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(54) Titre : UTILISATION D'ACIDES GRAS OMEGA-3 POUR LE SOULAGEMENT DE LA DOULEUR
(54) Title: USE OF OMEGA-3-FATTY ACIDS FOR PAIN RELIEF

(57) **Abrégé/Abstract:**

The invention relates to the use of omega-3-fatty acid(s) in means for pain relief. Said means preferably comprise highly unsaturated omega-3-fatty acid(s) that contain, above all, EPA and/or DHA. Preferably, the omega-3-fatty acid is administered in a high dose of more than 2g, in particular more than 3 to 4g for pain relief.

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- hinsichtlich der Identität des Erfinders (Regel 4.17 Ziffer i)
- hinsichtlich der Berechtigung des Anmelders, ein Patent zu beantragen und zu erhalten (Regel 4.17 Ziffer ii)
- Erfindererklärung (Regel 4.17 Ziffer iv)

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(54) Title: NOVEL USE OF OMEGA-3-FATTY ACID(S)

(54) Bezeichnung: NEUE VERWENDUNG VON OMEGA-3-FETTSÄURE(N)

(57) Abstract: The invention relates to the use of omega-3-fatty acid(s) in means for pain relief. Said means preferably comprise highly unsaturated omega-3-fatty acid(s) that contain, above all, EPA and/or DHA. Preferably, the omega-3-fatty acid is administered in a high dose of more than 2g, in particular more than 3 to 4g, for pain relief.

(57) Zusammenfassung: Die Erfindung betrifft die Verwendung von Omega-3-Fettsäure(n) in einem Mittel zur Schmerzbekämpfung. Vorzugsweise umfasst das Mittel hochungesättigte Omega-3-Fettsäure(n), die vor allem EPA und/oder DHA enthalten. Vorzugsweise wird zur Schmerzbekämpfung die Omega-3-Fettsäure in hoher Dosierung von mehr als 2g, insbesondere mehr als 3 bis 4g, verabreicht.

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Use of Omega-3 Fatty Acids for Pain ReliefDescription:

The invention relates to a novel use of Omega-3-fatty-acid(s).

It has been long known from technical literature, that Omega-3-fatty-acid(s), especially highly unsaturated Omega-3-fatty-acids(s), above all EPA and DHA, have inflammation-resistive and cardio-protective effects. With the daily intake of EPA and DHA in doses between 0.5 and 1g over many weeks, positive effects can be achieved. After treatment with one gram of EPA and DHA per day over a period of six months, significant reduction in the risk of a heart attack was noticed (G Ital Cardiol 1993; 23:1053-1061). In addition, treatment of painful inflammation and rheumatic diseases with Omega-3-fatty-acids(s) shows positive effects after at least a month (Alair A.B., et al. Nutrition (2005): 1, 2, 131-136). Moreover use of Omega-3-fatty-acids(s) for prolonged treatment of Dermatitis and Psoriasis (J Am Acad Dermatol. (1998); 38, 539-547), as well as for the treatment of various pre-menstrual complaints is known (German B. et Al. Nutrition Research (2000); 5 (20), 621-631 (11)).

The function of the invention is to develop further possibilities of use of Omega-3-fatty-acids(s). As per the invention, Omega-3-fatty-acids(s) are used in means for pain relief. The inventor realized that above and beyond the known effects described earlier, Omega-3-fatty-acids(s) were suited to immediately reduce acute pains and in so far could become effective rapidly within hours of use.

In one aspect, the present invention provides use of omega-3 fatty acid comprising eicosapentaenoic acid (EPA) for producing an analgesic, wherein the analgesic contains as the pain-reducing active ingredient the omega-3 fatty acid only in a free or bonded form, and is for oral or intravenous administration in a single dosage form containing more than 2 g of the omega-3 fatty acid for relieving existing pain or preventive relief of muscle aches.

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In one embodiment, the omega-3 fatty acid further comprises one or more further highly unsaturated omega-3 fatty acids. Preferably, the further highly unsaturated omega-3 fatty acids comprise one or more of docosahexaenoic acid (DHA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), 21:5n3 and stearidonic acid (SDA).

In one embodiment, the bonded form comprises an ester or a salt.

In one embodiment, the dosage form comprises 3 to 4 g of the omega-3 fatty acid.

In one embodiment, the analgesic is free or substantially free of other fatty acids.

In one embodiment, the analgesic further comprises an essence.

In one embodiment, one or both of said pain and muscle aches result from one or both of inflammation and injuries.

In one embodiment, said pain comprises one or more of headaches, toothaches, joint pains and menstrual complaints.

In one embodiment, the dosage form comprises capsules, tablets or liquids.

