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A standardized powder made from rosehips (*Rosa canina L.*) improves function and reduces pain and the consumption of rescue medication in osteoarthritis

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Abstract

The effect of a standardized powder made from rosehips on joint pain and stiffness in patients with osteoarthritis has been investigated several clinical studies. The powder is produced by Hyben Vital, Denmark and has been on the market as an herbal remedy in Scandina for more than a decade. Three studies are of particular interest: (i) A study of 94 patients with early stage osteoarthritis as defined by ACR,[1] (ii) a study of 100 patients with end stage osteoarthritis, (patients on a waiting list for hip or knee replacement)[2] and (iii) a study of patients with osteoarthritis of different joints[3] in which a sub-fraction of patients (n=32) had osteoarthritis of the hand.[4]

Key words: Osteoarthritis, function, pain, rescue medication, rosehip

Early stage osteoarthritis

Winther et al. conducted a study on 94 patients, age > 35 years, with symptomatic knee and/or hip osteoarthritis, according to the clinical and radiological criteria of the American College of Rheumatology. These patients were not on a waiting list for hip or knee replacement and were randomly allocated either to treatment with standardized encapsulated rosehip powder (5 g per day), or placebo.[1] The study was a double-blind crossover design and WOMAC questionnaires were applied at the beginning, after 3 weeks, and after 3 months of treatment. Following this initial 3 month period, the group initially treated with rosehip powder was allocated to placebo and vice versa. During the first three weeks of treatment, patients were not allowed to change their intake of rescue medication. After 3 weeks of treatment, patients were allowed to change their consumption of paracetamol and synthetic opioids such as tramadol and Codein if they wished to. Patients were told not to change their consumption of NSAID's.

Results (primary endpoints): Pain declined as a result of active treatment after 3 weeks (delta WOMAC decline: 7.4 ± 14.9 S.D. as compared to a modest increase in the placebo group 2.1 ± 16.8 S.D., p<0.014). After 3 months of treatment the WOMAC score in the rosehip powder group was practically unchanged and not significantly different from placebo, p<0.125.

An estimate of the consumption of rescue medication such as paracetamol showed a significant decline in the rosehip powder group, p<0.031 (Fig. 1).

Results (secondary endpoints): Stiffness, ADL and patients' global assessment of disease severity (PGAD) tended to decline after three weeks of treatment. All three parameters attained statistical significance in favor of act treatment after 3 months of treatment, p<0.038, p<0.0 and p<0.035, respectively.

A Man–Whitney test applied after the initial 3 mon of treatment did not change the statistical outcome of study and side-effects reported during active treatm were comparable to placebo.

End stage osteoarthritis

Warholm et al. conducted a double-blind, parallel, placel controlled, randomized trial on 100 patients with a me age 65 years, all with osteoarthritis of the hip or kne 50 patients were given encapsulated Hyben Vital rose

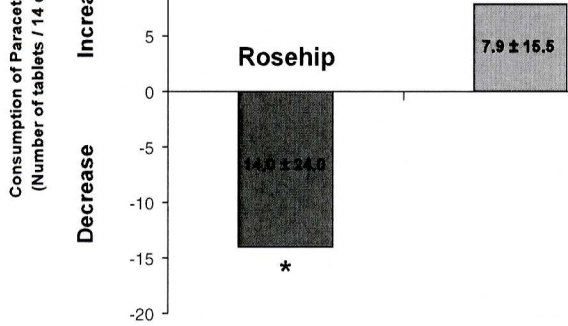

Fig. 1. Change in the consumption of acetaminophen (paracetan tablets (500 mg) during 3 months active treatment and 3 mon treatment with placebo. The change for each treatment perio calculated as the number of tablets taken during the first two we of the treatment period minus the number of tablets taken du the last two weeks of the same treatment period. (* p<0.031).

