REML - fixed-effects - model, rose-hip resulted in a statistically significant small reduction in pain (ES [95% CI]: -0.21 [-0.35 to -0.07]; p = 0.004), disability (-0.22 [-0.36 to -0.07]; p = 0.003), with more patients likely to respond to treatment when compared to the untreated controls (OR: 3.04 [2.04 to 4.52]; p < 0.0001). This OR - adjusted for the weighted control event rate - corresponded to a NNT of 4 (3 to 6) patients.

Conclusions: Based on the available evidence, we conclude that a supplement of rose-hip might result in some symptomatic relief in many osteoarthritis patients. The clinical efficacy was small and in the same range as that of paracetamol (acetaminophen).

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PREDICTIVE FACTORS OF RESPONSE IN A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED EVALUATION OF THE EFFICACY OF A SINGLE DOSE OF 6 ML OF HYLAN G-F 20 IN PATIENTS WITH SYMPTOMATIC KNEE OSTEOARTHRITIS

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Purpose: To compare the efficacy of 1x6mL intra-articular (IA) administration of hylan G-F 20 (Synvisc-One®) against placebo in different sub-populations of patients with symptomatic OA of the knee.

Methods: Prospective, multicenter, randomized, double-blind (patient, independent clinical observer) study comparing 1 IA injection of 6mL of hylan G-F 20 (H) or saline (S). Patients must have documented diagnosis of OA of the target knee made at least 3 months prior to screening. Patients with symptomatic OA of the contralateral knee or either hip not responsive to paracetamol and requiring other therapy were excluded. The primary efficacy analysis used WOMAC A Likert pain was and performed on the ITT population, based on a repeated-measures model over the 26 weeks of the follow up.

Results: 253 patients were randomized (H N=124, S N=129). Mean age 63 years (42-84), BMI 29.4 (19.5-52.4), 71% female, primary knee OA Kellgren Lawrence (KL) grade 2 (45%) or 3 (55%). Overall, patients in the H group experienced a mean change from baseline in their WOMAC A pain score over 26 weeks which was statistically significantly different from the change reported in the S group (Δ = -0.15, p = 0.047).

Conclusions: The findings demonstrate that methylsulfonylmethane (MSM) is effective and significantly improve function and reduce pain in knee OA patients.

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THE ROLE OF MSM IN KNEE OSTEOARTHRITIS: A DOUBLE BLIND, RANDOMIZED, PROSPECTIVE STUDY

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Purpose: Osteoarthritis (OA) is among the most common causes of disability in the elderly. Since the recent publications illustrating the lethal adverse affects of cox-2 selective anti-inflammatory drugs, there has emerged a need for safe long term treatment in OA. As a result, patients have begun using dietary supplements sold OTC. These include glucosamine, chondroitin sulfate and methylsulfonylmethane (MSM). MSM is a natural substance produced in our body that has analgesic and anti-inflammatory properties. There is lack of research on the efficacy of MSM in treating knee OA. The aim of the study was to determine the efficacy of MSM in treating knee OA patients.

Methods: This study is a prospective, randomized, double-blind, controlled study, 60 men and women, 45-90 (68 ±7.3) years of age with knee OA graded 1-4 (3 ±1) according to Kellgren & Lawrence, were enrolled in the study and randomly assigned into 2 groups: One receiving MSM in doses of 1.125 milligrams 3 times daily, and the other receiving a placebo. Patients were assessed at baseline, 6, and 12 weeks. During their appointments, the patients were asked to fill out questioners on their pain and physical function: SF-36, WOMAC, KFS, and KSS. The patients physical function was also assessed using Aggregated Locomotor Function (ALF).

Results: There were significant improvements in pain, stiffness, and physical function in the experimental group according to both the WOMAC questioner (p-value=0.009) and the SF36 questioner (p-value=0.031). No significant differences between the groups were found using the KSS and KFS questioners. A seven second improvement in the total time measured (ALF) was also found in the study group, while no such improvement was seen in the placebo group (p-value=0.009). No adverse effects were recorded.

Conclusions: Based on the available evidence, we conclude that methylsulfonylmethane (MSM) is effective and significantly improve function and reduce pain in knee OA patients.
undergoing any study procedure. A total 260 patients fulfilling the selection criteria were treated with either Lornoxicam 8mg- one tablet b.d. or Diclofenac 50mg- one tablet t.d.s. for 4 weeks. The primary efficacy variables were improvements in Western Ontario and McMaster's WOMAC (OA) indices and Composite Index (for pain, stiffness and physical function) and the Visual Analog Scale (VAS) scores (for pain). Clinical evaluations were performed at baseline, 2nd week and 4th week. Safety was monitored by incidence of treatment-emergent adverse events, physical examination, assessments of vital signs and routine laboratory tests.

Results: Of the 260 (130 in each group) patients enrolled in the study, 13 patients (7 in lornoxicam group and 6 in diclofenac group) were lost to follow-up and were considered as drop-outs. Thus the data of 247 (123 in lornoxicam and 124 in diclofenac group) was included in the analysis. Over the 4-week study period both drugs provided significant sustained relief of osteoarthritic symptoms compared to baseline. There was a reduction of 90.67% in mean pain score (WOMAC index) in lornoxicam group and 88.9% in diclofenac group after 4 weeks of treatment. A significant reduction of 83.1% was observed in the mean VAS pain score in lornoxicam group and 79.3% in diclofenac group at the end of the 4th week. Onset of action rated at 2 weeks for improvement in mean scores of stiffness, physical function, VAS pain scores and mean total WOMAC Index scores was faster in lornoxicam group as compared to diclofenac. Furthermore, lornoxicam was better tolerated as compared to therapy with diclofenac in this study. Lesser number of patients treated with lornoxicam (13.1%) reported mild to moderate GI adverse events compared to 17.6% patients treated with diclofenac. None of the patients had cardiovascular adverse events such as edema or increase in blood pressure.

