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OSTEOARTHRITIS DUE TO INSULIN GROWTH FACTOR-I EXCESS IN LONG-TERM CURED ACROMEGALY IS CHARACTERIZED BY OSTEOPHYTES WITHOUT JOINT-SPACE NARROWING: A COMPARISON WITH PRIMARY POLYARTICULAR OSTEOARTHRITIS

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Purpose: Earlier we demonstrated that radiographic osteoarthritis (OA) in acromegaly patients with long-term cured disease is associated with pre-treatment insulin growth factor I (IGF-I) levels. To gain insight in the pathophysiological process of growth hormone (GH) and IGF-I mediated OA, we compared the distribution of osteophytes (OP) and joint space narrowing (JSN) in hips and knees from acromegaly patients and patients with primary OA.
Methods: We compared 84 patients with controlled acromegaly for a mean of 14.0 years with 189 patients with primary familial OA at multiple sites from the GARP (Genetics, ARtrosis and Progression) study. Hips and knees with a Kellgren-Lawrence (KL) score $\geq$1 were used for analysis. On standardized radiographs OP and JSN were graded 0-3 in the hips and medial and lateral tibiofemoral joints by consensus opinion of two experienced readers using the OARSI atlas. Disability was assessed with the function subscale of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). Logistic regression analysis was performed to compare radiographic OA features between the two patient groups, with adjustments for age, sex, BMI and intra-patient effect. Linear regression analysis adjusting for age, sex and BMI, was used for comparison of disability between acromegaly and primary OA and for evaluation of the association of disability with OP and JSN.
Results: A total of 80 (48%) and 129 (34%) hips in respectively 42 acromegaly and 91 primary OA patients were compared. For the knees the numbers were 128 (76%) and 237 (63%) in 72 acromegaly and 138 primary OA patients, respectively. JSN was demonstrated in 17% of the acromegalic versus 54% of the primary OA hips (odds ratio (OR) (95% CI) 0.3 (0.1-0.7)), whereas OP were found in 89% and 60% (OR (95% CI) 4.7 (2.5-7.8)), respectively. JSN of the medial knee was less prevalent in acromegaly compared with primary OA (28% *vs.* 37% (OR (95% CI) 0.5 (0.3-1.2)). In the medial knee femoral and tibial OP were more prevalent in acromegaly compared to primary OA (OR (95% CI) 1.9 (1.3-3.8) and 3.8 (2.4-6.3), respectively). JSN of the lateral knee was equally prevalent in acromegaly and primary OA. Femoral and tibial OP in the lateral compartment were more prevalent in acromegaly compared with primary OA (OR (95% CI) 4.1 (2.7-7.8), and 9.9 (5.7-17.8), respectively). JSN without OP at joint level was statistically less prevalent in acromegaly than in primary OA. On the other hand, OP without JSN was statistically more prevalent in acromegaly than in primary OA. Acromegaly patients with OA had significantly less self-reported disability than patients with primary OA ($p<0.001$). Self-reported disability was associated with JSN rather than with OP.
Conclusions: OA due to GH oversecretion results in osteophytosis and to lesser extent in JSN, which can be observed many years after treatment. This observation not only suggests that the GH-IGF-I system may protect against cartilage loss, but that it is also involved in bone formation resulting in osteophytosis.

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COMPARISON OF THE PSYCHOMETRIC PROPERTIES OF THE OARSI-OMERACT *VS* WOMAC PAIN AND FUNCTION QUESTIONNAIRES IN HIP AND KNEE OSTEOARTHRITIS

