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The treatment of renal lithiasis and microlithiasis with the preparation RENALOF®

This is a stage IV clinical study whose aim is to determine the tolerance, performance and efficacy of the natural preparation RENALOF® in the treatment of renal lithiasis and micro-lithiasis.

The research was conceived as an observational, comparative study and took place between 5 January and 10 June 2005 in the Urology and Urological Surgery Departments of the University Hospital C.F. 2 Bucharest. It consisted of 135 patients, divided into two groups:

- The **treated group** (Lot S) is the group of patients who received treatment with RENALOF® (90 capsules) during 30 days.
- The **control group** (Lot M) is the group of patients who did not receive treatment with RENALOF®.

The selection of the 135 patients was made bearing in mind the maximum similarity between the patients in both groups, in a percentage of 3/1 in favour of the treated group (Lot S).

In order to be selected for the study, the patient had to fulfil all the inclusion criteria and none of the exclusion criteria.

Inclusion Criteria:

i. Patients of both sexes, 18 years old at the beginning of the study, who signed "The Informed Consent of the Patient".
ii. Patient who was not simultaneously receiving any other urinary anti-lithiasis treatment.
iii. Patient who was not simultaneously receiving treatment for HTA or cardiopathy with diuretics.
iv. Patient who was not pregnant.

*P.D. All answers had to be "**YES**"*

Exclusion Criteria:

i. Patient under 18 years, or who did not accept to participate in the study.
ii. Concomitance of other urinary anti-lithiasis treatments.
iii. Patient who was receiving treatment for HTA or for cardiopathy with diuretics.
iv. Pregnant patient, or patient suspecting that she might be pregnant.

*P.D. All answers had to be "**NO**".*

Material

The 135 subjects of this research had an average age of 47.65 years (47.5 years for the patients in the treated group (Lot S) and 48.25 years for the patients in the control group (Lot M)) and the distribution per sex was 51.11% men (51% in the treated group (Lot S) and 51.43% in the control group (Lot M)) and 48.89% women (49% in the treated group (Lot S) and 48.57% in the control group (Lot M)).

Sex ratio of both groups:

SEX/LOT	LOT S	LOT M
Male	51 (51%)	18 (51.43%)
Female	49 (49%)	17 (48.57%)

TOTAL	100 (100%)	35 (100%)

Method

The 135 patients were subjected to clinical and imagistic observation (ECHO ± radiological) at the beginning of the study and at the end of the treatment (30-35 days after starting to administer RENALOF®).

Aim of the Research

The aim of the research was to determine the therapeutic efficacy of administering RENALOF® during 30 days to patients with renal lithiasis and microlithiasis, previously treated or not with other therapeutic methods and who were not concomitantly receiving other urinary anti-lithiasis treatment.

Another objective of the research was to accumulate medical experience in the use of this natural nutritional preparation.

The main objectives of the research were:

- to determine the tolerance to RENALOF® and to pinpoint any possible undesired adverse effects;
- to determine the performance and adherence to the treatment with RENALOF®;
- to determine the therapeutic efficacy of the 30-day treatment with RENALOF®. This was done by monitoring the general state, the diuresis, the lumbar pain syndrome, as well as by imagistic evolution (ECHO ± radiology).

Division into sub-groups depending on the type of renal lithiasis:

The treated group (Lot S) and the control group (Lot M) were divided into four sub-groups, marked from I to IV depending on the type of renal lithiasis. This classification into sub-

groups facilitated our understanding and helped to clarify certain important aspects with respect to the efficacy of RENALOF® in the treatment of renal lithiasis.

- The sub-groups IS and IM consisted of patients from the treated group (Lot S) and the respective control group (Lot M) with URETERAL CALCULI.
- The sub-groups IIS and IIM consisted of patients from the treated group (Lot S) and the respective control group (Lot M) with RENAL MICROLITHIASIS.
- The sub-groups IIIS and IIIM consisted of patients from the treated group (Lot S) and the respective control group (Lot M) with LARGE KIDNEY STONES - CORALLOID or MULTIPLE.
- The sub-groups IVS and IVM consisted of patients from the treated group (Lot S) and the respective control group (Lot M) with post-ESWL RENO-URETERAL MICROLITHIASIS (after the extra-corporeal lithotripsy).

