

Deakin Research Online

This is the published version of the abstract:

Hill, C.L., Ryan, P., Ingerson, L., Buchbinder, R.B., Taylor, A., Graves, S.E. and Osborne, R.H. 2004, Socio-economic status and provision of joint replacement surgery for Osteoarthritis (OA) in Australia, *in ARA 2004 : Abstracts presented at the Annual Scientific Meeting of the Australian Rheumatology Association and the Rheumatology Health Professionals Association*, Australian Rheumatology Association, [Unley, S.Aust.], pp. A109-A109.

Available from Deakin Research Online:

<http://hdl.handle.net/10536/DRO/DU:30025235>

Every reasonable effort has been made to ensure that permission has been obtained for items included in Deakin Research Online. If you believe that your rights have been infringed by this repository, please contact drosupport@deakin.edu.au

Copyright : 2004, Australian Rheumatological Association

CHANGE IN TIBIAL CARTILAGE VOLUME IS ASSOCIATED WITH CHANGE IN SYMPTOMS IN SUBJECTS WITH KNEE OSTEOARTHRITIS. Wluka, A.E., Wolfe, R., Stuckey, S, CICUTTINI, F.M. Department of Epidemiology and Preventive Medicine, Monash University, MRI Unit, Alfred Hospital.

Background: The relationship of pain and structural damage in osteoarthritis (OA) is poorly understood. No consistent relationship between change in radiological OA and change in symptoms of knee OA has been demonstrated.

Aim: To determine the relationship between change in symptoms of knee OA and tibial cartilage volume over a 2 year period.

Method: Prospective cohort study examining subjects with symptomatic early (mild to moderate) knee OA, recruited by advertising from the community, general practitioners, rheumatologists and orthopedic surgeons. At baseline and 2 years later, participants had MRI scans of their knee and completed questionnaires to quantify symptoms of knee OA (WOMAC: pain, stiffness, function) and general health status (SF-36). Tibial cartilage volume was determined using sagittal T1-weighted fat suppressed images.

Results: 126 subjects entered the study. Complete data was available for 117 subjects (93%). Over 2 years, reduction in tibial cartilage volume was associated with an increase in pain scores ($r=-0.27$, $p=0.003$), and to a lesser extent with worsening of stiffness ($r=-0.17$, $p=0.07$), deterioration in function ($r=-0.19$, $p=0.19$), worsening general physical health functioning ($r=0.11$, $p=0.26$) and improved mental health ($r = -0.08$, $p = 0.39$).

Conclusion: Increased loss of tibial cartilage in knee OA is associated with worsening of symptoms in knee OA. This suggests that the structural change of loss of tibial cartilage contributes to symptoms in knee OA and provides support for a role for strategies to prevent knee cartilage loss in the management of OA.

THE ASSOCIATION OF KNEE OA PROGRESSION AND PROGRESSION OF OA OF THE HAND, HIP AND LUMBAR SPINE: THE CHINGFORD STUDY. HASSETT G M, Hart D, March L, Spector T D. Twin Research and Genetic Epidemiology Unit, London, United Kingdom.

Aims: End-stage radiographic OA in a lower limb joint may predispose to progression in other lower limb joints.¹ Therefore we examined the association between radiological progression of Knee OA and OA progression of the hands, hips and lumbar spine in a population-based Cohort.

Methods: 914 Knee x-rays were read for osteophytes (OS) and joint space narrowing (JSN). Knee OA was defined as a grade 1+ OS or JSN in any compartment at baseline. Progression was defined as a new grade 1+ feature or an increase at Yr10 from a grade 1+ at baseline. OA progression status was available for hand, hip and lumbar spine. The association of OA progression at different anatomical sites was analysed using OR \pm 95% CI in univariate and logistic regression models using STATA.

Results: Mean age \pm SD at baseline was 54.2 \pm 6.0 years and BMI 25.46 \pm 4.3 kg/m². 89 women had progression of Knee OA based on OS and 51 on JSN. Lumbar Spine progression increased 2-3 fold the risk of Knee OA progression. Hip OA progression increased 2 fold the risk of Knee OA JSN but not OS progression. The increased risks remained after adjusting for age and BMI.

Conclusions: This is the first population-based report of the association of radiographic Knee OA progression and OA progression in the lumbar spine and hip. This may have implications for the future development of DMOAD's.

