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functional severity of knee OA. Moreover the measurement of loading during the gait cycle, according to the predominant side appears to be of interest for rehabilitation. Further studies are necessary to understand the relation between excessive loading and progression of knee OA.

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THU0349 OBESITY AND ANTHROPOMETRIC PARAMETERS IN SUBTYPES OF OSTEOARTHRITIS

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Background: Osteoarthritis (OA) is the most prevalent articular disease in the Western world. Obesity is an important risk factor for the development of OA, and this association is stronger with knee OA, but it also exists with hip and hand OA.

Objectives: To characterize and compare groups of patients with knee, hip and hand OA, in relation to weight and anthropometric parameters.

Methods: A protocol of evaluation was applied to patients in our outpatient clinic.

The rheumatologic and non-rheumatologic diagnoses were registered, and the Body Mass Index (BMI), Abdominal Fat Mass (AFM), Lean Body Mass (LBM), Body Water Mass (BWM), perimeters of the waist (PW) and hip and Waist/Hip Index (WHI), were evaluated by the Nutrition team.

Results: 557 patients with OA were registered, of which those without generalized OA were divided according to knee, hip and hand involvement. We evaluated 145 patients with knee OA with a mean age (MA) of 67 years, 42 with hip OA with a MA of 66 years and 34 with hand OA with a MA of 64 years. Women represented 83%, 86% and 94% of the total, in the groups of knee, hip and hand OA, respectively. The mean BMI of the patients with knee OA was 30,5 kg/m^2, with hip OA was 29,2, and with hand OA was 28,3. The obese patients (BMI≥30) represented 50% of the total in the knee OA group, 31% in the hip OA group, and 30% in the hand OA group. In relation to the rest of the parameters analyzed, the results were as follows, in the groups with knee, hip and hand OA, respectively: the AFM was 35,3%, 33,8% and 36,3%; the LBM was 46,9 kg, 46,5 kg and 43,1 kg; BWM inferior to the desired level (50-60% in women and 60-70% in men) in 89,7%, 78,9% e 80,6%; PW above the desirable (94 cm in men and 80 cm in women) in 91,0%, 85,7% and 78,8%; WHI above the desirable (0,9 in men and 0,8 in women) in 89,0%, 88,1% and 81,8%.

Conclusion: We found a predominance of the female gender in all our groups. The mean BMI and the prevalence of obesity was higher than expected in the general population, especially in the group with knee OA, in which the prevalence of obesity was much higher than in the other groups. In all groups, most of the patients presented body composition parameters which expressed excessive fat body mass and an increased cardiovascular risk, namely a high WP, high WHI, high percentage of AFM, and decreased BWM. The knee OA group presented the worst parameters, except for the AFM. However, the following should by emphasized: the LBM was similar in patients with knee and hip OA; the number of patients with BWM below normal was similar in the hip and hand OA groups; the number of patients with WHI above normal was similar in patients with knee and hip OA.

A high prevalence of excessive weight in patients with knee OA seems to support the role of obesity in its genesis. The high number of patients with hip or hand OA and obesity could mean that it plays a role in the genesis of other OA subtypes. The rest of the anthropometric parameters, which show some associations between the three subtypes of OA, may suggest the influence of endocrine or biomechanical in their genesis. More studies are necessary to evaluate this hypothesis. The management of OA, independently of the joint pattern, should include nutritional intervention and adequate physical exercise.

THU0350 OBESITY AND CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH OSTEOARTHRITIS

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Background: Osteoarthrisis (OA) is the most common articular disease in industrialized countries. Obesity is an important risk factor for the development of OA, and patients usually have associated cardiovascular risk factors, such as hypertension (HT), diabetes mellitus (DM) and hypercholesterolemia (HCol), either because of their age or the presence of obesity.

Objectives: To characterize a population of patients with OA in relation to anthropometric profile and the presence of cardiovascular risk factors, and compare the values between genders.

Methods: A protocol of evaluation was applied to patients of our outpatient clinic. The rheumatologic and non-rheumatologic diagnoses were registered, including DM, HT and Hcol, and the Body Mass Index (BMI), Perimeters of the Waist (PW) and Hip and Waist/Hip Index (WHI), Abdominal Fat Mass (AFM), Lean Body Mass (LBM) and Body Water Mass (BWM) were evaluated by the Nutrition team.