Conclusions: The results of the present study confirmed that lornoxicam in a dose of 16mg/day had an earlier onset of action and a better tolerability profile as compared to diclofenac 150 mg/day in the treatment of adult Indian patients with osteoarthritis. It could be therefore a safer and alternative option in the symptomatic treatment of patients with osteoarthritis with lesser dosing frequency.

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THE PREVENTIVE EFFECT OF PLATELET-RICH PLASMA AND BIODEGRADABLE GELATIN HYDROGEL MICROSPHERES ON EXPERIMENTAL OSTEOARTHRITIS IN THE RABBIT KNEE

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Purpose: To investigate the therapeutic potential of administration of gelatin hydrogel microspheres containing platelet-rich plasma (PRP), by examining its effects on progression of osteoarthritis (OA) in a rabbit model.

Methods: PRP was prepared from rabbit blood by centrifugation. Gelatin hydrogel microspheres were prepared from bovine gelatin using dehydrothermally cross-linking. To confirm the anabolic effect of PRP in vivo, cartilage matrix gene expression was examined after intra-articular administration of PRP contained in gelatin hydrogel microspheres. The PRP in gelatin hydrogel microspheres was administered into the rabbit knee joint twice with an interval of 3 weeks, beginning 4 weeks after anterior cruciate ligament transaction (ACLT). Ten weeks after ACLT, gross morphological and histological examinations of the knee joints were performed.

Results: The purified PRP contained about 39.4 times the number of platelets contained in whole blood. In the knee joint, the expression of proteoglycan core protein mRNA in the articular cartilage increased after administration of PRP contained in microspheres. On the other hand, the expression did not increase after administration of PRP only. Intra-articular injections of PRP in gelatin hydrogel microspheres significantly suppressed progression of OA in the ACLT rabbit model morphologically and histologically. The independent administration of PRP or gelatin hydrogel microspheres did not suppress the progression of OA.

Conclusions: PRP contains multiple growth factors, such as TGF-β and PDGF at high levels and is used as an autologous source of growth factors for soft tissue regeneration and bone repair. A great advantage of PRP is that it is made from autologous blood, and thus does not induce an immune reaction. The present study indicated that sustained release of growth factors contained in PRP has preventive effects against OA progression. These preventive effects appear to be due to stimulation of cartilage matrix metabolism, caused by the growth factors contained in PRP.

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EFFECTIVENESS OF COMPLEX MEDICATION (GLUCOSAMIN + CHONDROITIN + IBUPROFEN) FOR TREATMENT OF PAIN SYNDROME UNDER KNEE OSTEOARTHRITIS

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Purpose: The research was aimed at evaluating the effectiveness of Theralflex-Advance (TA). (250 mg glucosamin sulphate, 200 mg chondroitin sulphate and 100 mg ibuprofen).

Methods: The first group included 16 patients (aged 64,2±1,9 years) with knee osteoarthritic of II-III stages, according to Kellgren-Lourenz. The control group included 16 patients with the same diagnosis (aged 63,9±1,7 years), who took Theralflex (TA) (500 mg glucosamin hydrochloride and 400 mg chondroitin sulphate). The following methods of study were used: Mc-Gill questionnaire, VAS, Leken index, Womac scales (WS), determination of life quality by EuroQol 5D scale.

Results: After two weeks of treatment, patients taking TA observed a reliable decrease of pain syndrome by Womac scale (before treatment 57,8±5,5; after two weeks 40,7±5,9; t=2,38; p=0,037), decrease of constraint in movements (index before treatment 57,8±6,5; after two weeks 36,7±6,3; t=2,65; p=0,022), improvement of index of everyday activity (before treatment 64,6±4,1; after a fortnight - 44,0±6,1; t=2,82; p=0,017). Over a month intensity of pain in the knee lowered in the group taking TA, according to VAS scale (before treatment 55,0±3,1; over a month 44,2±4,9; t=2,32; p=0,041), according to Womac scale (before treatment 58,5±5,5; over a month 38,7±5,7; t=2,45; p=0,032). Constraint of movement also decreased, according to WS (before treatment 57,8±6,5; over a month 37,5±7,2; t=2,96; p=0,013) and index of everyday activity improved (before treatment 64,6±4,1; over a month 42,1±5,4; t=3,51; p=0,005). A month after patients ceased taking the drug, intensity of pain returned to lower in comparison with indexes before treatment by VAS scale (before treatment 55,0±3,1; over a month - 39,0±4,1; t=2,26; p=0,049), by WS (before treatment 58,5±5,5; over a month -41,1±5,5; t=1,40; p=0,20). By contrast, the constraint of movements increased (indexes after a month of treatment -37,5±7,2; after two months - 47,0±6,6), and index of everyday activity decreased according to WS (after a month -42,1±5,4; over two months - 49,4±5,3). However, the given indexes were lower than before treatment (57,8±6,5 and 64,6±4,1, respectively). In the group taking T, intensity of pain syndrome certainly decreased after two months of treatment, according to VAS scale