Abstracts

19th National Congress of the Spanish Society of Nephrology

Pamplona, 3-6 October 2009

Official Institution of the Spanish Society of Nephrology

Original full version available on www.revistanefrologia.com
497. FAMILIAL HYPOPHOSPHATEMIC RICKETS (FHR) 
EVOLUTION STUDY OF 9 CHILDREN
J.L. ECJIA PEIRO, V. CANTARIN, M. VAZQUEZ MARTUL
NEPHROLOGY. NIÑO JESUS HOSPITAL

Purpose: to assess the evolution of FHR in a long-term treatment.
Material and Methods: a group of nine 15-month to 10 year-old patients (8 girls and 1 boy) (50 +/- 32.6 m). Seven children had a family history of either rickets or bone deformities. The starting height of two children was -2 ds, with bone age below the chronological age of one of the children, while the height of the other children was right for their bone age. All nine children had Genu Varum and / or Blount’s disease (deformans tibiae), and one had early nephrocalcinosis. The serum phosphorus level in all children was 3 mg/dl (2.6 +/- 0.17), their tubular transport (TP/100 ml FG) reduced (1.9 +/- 0.52), and one child with PTH above 70 pg/ml. The renal function was normal in all children. Eight patients started treatment following diagnosis, and the ninth child started the treatment 17 months after the diagnosis, with increasing doses of 1.25 dihydroxycholecalciferol (dhc) of up to 60 +/- 40 ng/kg/day, and phosphates up to 56 +/- mg/kg/day during a period of between 1 and 17 years (average 7 years).

Results: five hypercalciuric / hypercalcemic crises occurred in four patients, of whom only one was taking high doses of dhc 1.25. The bone deformations of five patients were corrected. The other four fail either completely or partially to correct them, two of whom had been undergoing treatment for under two years, and the other withdrew after four years of treatment. The height of the latter remained low (under 2 ds) while growth was normal for the other children. Three patients (33.3%) developed nephrocalcinosis, two after eight years of treatment and poor control of serum PTH levels, while the other child was the one who started the treatment late and who also suffered a severe hypercalciuric / hypercalcemic crisis. None of said three patients had been administered high doses of phosphates or dhc 1.25. No modification of either serum phosphorus 2.8 +/- 1 or TP/FG 2.1 +/- 0.85 was statistically relevant.

Conclusions: the correction of bone deformities is associated with an early start of the treatment. The occurrence of nephrocalcinosis may be connected with hyperparathyroidism and hypercalciuric / hypercalcemic crises. A broader sample would be necessary to better evaluate phosphataemia and TP/100 ml FG.

498. EFFECTIVENESS OF RENALOF ON PATIENT CARRIERS OF CALCIUM NEPHROLITHIASIS

M. ATIES SANCHEZ, V. EDIGHILL VILLANUEVA, M. E. RAOLA SANCHEZ
HAEMODIALYSIS. ABELARDO BUCH INSTITUTE OF NEPHROLOGY, NEPHROLOGY. JULIO TRIGO LOPEZ HOSPITAL

It is possible to reduce the recurrence of lithiasis by conducting a medical treatment that involves the use of a natural product such as Renalof, as this product destroys and removes renal calculi from the genitourinary system. For the purpose of assessing the effectiveness of the therapy with Renalof in the treatment of Calcium Urolithiasis, an observational, prospective and longitudinal study was conducted on 100 adult patients from the Julio Trigo Lopez Hospital’s Renal Nephrolythiasis consultation (2008), who were diagnosed to have Idiopathic Calcium Urolithiasis, with calculus under 2.5 cm in size along the entire length of the renal - ureterovesical junction via Simple Urinary Tract, Renal CT and Ultrasound scans. A dose of 975 mg of Renalof was administered daily for three months, while the occurrence of calculus was evaluated on any point of the urinary tract via Ultrasound, UUS and/or abdominal CT scans once a month for three months.

A database was set up, and a descriptive analysis conducted to determine frequency. The condition was more frequent in males (86%), Caucasians (80%) and 30-59-year olds (68%). The main metabolic and physical-chemical factors detected were the following: low Urinary Volume and Crystallization Risk Index (100% of patients), Hypercalciuria (98%); depending on the location of the calculus prior to the treatment, calyceal and ureteral calculi (54% and 43% respectively) which decreased over time. Lithiasis activity also decreased over time, as lithiasis was deactivated in 92% of all patients (100%) who had it at the start of the study. In conclusion, this study has demonstrated that Renalof can work effectively on patients with Idiopathic Calcium Urolithiasis.
EFFECTIVENESS OF RENALOF ON PATIENT CARRIERS OF CALCIUM NPHROLITHIASIS

Hospital General Docente Julio Trigo López. La Habana, Cuba

INTRODUCTION

Calcium Urolithiasis is a highly recurring condition that affects 0.1%-0.3% of the population. It is characterized by a morbidity and recurrence that vary depending on the region under assessment. Between 60% and 70% of calculi are made up of calcium oxalate. Evidence shows that it is possible to reduce the recurrence of lithiasis with a medical treatment applied selectively to patient carriers of Calcium Nephrolithiasis, and supported by this therapy, not only dealing with any physical / chemical, metabolic or physiological abnormalities involved in the formation of the calculus, but also with the use of drugs such as Renalof, which destroys and removes calculus from the genitourinary system to stop the metabolic activity.

RENALOF or COUCH GRASS (agropyron repens) is a very common native species in Europe. Its rhizome has numerous roots and shoots that can spread shallowly over long distances. It is widely regarded as an invas ing species, merely a weed. Its active ingredients are the following: Rheum, Triantline (3%-8%), polysaccharide with inulin-like structure; mucilage (10%); Mammill, Inositol; Saponosides; traces of essential oil (0.01% - 0.05%); agropyron, vanilloside; phenol carbonylic acids.