SUB-GROUP	REPRESENTS	LOT S	LOT M
Sub-group I	Patients with ureteral calculi	9 (9%)	3 (8.57%)
Sub-group II	Patients with renal microlithiasis	48 (48%)	15 (42.86%)
Sub-group III	Patients with large kidney stones - coralloid or multiple	25 (25%)	10 (28.57%)
Sub-group IV	Patients with post-ESWL reno-ureteral micro-lithiasis	18 (18%)	7 (20%)
TOTAL		100 (100%)	35 (100%)

It can be observed that we have endeavoured to restrict the differences between the percentages of the same type of lithiasis in both groups.

Tolerance to the 30-day treatment with RENALOF® on a dosage of 3 capsules/day

TOLERANCE	NO. OF PATIENTS
Decreased	0 (0%)

Good	2 (2%)
Excellent	98 (98%)
TOTAL	100 (100%)

All the patients tolerated the treatment with RENALOF®. Only 2 patients (2%) indicated some minor gastric problems during the first week of administration, but these problems did not affect the posology and completely disappeared during the second week of administration without any intervention.

It can be said that the treatment with 3 capsules daily of RENALOF® during one month is very well tolerated.

Adverse effects of the treatment with RENALOF®:

ANY TYPE OF ADVERSE EFFECT	NO. OF PATIENTS
	0 (0%)

No adverse effect was registered during the 30-day treatment with RENALOF®.

Performance with the RENALOF® treatment:

FULFILMENT	NO. OF PATIENTS
No performance	0 (0%)
Satisfactory	2 (2%)
Good	48 (48%)
Very good	50 (50%)
TOTAL	100 (100%)

No patient refused or interrupted the treatment with RENALOF®.

The patients accepted the treatment with RENALOF® from the beginning of the study. Performance was good and very good in 98 of the 100 patients (98%). Moreover, the only "negative" comments from the patients whose performance was satisfactory referred to the 400 –

500 ml of liquid which they were obliged to take with each capsule and which they considered "too much".

Evolution of the general state in both groups:

GENERAL STATE	LOT S	LOT M
Altered	0 (0%)	4 (11.43%)
Stationary	3 (3%)	27 (77.14%)
Improved	40 (49%)	4 (11.43%)
Considerable improvement	48 (48%)	-
TOTAL	100 (100%)	35 (100%)

It is extremely important to point out here the improvement in the general state of the patients who eliminated the stones (patients in the sub-groups IS and IIS). In the sub-group of patients with large stones (sub-group IIIS) improvement in the general state only was frequently observed and 3 patients did not present any change in their general state. It is important to point out the fact that 88 patients (97%) in the treated group (Lot S) felt better than they did at the beginning of the study, compared with the patients in the control group (Lot M).

Evolution of diuresis:

DIURESIS	LOT S	LOT M
Decrease	0 (0%)	4 (11.43%)
Without change	11 (11%)	21 (60%)
Increase	89 (89%)	10 (28.57%)
TOTAL	100 (100%)	35 (100%)

Most of the patients in the treated group (Lot S – 89%) indicated a significant increase (considerable in most cases) of diuresis, with a very beneficial effect on the urinary tract (a "wash-out" effect).

Evolution of the lumbar pain syndrome in the patients in both groups, divided into sub-groups, at the beginning of the study (Moment 0) and at the end of the study (Moment F), after 30 days of administering RENALOF®:

TREATED LOT			ANTIALGIC EFFICACY OF RENALOF®
Sub-group	No. of patients with lumbar pain syndrome at MO	No. of patients with lumbar pain syndrome at MF	No. of patients – disappearance or considerable improvement of lumbar pain syndrome during treatment
IS	9	0	9 (100%)
IIS	40	5	35 (87.5%)
IIIS	20	1	19 (95%)
IVS	15	2	13 (86.67%)
TOTAL	84 (84%)	8 (8%)	76 (76%)

At the beginning of the study (MO), 84 patients (84%) from this group presented the lumbar pain syndrome. At the end of the study (MF), only 8 of these patients (8%) presented lumbar pain. The remaining 76 patients (90.47%) presented considerable improvement, or the disappearance of this syndrome.