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Purpose: To evaluate the 3 mains psychometric properties (*e.g.* reliability external validity and sensitivity to change) of these new OARSI-OMERACT tools in comparison to the WOMAC ones.
Methods: *Patients*: hip or knee OA seen in a department of orthopedy. *Data collected*: a) pain using a.1; a numerical rating scale (0-10) (NRS), a.2. the WOMAC pain subscale, a.3; the OARSI-OMERACT pain questionnaire; b) functional impairment using b.1. a 0-10 NRS, b.2. the WOMAC function sub-scale, b.3. the OARSI-OMERACT function questionnaire. *Analysis*: 1) Reliability was assessed in patients seen in the out-patients clinics with data collected during the first (first evaluation) and 2 weeks later in a postal mail (second evaluation) using the intra-class coefficient of correlation (ICC) and the 95% confidence interval (CI). 2) External validity was assessed in patients seen in the in-patients clinics before surgery considered the NRS scale as the gold standard using the Spearman coefficient of correlation. Sensitivity to change was assessed on the changes observed before ranging (total articular replacement) and 12 weeks later using the standardized response mean (SRM: Δchange/SD change).
Results: Reliability was evaluated in 36 patients (21 hips, age: 64$\pm$14 years old, female: 70%), external and sensitivity to change in 110 patients (76 hips, age 68$\pm$12 years old, female: 56%).
Conclusions: This study suggests that the new OARSI-OMERACT pain and function questionnaires are at least as accurate as the single patient's global assessment of pain/function and/or the WOMAC pain/function subscales.

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RADIOGRAPHIC SUB-TYPES OF KNEE AND HIP OSTEOARTHRITIS IN THE GENERAL POPULATION: THE FRENCH KHOALA COHORT

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Purpose: What are the radiographic sub-types of knee and hip osteoarthritis (OA) in the general population in France?

Abstract 294 – Table 1. Results of psychometric properties of the different tools assessing pain and function

Domain	Reliability	Baseline values (0-100)	External validity (Spearman)	Changes 12 weeks after surgery	Sensitivity to change
Number of patients	36	110	109	80	80
OARSI-OMERACT pain	0.709	45.2$\pm$17.5	0.401 (p=0.0004)	-25.7$\pm$21.4	-1.201
WOMAC pain	0.879	50.5$\pm$15.5	0.380 (p=0.0008)	-27.9$\pm$18.4	-1.516
NRS pain	0.582	60.4$\pm$18.2		-38.4$\pm$24.8	-1.548
OARSI-OMERACT function	0.784	55.2$\pm$15.2	0.532 (p$<$0.0001)	-24.4$\pm$17.4	-1.402
WOMAC function	0.862	59.0$\pm$14.1	0.503 (p$<$0.0001)	-27.0$\pm$17.3	-1.561
NRS function	0.675	69.0$\pm$16.8		-41.5$\pm$25.8	-1.609

Methods: Using random digit dialing survey on phone calls, persons > 40 yrs, with pain in the knee or the hip area were selected. Those who agreed were examined in one of the six French investigating centres (Amiens, Brest, Nancy, Nice, Paris, Toulouse), and their knees (AP extension view, Lyon schuss and sky view) and/or their hips (AP pelvis, Lequesne oblique view) were x-rayed. The structural changes of knee and hip OA (Kellgren-Lawrence [KL] ≥ 2) were recorded by centralised reading. Patients fulfilling the inclusion criteria where then proposed to enter the KHOALA cohort (Knee and Hip OsteoArthritis Long-term Assessment).
Results: During the first year of recruitment (April 2007 - March 2008), 1506 subjects (females: 71%; mean age: 58 yrs) had x-rays: 312 hips, 674 knees, 520 both leading to 832 hip and 1194 knee radiographs (table). For both hips and knees, OA was as often unilateral as bilateral (50/50). In 10% of the cases, a hip/knee prosthesis on one side made these patients classified as “bilateral”. In the presence of bilateral involvement, narrowing of the joint space was at the same location in both sides (96%). In hip OA the narrowing was supero-lateral (64%), supero-medial (22%), inferior/posterior (7%) and global (5%). In knee OA the narrowing was tibio-femoral medial (78%), lateral (11%) or both (7%). Patello-femoral OA was associated in 26% of the cases.

