CLINICAL STUDIES

There are excellent results in patients with non-renal azotemia and acute post-infection nephritis; good for sub acute and chronic nephritis and insufficient in patients with end-stage chronic nephritis, which resulted in large lesions of the renal parenchyma.
Weissmann-Netter report that lespedeza capitata leads to improved overall performance and a significant reduction in blood urea, which in some cases is maintained until 15 days after stop of the treatment.

Lespeuril favours:
• normalize kidney function
• facilitate urine excretion
• helps urea excretion

Each capsula contains dry extract of Lespedeza capitata 200 mg.

REFERENCES:
• BAO, N. F., Contents of flavonoids in the extract of Lespedeza virgata 2008 May;28(5):858-60.
• CERVELLE, C.M.H., Treatment of hypoazotemic and atheromatous conditions using lespecapitoside and process for obtaining same (1966).
• WAGNER, H. ET AL: "Flavonoids in Lespedeza capitata" Phytochemistry (1972), 11_ (4), 1518, XP001007949
• Study on Activity Chemical Constituents and Mechanism of Lespedeza Virgata (Thurb) DC in Glomerulonephritis, China Papers, 2010 August 4
• Lespedeza capitata Summary report Emea/MRL/419/98-final, 1998 june;
• "Rote Liste" 1994 , BUNDES Verband Der Pharmazeutischen Industrie , Frankfurt / MAIN XP002172057 * example 81168
• Brochure – Glomerulonephritis, Renal Resource Centre, Australia (2010)
• Monografia Lespedeza capitata Michaux
Lespedeza capitata belongs to the Fabaceae family and grows wild in the eastern United States. The usable parts are blooming plant tops.

**CHEMICAL COMPOSITION**

Among the main compounds are catechin tannins, catechol (10%) and flavonoids (1%) identified as O-glycosides and C-glycosides. Lespecapitoside, which is the main active flavonoid, is a C-glycoside.

Lespedeza has a selective tropism for renal function and flavonoids determine its action to lessen the body nitrogen as they have a specific chemical structure: sugar-bonded flavon-glucoside as a derivative of glucose (instead of the usual relation O-glucoside). These last much longer glycosides hydrolysis and have longer diuretic action.

**LESPECAPITOSIDE**

- Lespedeza flavonoids have an antioxidation effect as show proliferation inhibition and apoptosis induction of mesangial cells. The latter may be induced by activation of caspase-3 in a dose-dependent way.

- Lespedeza flavonoids exhibited dose-dependent oxygen radical scavenging activity. This activity was higher than that of vitamin C. Lespedeza compounds could potently counteract oxidative damage on kidney.

- Lescapitozide can repair the impaired nephridial tissue by decreasing the overexpression of nuclear factor KappB and increased matrix metallopeptidase 9 (MMP-9) protein expression. Result is lessen the extra cellular nephrone matrix.

**PHARMACOKINETICS**

Flavonoids accumulate in organs and tissues directly involved in transit, metabolism and excretion of these substances, such as blood, liver, kidneys, gallbladder and duodenum. Once adopted, the C-glycosides can be found four hours later in the bile and urine identified as acid-phenols. Lespecapitoside is associated with low plasma protein.

**PHARMACOLOGICAL ACTIVITY**

Lessen Blood urea nitrogen

Harris found that the compensated function of alive nephrons was accentuation and its oxygen-consumption increased greatly, so he put forward hypermetabolism theory that many etiological factors correlating with glomerulonephritits(GN). For example, the overexpression of cytokine, vasoactive substance and chemotatic factor, the accumulation of extracellular matrix, the proliferation of Mesangial cell and the hypertrophy of renal tubular epithelial cells are all concerned in an important mechanism - oxidative stress.

Mesangial cell, as one of the three inherent cells of renal glomerulus, has active physiologic function, and also play an important role in the occurrence and development process of renal glomerulus inflammation and sclerosis. The oxygen radicals, as a signaling molecule, gives rise to renal glomerulus sclerosis from activating protein kinase C (PKC) to adjust and control cell proliferation level. In the phase of renal glomerulus diseases, the severity of renal tubule interstitial fibrosis can not be ignored.

A great deal of oxygen radicals, which can not be eliminated in time, it can stimulus renal tubular epithelial cell to excrete a mass of extracellular matrix (ECM), for example, fibronectin(FN), laminin(LN) and colloidal matter, which induce renal interstitium fibrosis.

**USAGE**

Stimulation of diuresis and application in mild or moderate states of azotemia, with levels of urea by 50 to 100 mg/dl (equivalent to 17.85 - 35.90 mmol/l), in cases of mild or moderate renal impairment if the renal parenchyma is preserved enough to respond positively to incentives.

**ADDITIONAL ACTIVITIES**

**ACE inhibitory activity**

Moderate to good activity, due to the formation of chelate complexes between the ACE enzyme and different monomer units of oligomeric proanthocyanidins of Lespedeza.

<table>
<thead>
<tr>
<th></th>
<th>Atherogenous diet</th>
<th>Atherogenous diet</th>
<th>lespecapitoside</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cholesterol (g/l)</td>
<td>16.98</td>
<td>8.35</td>
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<tr>
<td>Esterified cholesterol (g/l)</td>
<td>12.02</td>
<td>5.87</td>
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<tr>
<td>Free cholesterol (g/l)</td>
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<td>Free cholesterol (g/l)</td>
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<tr>
<td>Esterified fatty acids (meq/l)</td>
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<td>12.9</td>
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<tr>
<td>Aorta atheromatous lesions, degree</td>
<td>2.7</td>
<td>1.7</td>
<td></td>
</tr>
</tbody>
</table>

Results of a study in rabbits for 68 days with a water-alcohol extract of Lespedeza capitata, corresponding to a daily dose of 0.2 mg lespecapitoside / kg