



Effect of Peptan® collagen peptides on knee joint pain and joint function in women with knee osteoarthritis: a 6-month randomized, double-blind, placebo-controlled study

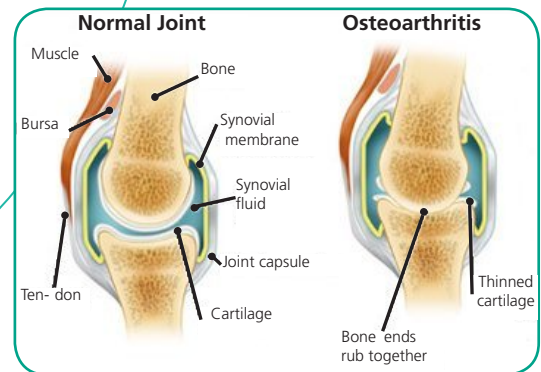
Summary of the latest clinical study on joint health by Rousselot's Nutrition Manager, Dr. Janne Prawitt

Osteoarthritis is one of the major causes of disability in the developed world. Today, 10% of all men and 20% of all women over 60 years old suffer from the disease. The prevalence of osteoarthritis will rise even further in the coming years linked to the increasingly aged population worldwide [1].

Joint pain, stiffness and locking are key symptoms of osteoarthritis causing impaired mobility and decreasing the quality of life of the patient. Only symptomatic treatments like pain killers and anti-inflammatory drugs are available which may cause heavy side effects. The final treatment is joint replacement by surgery.

Osteoarthritis is a degenerative disease of the joint's articular cartilage. Cartilage is composed of cells (chondrocytes) and extracellular matrix, which contains 70-95% collagen. This

structure- and strength-providing protein is produced as well as degraded by chondrocytes, resulting in a highly dynamic and finely-tuned process of continuous matrix turnover. In osteoarthritis this balance is disturbed resulting in an increased net breakdown of cartilage, finally causing the loss of cartilage and joint dysfunction.



1. Background

Comprehensive studies have already shown Peptan® bioavailability and benefits on joint health

Peptan® is a collagen peptide proven to have a bioavailability. Collagen peptides are known to be well digested and absorbed [2], and to accumulate in cartilage [3]. Collagen peptides stimulate cartilage cells to increase the production of extracellular matrix components, such as collagen [4], proteoglycans [5] and hyaluronic acid [6], shifting the balance of joint matrix turnover towards a net matrix increase. This effect might be beneficial to slow down joint degeneration in osteoarthritis.

Indeed, several clinical studies have found, that collagen peptide ingestion reduces joint pain and partly joint function in knee osteoarthritis [7, 8, 9].

The new 6-month randomized, double-blind, placebo-controlled study aimed to assess the efficacy of Peptan® collagen peptides on knee joint pain and function

Rousselot has performed a clinical study in collaboration with the Shanghai 6th People's Hospital of Shanghai Jiaotong University in China to test the efficacy of Peptan® to relieve joint pain and to improve joint function in patients diagnosed with osteoarthritis.

Study design

Hundred women between the age of 40 and 70 participated in the study who presented themselves with knee joint pain or knee joint discomfort. Osteoarthritis was diagnosed by x-ray and quantified using the Kellgren-Lawrence grading system. Only subjects with a Kellgren-Lawrence score of 0-III (excluding severe osteoarthritis), who had not used nutraceuticals or analgesics within the last 6 months were included. Patients were randomly assigned to receive 8g of Peptan® (n=50) or 8g of Placebo (n=50) per day for a duration of 6 months. Joint pain and function were assessed before (baseline), 3 months after and 6 months after the start of the treatment. For this assessment, two well-established and widely-utilized scoring systems based on standardized questionnaires were used, the WOMAC score [10] with an emphasis on joint pain, and the Lysholm score [11] with an emphasis on joint function.



2. Results

The use of Peptan® is safe in osteoarthritis patients

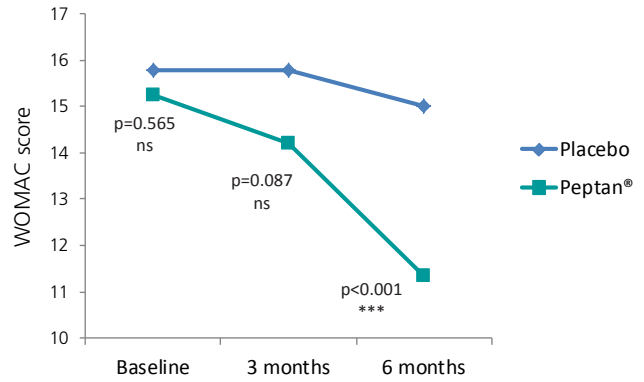
Peptan® is a 100% natural and clean label product. It is a pure protein with GRAS (generally recognized as safe) status and, has long been known to be a safe ingredient. To confirm the absence of any side effects in this study, the osteoarthritis patients had their liver and kidney function evaluated before and after the treatment with Peptan® or Placebo. No differences were found in liver (SGOT, SGPT) or kidney (blood urea nitrogen, serum creatinine) parameters confirming that the intake of 8g Peptan® daily for 6 months is safe in these patients.

Peptan® treatment improves joint pain

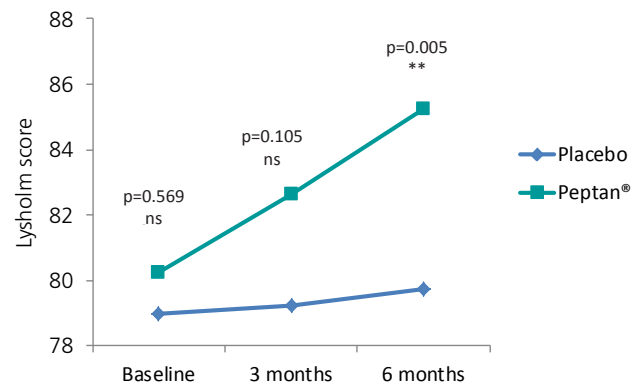
The WOMAC scoring system was used to assess joint health including joint pain in osteoarthritis. The efficacy of Peptan® to improve knee joint pain is clearly demonstrated by the lowering of the score values over time in the Peptan® but not in the Placebo group. This effect was highly significant between the Peptan® and the Placebo group after 6 months of treatment.

Peptan® treatment improves joint function

A second standardized scoring system, the Lysholm score, was used to evaluate the treatment effect on joint function (e.g. limping, stair climbing, walking, jumping). Peptan® was highly efficient to improve joint function as can be seen by the gradual increase of the Lysholm score over time in the Peptan® compared to the Placebo group. As for joint pain, this difference was highly significant between the Peptan® and the Placebo group after 6 months of treatment.



WOMAC score for joint pain assessed at baseline and after 3 and 6 months of treatment. Improvement = lower score; Placebo n=49; Peptan® n=46; ns=non significant



Lysholm score for joint function assessed at baseline and after 3 and 6 months of treatment. Improvement = higher score; Placebo n=49; Peptan® n=46; ns=non significant

Conclusion

The data from this clinical study provides strong evidence that Peptan® is highly efficient to provide symptom relief and improve joint pain and joint function in patients with diagnosed osteoarthritis. By using two different well-accepted scoring systems Rousselot could show that a treatment with 8g of Peptan® per day for 6 months results in a strong and significant improvement of osteoarthritis. This study confirms that Peptan® is a highly useful nutraceutical to improve the quality of life of patients with osteoarthritis.

The Rousselot / Shanghai 6th People's Hospital of Shanghai Jiaotong University study will be fully published in the April/May issue 2014 of AgroFoods journal.

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