Results: 557 patients with OA were registered, of which 487 (87%) were female and 70 (13%) were male. The mean age was 65,8 ± 10,6 years [45-101]. The mean BMI was 29,6 ± 4,6 kg/m^2, distributed as follows: 71 patients normal weight (13%), 252 patients overweight (45%), 167 with obesity grade I (30%), 51 with obesity grade II (9%) and 15 with obesity grade III (3%). The mean BMI in the female gender was 29,7 and in the male gender was 28,9. The obese patients (BMI≥30) represented 43% of the women and 33% of the men. In the female gender a mean AFM of 36% and a LBM of 44,6 kg was obtained, against 27% and 56,0 kg, respectively, in the male gender. In relation to BWM, 90% of women and 94% of men were below the desired level (50-60% in women, 60-70% in men). In women, 91,2% had a WP ≥ 80 cm and 88% had a WHI ≥ 0,8, while in men, 76% had a WP ≥ 94 cm and 90% had a WHI ≥ 0,9.

In relation to the associated diseases, 52% of women and 47% of men had HT, 10% e 13%, respectively, had DM, and 74% of women and 75% of men had HCol.

Conclusion: In our series of patients with OA, we verified a high predominance of the female gender. We also verified a prevalence of excessive weight and obesity was higher than that expected in the general population, without significant difference between genders. Most patients presented parameters of body composition which expressed an increased cardiovascular risk, namely increased waist perimeter, waist/hip ratio, percentage of abdominal fat mass, and decrease in body water mass, without significant differences between genders. The prevalence of HT, DM and Hcol was above that expected for the age and gender.

A high prevalence of excessive weight in patients with OA seems to support the role of obesity in the genesis of OA, but cannot exclude the weight gain secondary to a sedentary lifestyle and physical incapacity. The cardiovascular risk in patients with OA is high, not only because of obesity and adverse body composition parameters, but also because of age and association of diseases such as HT, DM and Hcol. There does not seem to be a significant difference in the cardiovascular risk between patients of different genders. The association between OA, obesity and cardiovascular risk factors may also suggest a role of endocrine-metabolic mediators, still not understood. Any therapeutic strategy of OA should include nutritional intervention, adequate physical exercise and the control of cardiovascular risk factors.

THU0351 COMPARATIVE EFFICACY OF THREE AND FIVE INTRA-ARTICULAR INJECTIONS OF SODIUM HYALURONATE IN THE TREATMENT OF KNEE OSTEOARTHRITIS - A 12-MONTH STUDY

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Objectives: To evaluate the efficacy and safety of intra-articular (i.a.) injections of sodium hyaluronate (SH) 1.0% (Ostenil™, TRB Chemedica AG, Germany) administered 1x/week for 3 and 5 injections in 2 groups of patients suffering from knee osteoarthritis (OA). To assess the long-term efficacy over a 12-month period from the 1st injection.

Methods: This multicentre, randomised, masked-observer study involved patients aged 50-70 years with knee OA according to ACR criteria. In one group, patients received 1 i.a. injection of SH 2.0 ml per week into the knee at day 0, weeks 1 and 2, followed by 2 lidocaine injections (2%, 2.0 ml) at weeks 3 and 4. In the other group, patients received 5 SH injections from day 0 to week 4. Patients were observed over 12 months with visits at week 5, months 3, 6, 9, 12 after the 1st injection. Efficacy parameters were WOMAC index assessed on VAS and patient efficacy judgement. Response was defined as ≥ 20% improvement in WOMAC index.
Results: 140 patients (70 patients in each group, mean age 60.2± 7.1) were randomised and analysed. Pain score WOMAC A decreased from baseline in a statistically significant manner in both groups ($p < 0.001$, ANOVA test) and remained at stable level until month 12. No statistically significant inter-group difference was found. WOMAC B (stiffness) and C (physical function) showed the same trend. At week 5, 70.0% patients in the 3-injection group and 65.7% patients in the 5-injection group were treatment responders. At month 12, proportions were 50.0% and 44.2%, respectively.
A total of 81.4% patients in the 3-injection group and 82.9% of those in the 5-injection group judged treatment as moderately to very effective at month 3. At month 12, the proportions remained similar in the two groups (71.6% in the 3-injection group vs 73.8% in the 5-injection group. SH tolerance was good. Local adverse events occurred in 2 patients (one in each group).