To make a comparison, the control group (Lot M) underwent the following evolution:

SUB-GROUP	NO. OF PATIENTS WITH LUMBAR PAIN SYNDROME AT M0	NO. OF PATIENTS WITH LUMBAR PAIN SYNDROME AT MF	VARIABLE IMPROVEMENT OF LUMBAR PAIN SYNDROME
IM	3	2	1 (33.33%)
IIM	13	12	1 (7.69%)
IIIM	8	7	1 (12.5)
IVM	7	6	1 (14.29%)
Total patients with lumbar pain syndrome	31 (100%)	27 (87.1%)	-
Total patients with improvement of syndrome	-	-	4 (12.9%)

Percentage from Lot M with lumbar pain syndrome	88.57% (31 patients)	77.14% (27 patients)	11.43% (4 patients)

At the beginning of the study (MO), 31 patients from the control group (Lot M) presented the lumbar pain syndrome and, after a month of follow-up, this syndrome was equally intense in 27 patients. Only 4 patients (12.9%) indicated a diminution in these pains.

It may be concluded that RENALOF® has a very strong therapeutic efficacy in the reduction of the lumbar pain syndrome, because over 90% of the patients from the treated group (Lot S) who suffered pain, indicated a considerable improvement, or the disappearance of this pain, compared to only 12.9% of the patients in the control group (Lot M).

Ecographic assessment (with or without radiological examination) of the efficacy of the anti-lithiasis therapy with RENALOF®:

For a better understanding and precision of the efficacy of the treatment with RENALOF® and the ecographic assessment of the efficacy of the anti-lithiasis therapy, we compared the patients from the treated group (Lot S) with those from the control group (Lot M) divided into sub-groups.

Sub-group I – patients with URETERAL CALCULI

SUB-GROUP	TOTAL	IMPROVEMENT (ECHO ± RADIOLOGICAL)	NO IMPROVEMENT
IS	9 (100%)	9 (100%)	0 (0%)
IM	3 (100%)	1 (33.33%)	2 (66.67%)

If, in the control group (IM – Lot M) of the patients with URETERAL CALCULI, the spontaneous elimination using ecographic objectivity was 33.33%, in the treated sub-group (IS – Lot S) of patients with URETERAL CALCULI we obtained a percentage of 100% elimination with ecographic objectivity, accompanied by the disappearance of uretero-hydronephrosis.

Sub-group II – patients with RENAL MICROLITHIASIS

SUB-GROUP	TOTAL	IMPROVEMENT (ECHO ± RADIOLOGICAL)
IIS	48 (100%)	28 (58.34%)
IIM	15 (100%)	2 (13.33%)

Patients with renal microlithiasis in the treated sub-group (IIS – Lot S) who received treatment with RENALOF® during 30 days, presented a partial or total reduction of the calcareous mass (this effect was demonstrated by an ecograph) in a percentage 4.37 times higher than in the corresponding control sub-group (IIM – Lot M).

It would be **very interesting** to evaluate the therapeutic efficacy of longer treatments (2-6 months) with RENALOF® in renal microlithiasis.

Sub-group III – patients with LARGE KIDNEY STONES - CORALLOID or MULTIPLE

SUB-GROUP	TOTAL	IMPROVEMENT (ECHO ± RADIOLOGICAL)
IIIS	25 (100%)	5 (20%)
IIIM	10 (100%)	0 (0%)

20% of the patients with large renal lithiasis or coralloid lithiasis in the treated sub-group (IIIS – Lot S) who received the 30-day treatment with RENALOF® presented a decrease of the calcareous mass (this effect was demonstrated by ecographic objectivity); sometimes over 15%. No patient in the control sub-group (IIIM – Lot M) presented a similar phenomenon.

As in the case of patients from the treated sub-group (IIS – Lot S), it would be most interesting to evaluate the therapeutic efficacy of longer treatments with RENALOF® in the evolution of large calculi - coralloid or multiple.

Sub-group IV – patients with post-ESWL (post extra-corporeal lithotripsy) RENO-URETERAL MICROLITHIASIS

SUB-GROUP	TOTAL	IMPROVEMENT

		(ECHO ± RADIOLOGICAL)
IVS	18 (100%)	15 (83.34%)
IVM	7 (100%)	4 (57.14%)

The post-ESWL administration of the preparation RENALOF® during 30 days led to a quicker elimination in a greater percentage of the patients from the treated sub-group (IVS – Lot S), and microlithiasis remained after the extra-corporeal lithotripsy.