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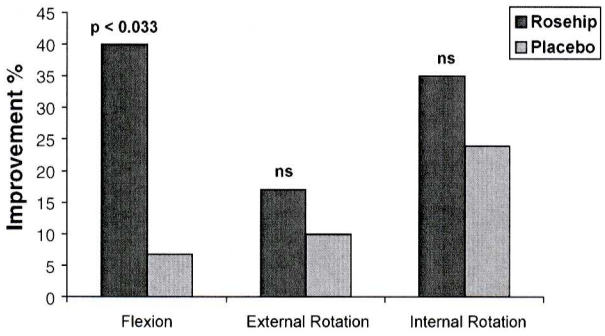

Fig. 2. Flexion, external rotation and internal rotation of the hip as a percentage improvement in movement after 3 months active treatment patients and 3 months placebo treatment (* p<0.033).

powder for 4 months. The remaining patients were given a placebo of similar taste and smell for an identical time period.

All patients had their diagnosis of osteoarthritis of the hip or knee verified by radiography less than 12 months before the study. All patients had experienced pain for more than 6 months and were on a waiting list for either hip or knee surgery or on a list for final evaluation for surgery.

Primary endpoint measures: Hip joint mobility was estimated using a goinometer, which measures how many degrees of flexibility in the joint when tested by the researcher (passive flexion). This improved significantly in the rosehip powder group compared with placebo. The limitation of flexion as a result of osteoarthritis was reduced by 40% (p<0.033). When hip flexion was performed actively (by the patient) the improvement was still significant in the rosehip powder group compared to placebo (p<0.026). A similar, but non-significant pattern was observed for external and internal rotation. Passive hip joint mobility is shown in Fig. 2.

Secondary endpoints: A significantly greater relief from joint pain was found in the group receiving standardized rosehip powder (p<0.035) than in the placebo group. 65.5% responded to active treatment whereas 35% responded to placebo. Side-effects reported during active treatment were few and comparable to what was reported in the placebo-group.

Winther and Kharazmi published a sub-study on osteoarthritis of the hand,[4] data for which was gathered from a larger study on osteoarthritis in different joints (reported elsewhere).[3] In this study 32 patients were given 5 g per day of Hyben Vital rosehip powder or placebo 3 months - after which the group initially treated with rosehip powder was given placebo and vice versa.

The primary efficacy parameter – pain of the hand – was evaluated using a ten step categorical scale for 15 daily activities involving the hand. The activities were as follows: (i) holding heavy things in your hand, (ii) pouring water from a jug, (iii) holding a cup and using cutlery, (iv) wringing out a dishcloth, (v) peeling potatoes, (vi) unscrewing a bottle top, (vii) getting pills out of a blister pack, (viii) opening a milk carton, (ix) tying shoelaces, (x) using a toothbrush, (xi) writing with a pen or pencil, (xii) holding a book hand for reading, (xiii) using garden tools, (xiv) using a corkscrew or tin opener and (xv) picking up and holding small items.

The secondary efficacy parameters were (i) joint stiffness, evaluated on a similar scale, and (ii) an overall evaluation of discomfort from hand osteoarthritis after 3 months of treatment.

Taking an average of the 15 individual activities, the pain score showed a significant reduction in pain during treatment with rosehip powder (p<0.043) compared to placebo. A comparison of the placebo yielded a significant Mann-Whitney p value of < 0.037. When evaluated on a yes/no basis, 88% reported pain reduction while on active treatment compared to 36% for the placebo group (p<0.009).

When the 15 individual activity items were examined one by one, the activity with the highest response, here defined as the "high responder" was (xi) writing with a pen or pencil. A pre-treatment score of 5.00 ± 2.7 fell to 3.80 ± 2.6 after 3 months of treatment with rosehip powder, a reduction of 38%, compared to a non-significant drop from 5.00 ± 2.7 to 4.8 ± 2.6 after 3 months of placebo treatment (p<0.008).

Further measures, such as stiffness and overall feeling of discomfort, declined significantly as a result of active treatment, as one would expect given the reduction in pain.

Data derived from several different studies indicates that rosehip powder is very well tolerated. Furthermore, the powder reduces pain and stiffness and improves ADL function in patients with osteoarthritis of various joints both in early and late stage osteoarthritis. The effect on pain seems to be of a sufficient magnitude to facilitate a reduction in the consumption of certain rescue medications normally used in osteoarthritis. The present data are also encouraging in light of the latest data on glucosamine[5] and chondroitin sulfate,[6] which as monotherapies seem less promising.

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