The task of determining the feasibility of a Renalof-based therapy for Calcium Urolithiasis involved the description of the main metabolic and physical-chemical risk factors, observation of patient behaviour in terms of pre- post-treatment lithiasis activity, and identification of the main side effects of the treatment.

METHODS

1. Population Demographic

2. Metabolic alterations before and after the treatment

3. Physical / Chemical alterations before and after the treatment

4. Amount of calculi as per duration of study

5. Global lithiasis activity as per duration of treatment

6. Percentage of patients free of calculus

The study was conducted on 100 adult patients from the Hospital’s Kidney Nephrolithiasis consultation.

Diagnostic criteria: occurrence of small calculi (2 cm) along the entire length of the renal - ureterovesical junction as confirmed by Renal Utrasounds, Excretory Urography, Simple Urinary Tract and / or Abdominal CT scans. Inclusion criteria: male and female patients diagnosed with Recurrent Calcium Urolithiasis and over 2 years of evolution of the condition, all of whom agreed to participate in this study.

Exclusion criteria: patients with calculi over 2 cm in size, and patients with lithiasis triggered by other causes.

Practical organisation of the study: accepted patients underwent an initial assessment involving metabolic study, renal ultrasound, U.S., Excretory Urography and abdominal CT scan. Upon the results of these tests, patients were classified according to location of calculus, quantity of calculi, lithiasis activity prior to treatment, and current metabolic alteration. All patients underwent a treatment with Renalof (325 mg capsules) to be taken 30 minutes before breakfast, lunch and dinner for a maximum period of 3 months. The treatment evaluation was conducted once a month, and involved Renal Ultrasound Scan, Urography and / or US. The treatment was suspended as soon as the calculus of a patient was no longer there. In the third month, a post-treatment renal CT scan was conducted, and an assessment of the occurrence of calculus anywhere along the renal - ureterovesical junction assessed. Even though we are aware of the fact that lithiasis activity must be determined during a whole follow-up year, in the light of the specific characteristics of our study it was decided to determine said activity only during the period of use of the product.

The metabolic study protocol designed by the Cuba Institute of Nephrology was applied to the study, including determination of metabolites and ions (calcium, phosphorus, uric acid, creatinine, cystine) in blood and urine, and processed by an automated system that allows calculation of all substance clearances, urinary flow and excretion of said metabolites. Urinary saturation is calculated according to Tisselau’s ion-activity product index and the Calcium Oxalate Crystallization Index.

The study was conducted on patients following habitual hygiene and dietetic regimes.

Statistical Analysis: the SPSS v. 16.0 software application was used. The descriptive analysis of data was conducted with absolute and relative frequencies. The McNemar test (5% significance level) was carried out for the purpose of detecting any significant differences between metabolic, physical and chemical alterations and lithiasis activity prior and following the treatment with Renalof.

RESULTS

1. Population Demographic Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30-65</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Skin Colour</td>
<td>White</td>
</tr>
</tbody>
</table>

2. Metabolic alterations before and after the treatment

<table>
<thead>
<tr>
<th>Metabolic alteration</th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypercalciuria</td>
<td>98</td>
<td>8</td>
<td>0.05</td>
</tr>
<tr>
<td>Hypersatura</td>
<td>52</td>
<td>15</td>
<td>0.05</td>
</tr>
<tr>
<td>Hipocitraturia</td>
<td>61</td>
<td>2</td>
<td>0.05</td>
</tr>
<tr>
<td>Hipocitrurina</td>
<td>4</td>
<td>1</td>
<td>N/S</td>
</tr>
</tbody>
</table>

3. Physical / Chemical alterations before and after the treatment

<table>
<thead>
<tr>
<th>Physical / Chemical alteration</th>
<th>Pre treatment</th>
<th>Post treatment</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystallization Risk Index</td>
<td>100</td>
<td>8</td>
<td>0.05</td>
</tr>
<tr>
<td>Low Urinary Volume</td>
<td>100</td>
<td>12</td>
<td>0.05</td>
</tr>
<tr>
<td>Triggered by Calcium Oxalate activity</td>
<td>89</td>
<td>15</td>
<td>0.05</td>
</tr>
<tr>
<td>Triggered by Calcium Phosphate activity</td>
<td>70</td>
<td>8</td>
<td>0.05</td>
</tr>
</tbody>
</table>

McNemar test conducted ( = 0.05), NS: non-significant N=100

4. Amount of calculi as per duration of study

5. Global lithiasis activity as per duration of treatment

<table>
<thead>
<tr>
<th>Time</th>
<th>Lithiasis activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>Start</td>
<td>100</td>
</tr>
<tr>
<td>1st month</td>
<td>90</td>
</tr>
<tr>
<td>2nd month</td>
<td>31</td>
</tr>
<tr>
<td>3rd month</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Pre-treatment</th>
<th>1er mes</th>
<th>2do mes</th>
<th>3er mes</th>
</tr>
</thead>
<tbody>
<tr>
<td>162</td>
<td>54</td>
<td>134</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

McNemar test conducted ( = 0.05), NS: non-significant N=100

CONCLUSIONS

1. The use of Renalof was successful in reducing lithiasis activity in patients with Recurrent Calcium Urolithiasis

2. Renalof was well tolerated by patients.

3. Hypercalciuria, Crystallization Risk Index and Low Urinary Volume were the most common metabolic and physical / chemical factors.

4. Hipocalciuria, Hypersatura, Hipocitraturia, Hipocitrurina, and Hipocalciuria were the most common metabolic and physical factors.

5. The activity was significantly reduced by the use of Renalof.

6. The percentage of patients free of calculus was 92%.

REFERENCES


BIBLIOGRAPHY