Table 1

	X-rays	X-rays of high quality	KL 0	KL 1	KL 2	KL 3	KL 4	KL ≥2
Hips	832	634	267	205	113	42	7	162
Knees	1194	801	198	316	123	95	69	287

Conclusions: Conclusion. (1) Hip and knee OA were observed in 19% and 24% of the cases respectively; (2) If only “high quality” radiographs were considered, the OA rates were 26 and 36% respectively; (3) most of the subjects had no medical care, did not known they had OA and logically the discovered OA was at an early stage. This was observed for hip, but not for knee where the rate of marked OA (KL≥3) was high, in accordance with the common idea that knee OA is more often non diagnosed than hip OA, because could be less symptomatic; (4) Knee OA was more frequent than hip OA in all the French centres excepted the one in Brittany where the proportion was inversed, raising the issue of more prevalent hip OA in this area.
This study confirms that symptomatic knee OA is more frequent than hip OA, that around 25% of the tibio-femoral knee OA are associated with patello-femoral OA. In general population, conversely to hip OA, knee OA is less symptomatic.

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THE “NOTCHED PATELLA” IN THE FRENCH KHOALA COHORT

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Purpose: First described by Wackenheim et al. [1] in 1972, the bony apposition on the anterior part of the patella gives a “ notched ” aspect on sky views. What are the prevalence and the geographical distribution of this enthesopathy? In which pathology is it described?
Methods: Using random digit dialing survey on phone calls, persons >40 yrs, with pain in the knee were selected. Those who agreed were examined in one of the six French investigating centres (Amiens, Brest, Nancy, Nice, Paris, Toulouse), and standard radiographs were performed (AP extension view, Lyon schuss and sky view) The structural changes of patello- and tibio-femoral knee OA (Kellgren-Lawrence [KL] ≥2) were recorded by centralised reading. Patients fulfilling the inclusion criteria where then proposed to enter the KHOALA cohort (Knee and Hip OsteoArthritis Long-term Assessment).
Results: During the first year of recruitment (April 2007 - March 2008), 1194 subjects (females: 69%; mean age: 58 yrs) had x-rays of their knees (table). Eight hundred and one of these radiographs were of sufficient quality to determine the KL grade.One hundred cases of notched patella were observed (16%). One set of radiographs (one patient) was not interpretable for OA staging(*). This involvement was virtually always bilateral (98%). The affected people were older (60 vs 56 yrs) and more often males (38% vs 31%) than non-affected persons. The rate of notched patella was independent from the tibio-femoral OA stage. The patello-femoral OA was observed in 16 out of the 130 patients with notched patella (22%), comparable to the rate noted in the whole population (26%). The prevalence of these notched patella varied according to the centres: Amiens (5%), Brest (6%), Nancy (23%), Nice (15%), Paris (4%), Toulouse (7%). Other bony appositions (at the tibial insertion of the anterior cruciate ligament, on the posterior condyles) were observed in these patients and not in the remaining of the population.

Table 1

	KL 0	KL 1	KL 2	KL 3	KL 4	KL ≥2
Knees (n=801)	198	316	123	95	69	287
“Notched patella” (n=129)	45	44	17	17	6	40*

Conclusions: More than 1/10 patients over 40 yrs of age, suffering knee pain, has notched patella (130/1194 = 11%). It is often related with other knee enthesopathies, especially diffuse skeletal hyperostosis (Forestier’ disease or DISH), that often affect the knee [2] and may present without spine involvement [3]. Indeed, in our study, the affected people were more aged and more often males, as in DISH. The geographic disparity is not explained, but the high prevalence in the East of France may explain why authors from Strasbourg published the first description of this entity.

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MEDICAL TREATMENT AND MEDICAL CONSUMPTION IN ADULTS WITH NONTRAUMATIC KNEE COMPLAINTS IN GENERAL PRACTICE

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Purpose: To assess the medical treatment of the general practitioner (GP) at baseline and medical consumption during 1-year follow-up in adult patients visiting the GP with nontraumatic knee complaints.
Methods: Patients (aged > 35 years) consulting for nontraumatic knee complaints in general practice were enrolled in the study. At baseline, knee complaints, knee function, and medical treatment were assessed. During 1-year follow-up, medical consumption was assessed with 3-monthly questionnaires. In addition, factors