℃、湿度60-70%の状況下で、飼料および水は自由摂取とし、1週間の予備飼育後、1群(Control群)、2群(EF2001 250mg/kg投与群)、3群(EF2001 400mg/kg投与群)とする。血漿により、トリグリセリド、コレステロール量を測定する。過剰トリグリセリドのリポプロテイン、過剰コレステロールのプラズマ・アポリポ蛋白Bを測定する。
研究方法2

- 研究資料および方法
- EF2001による総コレステロール量およびトリグリセライド量の変化
- 実験群
- ICRマウス 5週齢 雄
- 1群 Control 蒸留水投与 10匹
- 2群 EF2001 250 mg / kg投与 10匹
- 3群 EF2001 400 mg / kg投与 10匹
- 4群 Normal 蒸留水投与 (ICRマウス 6週齢雌) 11匹
研究方法3

実験方法

和光純薬工業の測定キット コレステロール E テストタローおよびトリグリセライド E テストタローを使用して吸光度測定をすることにより、総コレステロール量とトリグリセライド量を測定し、対象群と比較して高脂血症モデルマウスであることを確認後、1群（Control（蒸留水）群）、2群（EF2001 250mg/kg投与群）、3群（EF2001 400mg/kg投与群）、4群（Normal（対象）群）とする。採血前に12時間の絶食を行い、空腹状態で眼底採血により採血し遠心分離後、血清を取り出し、その血清より、総コレステロール、トリグリセライド量を測定した。測定方法はそれぞれのプロトコールにのっとって行った。

実験材料および測定機器

EF2001（株）日本ベルム

吸光度計

コレステロール E テストタロー（和光純薬工業（株））
トリグリセライド E テストタロー（和光純薬工業（株））
マウス・ラット・ハムスター飼育繁殖型 CE-2（日本クレア）
マウス、ラット、ハムスター用 CLEA Rodent Diet Quick Fat（日本クレア）
統計処理法

研究結果は平均値 ± 標準誤差であらわし、一次検定として1群（Control）に対して各試験群の評価をANOVA検定により行い、その後有意差のあるものに対して二次検定としてFisher検定を実行し、1群（Control）と各試験試料塗布群との比較を行う。
Table 1. 総コレステロール濃度（平均±S.E.）

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Control</th>
<th>250 mg / kg</th>
<th>400 mg / kg</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>123.79± 9.46</td>
<td>123.76± 9.90</td>
<td>125.93± 7.75</td>
<td>95.34± 5.92</td>
</tr>
<tr>
<td>1</td>
<td>162.80± 7.11</td>
<td>150.59± 8.99</td>
<td>154.08± 8.43</td>
<td>72.43± 4.97</td>
</tr>
<tr>
<td>2</td>
<td>168.11± 8.32</td>
<td>142.33± 7.22</td>
<td>153.93± 9.72</td>
<td>85.68± 7.85</td>
</tr>
<tr>
<td>3</td>
<td>152.35± 11.42</td>
<td>158.07± 9.96</td>
<td>135.84± 7.76</td>
<td>87.43± 5.43</td>
</tr>
<tr>
<td>4</td>
<td>130.61± 6.54</td>
<td>127.15± 9.45</td>
<td>124.00± 8.08</td>
<td>85.43± 4.72</td>
</tr>
<tr>
<td>5</td>
<td>151.67± 8.48</td>
<td>148.26± 7.58</td>
<td>133.76± 7.05</td>
<td>84.84± 4.51</td>
</tr>
<tr>
<td>6</td>
<td>179.37± 12.24</td>
<td>151.87± 7.96</td>
<td>164.37± 14.96</td>
<td>105.90± 9.29</td>
</tr>
<tr>
<td>7</td>
<td>158.49± 7.76</td>
<td>133.26± 8.08</td>
<td>125.84± 9.97</td>
<td>92.68± 5.17</td>
</tr>
<tr>
<td>8</td>
<td>147.70± 9.76</td>
<td>149.23± 12.00</td>
<td>150.48± 6.35</td>
<td>77.29± 5.18</td>
</tr>
<tr>
<td>Weeks</td>
<td>Control</td>
<td>250 mg/kg</td>
<td>400 mg/kg</td>
<td>Normal</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>0</td>
<td>102.95±11.03</td>
<td>82.13±9.88</td>
<td>96.80±11.41</td>
<td>70.30±8.71</td>
</tr>
<tr>
<td>1</td>
<td>62.35±6.02</td>
<td>23.97±8.52</td>
<td>19.63±7.98</td>
<td>70.68±5.54</td>
</tr>
<tr>
<td>2</td>
<td>97.50±5.81</td>
<td>35.58±5.47</td>
<td>39.13±3.87</td>
<td>85.22±10.71</td>
</tr>
<tr>
<td>3</td>
<td>87.50±6.65</td>
<td>3.91±8.95</td>
<td>37.63±10.92</td>
<td>66.26±7.83</td>
</tr>
<tr>
<td>4</td>
<td>67.95±6.08</td>
<td>65.21±7.08</td>
<td>65.69±7.39</td>
<td>69.13±7.69</td>
</tr>
<tr>
<td>5</td>
<td>56.63±3.33</td>
<td>33.73±4.00</td>
<td>30.63±6.24</td>
<td>83.58±3.61</td>
</tr>
<tr>
<td>6</td>
<td>83.91±11.89</td>
<td>71.97±11.84</td>
<td>62.52±3.20</td>
<td>107.24±12.28</td>
</tr>
<tr>
<td>7</td>
<td>75.22±8.59</td>
<td>60.76±8.45</td>
<td>71.47±5.80</td>
<td>116.30±11.66</td>
</tr>
<tr>
<td>8</td>
<td>74.13±17.11</td>
<td>40.58±3.82</td>
<td>61.41±5.89</td>
<td>73.91±13.43</td>
</tr>
</tbody>
</table>
Fig.2 総コレステロール濃度
Fig. 3. Triglyceride concentration

- Control
- 250 mg/kg
- 400 mg/kg
- Normal
Control群に比べ投与群は有意な差は得られなかったが、Control群に比べ総コレステロール値は低い値を示した。

Control群に比べ250mg/kg投与群で2週間後、3週間後、5週間後に有意差が見られた。また、Control群に比べ400mg/kg投与群で2週間後、3週間後、5週間後に有意差が見られた。

EF 2001 β(1-3)・(1-6)D-Glucan

β (1-3)D-Glucan  It is lymphocyte activity of small intestinal from intestinal absorption difficulty

β (1-6)D-Glucan  Enteral good bacteria disintegrate (connection with intestinal flora)
2006 INTERNATIONAL CONFERENCE ON BLOOD STASIS

-Current Trends in Lifestyle-Related Disease-

27 Sep. 2006 13:00 - 17:10
Lecture Room 1F,
College of Oriental Medicine,
Kyung Hee University

HOST: THE KOREAN SOCIETY OF ORIENTAL PATHOLOGY
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