Ursodeoxycholic acid and essential phospholipids: A power duo in the management of hepatobiliary disease

In a symposium held at the Crown Plaza Hotel on May 21, 2014 in Manila, Philippines, Dr. Karl-Josef Gundermann and Dr. Felix Domingo discussed the importance of ursodeoxycholic acid (UDCA) and essential phospholipids (EPLs) in the management of patients suffering from liver diseases.

**Burden of gallstone disease**

**Figure 2.** Gallstone recurrence rate after bile acid dissolution therapy

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Recurrence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDCA</td>
<td>7.5</td>
</tr>
<tr>
<td>Placebo</td>
<td>15</td>
</tr>
<tr>
<td>Diet</td>
<td>30</td>
</tr>
</tbody>
</table>

**Tomita et al., in a cohort analysis, concluded that UDCA significantly reduces long-term risks of bile colic in gallstone disease.**

**Figure 3.** Phospholipid composition of human bile

**Table 1.** Phospholipid content in human bile

<table>
<thead>
<tr>
<th>Phospholipid</th>
<th>UDCA (%)</th>
<th>Placebo (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphatidylcholine</td>
<td>44</td>
<td>34</td>
</tr>
<tr>
<td>Phosphatidylethanolamine</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Phosphatidylinositol</td>
<td>21</td>
<td>19</td>
</tr>
</tbody>
</table>

**UDCA as an effective management of cholelithiasis**

**Phospholipids (EPLs)**

Phospholipids are known as essential structures of cellular membranes. EPLs contain polyenylphosphatidylcholine (PPC), which is well-defined, highly purified extract from soybeans (glyceolic acid with a dominant molecule known as 1, 2-dilinoleoylphosphatidylcholine (DLPC). DLPC represents 52% of the administered EPL and is the primary difference between ordinary EPLs which are made up of pure lecithin.

**Understanding essential phospholipids (EPLs)**

EPLs with DLPC has act as hepatoprotectors, maintaining the integrity of the cellular and sub-cellular membranes of hepatocytes thus increasing the fluidity and functioning of the blood corporuses and pancreatic tissues. EPLs membrane-dependent functions perform as anti-oxidant, anti-inflammatory, antifibrotic, and membrane regulation and repair.**

**Figure 4.** Liver stiffness measurement by transient elastography

- Before EPL with DLPC
- After EPL with DLPC

In patients with diabetic-associated fatty liver disease, a double-blind study comparing the efficacy of EPL versus placebo showed a significant reduction in the gamma-glutamyl transpeptidase test, a diagnostic marker for liver disease. EPL also goes well with metformin for diabetic patients in addition to diet and exercise.

**EPL in the management of alcoholic liver disease (ALD)**

- UDCA and statins are excellent in gallstone dissolution. Result showed 70% stone dissolution in multiple stones and 25% in solitary stones.

**EPL combined with UDCA**

UDCA at 750 mg can be safely taken with 1.8 g of EPL for an enhanced effect against cholesterol stone dissolution. Hence, EPL combined with UDCA aids in stabilizing liver enzymes and promotes membrane repair and regeneration. Studies showed a marked reduction in total cholesterol and triglycerides with UDCA and EPL treatment compared with EPL alone.

**EPL exhibits anti-oxidative, anti-inflammatory and antioxidant effects**

To help prevent hepatocyte apoptosis. For an effective therapy, the recommended dose is 1.8 g of EPL daily with appropriate treatment durations. UDCA and EPL are truly a power duo as an adjunct treatment in cholesterol stone dissolution and fatty liver disease. With the efficiency and safety of UDCA and EPL backed by years of research, a new door of hope and opportunity opens to patients suffering from hepatobiliary disease.

**References:**

3. Suggested by the Philippine Society of Digestive Endoscopy: Felix Domingo, MD
7. diarrhoea or diarrhoea symptoms, by increasing the fluidity and functioning of the blood corporuses and pancreatic tissues. EPL membrane-dependent functions performing as anti-oxidant, anti-inflammatory, antifibrotic, and membrane regulation and repair.
8. Understanding essential phospholipids (EPLs)
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