Demographics/WOMAC A (mm ± SD)

	3-injection group n = 70	5-injection group n = 70
Gender (f/m)	56/14	53/17
Kellgren-Lawrence (%, grade I/II/III)	15.7/60.0/24.3	8.6/52.9/38.6
WOMAC A baseline	40.3± 13.0	41.7± 12.7
WOMAC A week 5	16.3± 14.2	17.5± 14.3
WOMAC A month 3	16.1± 13.9	17.7± 14.7
WOMAC A month 6	18.7± 18.1	21.1± 16.6
WOMAC A month 9	18.6± 17.9	23.3± 18.0
WOMAC A month 12	19.5± 16.3	22.6± 17.2

Conclusion: The i.a. administration of SH 1% for 3 or 5 injections was efficient in controlling pain and improving stiffness and physical function in patients with symptomatic knee OA. The treatment effect persisted 12 months after the 1st injection in both groups.
There was no statistically significant difference in the efficacy of a 3-injection course vs a 5-injection course. This could be explained in part by the presence of patients with more severe radiological OA grade in the 5-injection group. Further studies are needed to compare the efficacy of 3 vs 5 injections in patients with more restrictive symptomatic criteria.

THU0352 UPDATE 2006: COCHRANE REVIEW OF VISCOSUPPLEMENTATION FOR THE TREATMENT OF OSTEOARTHRITIS OF THE KNEE

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Background: A systematic review, evaluating the efficacy and safety of viscosupplementation for the treatment of osteoarthritis of the knee, using Cochrane methodology, was published in April, 2005, in The Cochrane Library.
Objectives: To update the published Cochrane Review using the same methodology previously reported.
Methods: The electronic database, MEDLINE, was searched to January (week 1) 2006 to identify any new controlled trials. Handsearching of specialised journals and conference proceedings was completed to the end of December 2005.
Results: Sixteen randomised controlled trials (RCT) fulfilled the selection criteria: Atamaz (accepted), Kirchner 2006; Cubukcu, Huang,Karatosun a, Karatosun b, Kotevolgu, Neustadt, Ozturk, Rejaili, Sezgin 05; Altman, Karatay, Pham and Wu 2004; and Yentur 2003. Three of these had been included in the published Review as abstracts (Ardic 2001 (Cubukcu 2005), Pham 2003(Pham 2004) and Thompson 2002 (Kirchner 2006)). In these additional RCT, hyaluronan/hylan (HA) was compared to the following interventions: saline or arthrocentesis (n=6), other HA (n=5), exercise (n=2), NSAID (n=2), physical therapy (n=1), combination with corticosteroid (n=1), arthroscopy (n=1), treatment regimen (n=1), and combined with trigger point treatment (n=1). The methodological quality ranged from 1 to 5 with a mean of 3.1 out of 5 using the Jadad scale. After combining these additional RCT with the results of the previously published Review, for the class-based HA versus placebo analysis, statistically significnt differences were found for pain and function, as in the Table below. No statistically significant differences were detected in the number of total withdrawals overall at any of the follow-up timepoints.
Conclusion: This update provides further evidence for the efficacy and safety of viscosupplementation as a local treatment for OA of the knee.