Highly unsaturated fatty acids are particularly effective in pain relief, especially EPA (eicosapentaenoic acids) and DHA (docosahexaenoic acids).

Its rapid effect as a pain relief means can be seen especially in higher doses of omega-3-fatty-acids(s), e.g. with dosages of more than 2 g, especially of more than 3 to 4 g.

Preferably the entire dosage quantity is administered at one time to fight the pain.

The effect mechanism of pain reduction is similar to that of the Aspirin active component. Administration of Omega-3 fatty acid(s), especially in higher doses, reduces or effectively blocks the creation of pro-inflammatory, pain-causing substances, especially tissue hormones, from omega-6 fatty acid(s) through the COX-enzyme.

At the same time, through the same Cox-enzyme itself, anti inflammatory substances are formed though the Omega-3 fatty acid(s) administered.

Preferably the means containing the Omega-3 fatty acid(s) is free of or had very little of other fatty acids, especially omega-6 fatty acids.

While the Omega-3 fatty acid(s) pain relief means can be combined with at least one other active ingredient, the means of a preferred style of the invention exclusively contains Omega-3 fatty acid(s) and/or combinations of Omega-3 fatty acid(s) as the active substances. As additives one can consider essences.

That the Omega-3 fatty acid(s) containing means can be used for pain relief, for e.g. in case of inflammations and injuries.

Amongst others, the means can be used for relief against headaches, toothaches, joint pains, menstrual complaints or sore muscles.

The means can be used to a great extent against prevention of sore muscle pains e.g. after long breaks in training before restarting the training. The preventative effect against sore muscle pains is based on increasing the elasticity of the cells in the so-called Z-discs and the related reduction of tearing. Taking Omega-3 fatty acid(s) shortly before an above-average use of the muscles, for e.g. before a tennis tournament, avoids or reduces considerably the problem of sore muscles.

The effect of the means is described below through numerous examples.

1st Example

The effect against pains of different types, above all headaches was tested on a number of test subjects. With the respective single administration of 3 g of highly unsaturated Omega-3 fatty acid(s) (Product PUR3 from K.D. Pharma Bexbach GmbH: 60% EPA + 20% DHA + 10% other Omega-3 fatty acids) a significant reduction in pain was achieved within one day, and in the case of headaches within a few hours itself.

2nd Example

The applicant has tried, on himself as well as others, the preventative effect of Omega-3 fatty acid(s) on sore muscles. Taking 3 g of Omega-3 fatty acid(s) (Product K.D. Pharma Bexbach GmbH: 70% EPA + 12% DHA) one day before muscle strain (long-lasting gymnastic exercises, hiking in the mountains, garden work) completely or partly prevented formation of sore muscles in all the cases observed. The effect wears off if taken more than three days before the strenuous use of the muscles.

3rd Example

4 g of Omega-3 fatty acid(s) (K.D. Pharma – Product: 39% EPA + 43% DHA) was taken by ten people in the morning, for a tennis tournament starting at 2:00 p.m. For all these people, the tennis tournament would mean a strain on the muscles as its intensity and duration was above the normal range of their sporting activities and experience showed that it led to sore muscles. None of these people showed any noteworthy soreness of muscles.

Claims:

1. Use of omega-3 fatty acid comprising eicosapentaenoic acid (EPA) for producing an analgesic, wherein the analgesic contains as the pain-reducing active ingredient the omega-3 fatty acid only in a free or bonded form, and is for oral or intravenous administration in a single dosage form containing more than 2 g of the omega-3 fatty acid for relieving existing pain or preventive relief of muscle aches.
2. Use according to claim 1, wherein the omega-3 fatty acid further comprises one or more further highly unsaturated omega-3 fatty acids.
3. Use according to claim 2, wherein the further highly unsaturated omega-3 fatty acids comprise one or more of docosahexaenoic acid (DHA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), 21:5n3 and stearidonic acid (SDA).
4. Use according to claim 1, wherein the bonded form comprises an ester or a salt.
5. Use according to claim 1, wherein the dosage form comprises 3 to 4 g of the omega-3 fatty acid.
6. Use according to any one of claims 1 to 5, wherein the analgesic is free or substantially free of other fatty acids.
7. Use according to claim 6, wherein the analgesic further comprises an essence.
8. Use according to any one of claims 1 to 7, wherein one or both of said pain and muscle aches result from one or both of inflammation and injuries.
9. Use according to any one of claims 1 to 8, wherein said pain comprises one or more of headaches, toothaches, joint pains and menstrual complaints.

10. Use according to any one of claims 1 to 9, wherein the analgesic is for said preventative relief of the muscle aches.
11. Use according to any one of claims 1 to 10, wherein the dosage form comprises capsules, tablets or liquids.