Thus, if in the control sub-group (IVM – Lot M), in the first month post ESWL, 57.14% of the cases were stone free, patients from the sub-group treated with RENALOF®, were given a cleansing of the kidneys until they were stone free (demonstrated by ecograph) in a considerably higher percentage (83.34%).

Looking at both groups as a whole (Lot S / Lot M), we can say that in the group treated with RENALOF® (Lot S) during 30 days, ecographic improvement was achieved in 3 times more patients than in the control group (Lot M).

LOT	IMPROVEMENT (ECHO ± RADIOLOGICAL)	NO IMPROVEMENT ECHO	TOTAL
Lot S	57 (57%)	43 (43%)	100 (100%)
Lot M	7 (20%)	28 (80%)	35 (100%)

Although the results are most stimulating, we believe that they can be improved significantly by prolonging the period of administration of RENALOF®, particularly because there are practically no side effects, even in much longer periods of administration. A longer period of administration of RENALOF®, even in a group with the same structure, would increase the percentage of ECHO improvements obtained, especially in patients with renal microlithiasis or large coralloid or multiple stones.

Subjective improvement (related by the patients):

LOT	SUBJECTIVE IMPROVEMENT	NO IMPROVEMENT	TOTAL
Lot S	97 (97%)	3 (3%)	100 (100%)

Lot M	4 (11.43%)	31 (88.57%)	35 (100%)

The percentage of patients who indicated improvement is 8.5 times higher in the treated group (Lot S), compared to the control group (Lot M). The most obvious improvements were confirmed by the general state of the patients and the reduction or disappearance of the lumbar pain syndrome.

Final indications:

FINAL INDICATIONS AFTER 30 DAYS' TREATMENT WITH RENALOF®			
Lot	Objective achieved. - End of treatment	Objective will be achieved. - Continuation of treatment with RENALOF®.	Objective not achieved. - Another method of treatment indicated.
Lot S	37 (37%)	23 (23%)	40 (40%)
Lot M	7 (20%)	0 (0%)	28 (80%)

Thus, at the end of 30 days' treatment, 37 patients (37%) from the group treated with RENALOF® (Lot S) were cured of lithiasis. 23 patients in the same group (23%) are about to be cured, but they need to prolong the administration and follow-up. However, 40 patients (40%) – especially those with large coralloid stones, who did not present any reduction in the calcareous mass –, will be indicated another therapeutic method, especially ESWL, which could later on be accompanied by treatment with RENALOF®.

Conclusions

1. RENALOF® is a preparation which is eminently natural with a 100% tolerance. Throughout the whole period of administration, no adverse effect in the group treated (Lot S) was observed.

2. Although the aims of the study were designed for a short period of administration (30 days), certain elements suggest that there are two significant beneficial effects which might be achieved with longer periods of treatment.
    i. We believe that prophylactic treatment of 30 days every six months applied to patients with different types of lithiasis and with a background of lithiasis could perhaps impede relapses.
    ii. There are signs which suggest that a longer treatment (3 – 6 months) with the preparation RENALOF® might have the effect of reducing the calcareous mass in the case of voluminous lithiasis.

3. Of the elements taken into account in the present study, the most significant benefits achieved from administering RENALOF® are the following:
    i. With its moderately diuretic, emollient effect, RENALOF® helps to RAPIDLY ELIMINATE small and medium-sized ureteral stones.
    ii. RENALOF® represents a very effective treatment for pyelo-calicial lithiasis with stones measuring up to 5 – 6 mm, breaking them up, disintegrating and eliminating them.
    iii. RENALOF® possesses an excellent anti-inflammatory emollient effect, alleviating pain in the urinary tracts irritated by chronic urinary lithiasis. The same properties are noticed in other inflammations of the urinary tract.
    iv. RENALOF® represents a prophylactic treatment for patients with a susceptibility to lithogenesis in general and to oxalic lithogenesis in particular.
    v. RENALOF® represents a complementary treatment especially efficient in patients who benefit from extra-corporeal lithotripsy; it rapidly and painlessly eliminates the fragments which remain after the lithotripsy.

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