HA class versus placebo: pain and function

Outcome	Time (week)	WMD or SMD	p-value	N pts	N RCT
Pain on weight bearing VAS (WMD)	1-4	-7.68 (RE)	<0.0001	2542	22
	5-13	-12.98 (RE)	<0.00001	2090	17
	14-26	-9.04 (RE)	0.002	1491	9
WOMAC pain (SMD)	1-4	-1.22 (RE)	0.0007	412	6
	5-13	-1.02 (RE)	0.0003	639	6
	14-26	-1.04 (RE)	0.005	275	3
WOMAC function (SMD)	1-4	-1.02 (RE)	0.0008	412	6
	5-13	-0.85 (RE)	0.0003	639	6
	14-26	-0.80 (RE)	0.005	275	3
Lequesne Index (WMD)	1-4	-1.21 (RE)	0.02	495	4
	5-13	-1.30 (FE)	<0.0001	506	4
Pain at rest VAS (WMD)	1-4	-5.37 (RE)	0.02	577	8

WMD=weighted mean difference;SMD=standardised mean difference; RE=random effects

THU0353 INFLUENCE OF METHODOLOGY ON CONFLICTING RESULTS OF META-ANALYSES IN SYSTEMATIC REVIEWS: IMPLICATIONS FOR DECISION-MAKING IN OSTEOARTHRITIS

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Background: Level I evidence from systematic reviews (SR) is widely regarded as high level evidence to influence evidence-based decision-making in routine clinical care. An increasing number of SR in the same area has resulted in the potential for discordance and difficulties for decision makers.
Objectives: To identify reasons for discordance in conclusions of meta-analyses (MA) in SR of hyaluronan/hylan (HA) in the treatment of knee osteoarthritis using a decision algorithm (Jadad 1997).
Methods: Based on 5 SR, differences involving search strategy, trial inclusion, variable and timepoint selection, data extraction, study quality, analytic strategy and interpretation were investigated.
Results: Five SR/MA have been reported: Lo Dec 03 (JAMA), Wang Mar 04 (JBJS), Arrich Apr 05 (CMAJ), Bellamy Apr 05 (The Cochrane Library), and Modawal Sept 05 (J Fam Pract). All 5 asked a similar question. Different search strategies were utilised: differences in electronic databases searched, journals, meetings and conference proceedings handsearched; the contacting of trial authors and industry representatives. Wang and Modawal restricted the search to reports in English only while Arrich used only English or German. All 5 SR included 7 trials in common; 4 SR included 14 trials in common. Differences in trial selection were attributed to: inclusion/exclusion of abstracts or unpublished manuscripts and search dates. Different trials were excluded for analysis. Data extraction was similar among all SR with the utilisation of independent extraction of data by multiple reviewers with resolution of discrepancies. Selection of outcome measures varied: a hierarchy of pain outcome measures (Lo), a categorical rating system (Wang), a selection algorithm (Arrich), a variable-by-variable extraction (Bellamy), and pain on a VAS (Modawal). Differences were identified in postintervention timepoints. The utilisation of change versus final/endpoint scores differed: Lo mixed change and final scores, Wang utilised a modification of a published method, Arrich and Modawal used predefined timepoints, and Bellamy utilised unadjusted post-test scores. Methods for imputing missing measures of dispersion varied among SR. The summary statistic differed among SR: effect size (Lo), unstandardised mean difference (Wang), weighted mean differences (Arrich, Bellamy), and weighted means (Modawal). Different software programmes were used: SAS V.8.2 (Lo), METAN (Wang), RevMan 4.1.1 (Bellamy), STATA (Modawal), and not reported (Arrich). Heterogeneity was tested in all 5 SR: Cochrane's Q test (Lo, Arrich), chi-square test (Wang, Bellamy), and Galbraith plots (Modawal). Methodological quality was assessed by Wang (28-point checklist), Bellamy (Jadad), Modawal (Chalmers), while Arrich and Lo completed sensitivity analyses based on some aspects of quality. Publication bias was reported using funnel plots or Egger test by Lo, Wang, and Modawal but not by Arrich and Bellamy.
Conclusion: The therapeutic response to HA products is time- and variable-dependent, and is best appreciated by meta-analytic techniques that recognise the dynamic and differential nature of the response. Discordance in HA MA appears attributable to methodologic differences including study selection, time and variable management, and analytic strategy.
References: Arrich et al. CMAJ 2005;172:1039-43; Bellamy et al. Cochrane Database Syst Rev 2005 Apr 18;(2):CD005321; Jadad et al. CMAJ 1997;156:1411-6; Lo et al. JAMA 2003;290:3115-21; Modawal et al. J Fam Pract 2005;54:758-67; Wang et al. JBJS 2004;86-A:538-45.