¹Shakoor N et al. Nonrandom evolution of end-stage osteoarthritis of the lower limbs. *Arthritis Rheum* 2002; 46(12):3185-3189.

ASSOCIATION OF THE C282Y AND H63D MUTATIONS IN THE HFE GENE WITH OSTEOARTHRITIS IN THE INDEX AND MIDDLE FINGER MCP, HIP AND ANKLE/FOOT JOINTS. CARROLL G.J. ArthroCare Pty Ltd and Royal Perth Hospital.

Background and Aims: A characteristic arthropathy involving the index and middle finger MCP joints (MCP2, 3), the hips and ankles (HH target joints) is recognized in up to 70% of patients with Hereditary Haemochromatosis (HH). The aim of this study was to test the hypothesis that heterozygosity for the C282Y or H63D mutations in the HFE gene is associated with OA in the HH target joints.

Methods: Patients with clinical signs of OA in either the MCP2, 3, elbow, hip, ankle, intertarsal (IT) or tarso/metatarsal (T/MT) joints were evaluated. Patients with PIP or DIP OA, but no involvement of the former joints served as controls. Plain radiographs were performed. Patients were considered to have OA if they met grade 2 Kellgren and Lawrence criteria.

Results:

Region	N	C282Y	H63D	% Heterozygous for either mutation
Finger IPs	40	2	3	13
Index or Middle finger MCPs	28	7	11	64
Elbows	6	3	1	67
Hips	18	3	9	67
Ankles, inter-tarsal or T/MT joints	15	3	8	73

Conclusions and Discussion: These results show an association between the two common HFE mutations and OA in the HH target joints. It is possible that the HFE mutations are simply passenger mutations and that the observed OA is due to tight gene linkage. In that event there will be a need to identify the linked gene(s) before mechanistic inferences can be made. However if C282Y and H63D are not passenger mutations, disordered HFE gene function may be important in OA pathogenesis.

SOCIO-ECONOMIC STATUS AND PROVISION OF JOINT REPLACEMENT SURGERY FOR OSTEOARTHRITIS (OA) IN AUSTRALIA. HILL CL⁽¹⁾, Ryan P⁽²⁾, Ingerson L⁽³⁾, Buchbinder R⁽⁴⁾, Taylor A⁽⁵⁾, Graves SE⁽⁶⁾, Osborne RH⁽⁷⁾. ⁽¹⁾Rheumatology Unit, The Queen Elizabeth Hospital, Adelaide; ⁽²⁾Dept. of Public Health, University of Adelaide; ⁽³⁾Australian Orthopaedic Association National Joint Replacement Registry; ⁽⁴⁾Dept of Clinical Epidemiology, Cabrini Medical Centre, Monash University; ⁽⁵⁾Population Research and Outcomes Studies Unit, Dept of Human Services, Adelaide; ⁽⁶⁾Dept of Orthopaedic Surgery, Royal Melbourne Hospital, The University of Melbourne; ⁽⁷⁾AFV Centre for Rheumatic Diseases, Royal Melbourne Hospital, The University of Melbourne.

Aim: International studies suggest there is under-provision of joint replacement surgery (JRS) in socio-economically (SES) disadvantaged groups, despite the presence of more risk factors and greater OA-related disability. Our aim was to explore the relationship between JRS and SES in Australia.

Methods: We used the Australian Orthopaedic Association National Joint Replacement Registry data for hip and knee JRS for OA in 2002 (complete data from 91.4% of hospitals). Revision procedures were excluded. We used the 2001 Census Socioeconomic Indicators for Areas (SEIFA) codes to measure relative socio-economic disadvantage, based on patient's residential postcode.

Results: 22,180 (45.1% males, mean age 69 yrs) had knee JRS and 15,006 (48.4% males; mean age 67 yrs) hip JRS, the majority in private hospitals; 64.7% of knee JRS and 64.0% of hip JRS. People in the lowest SES quintile were less likely to undergo knee JRS than those in the second lowest quintile, but were no different to other SES groups. For hip JRS, those in the lowest quintile were less likely to receive hip JRS than all other groups. Those in the lowest quintile were most likely to undergo JRS in public hospitals and least likely in private hospitals.

RR = relative risk

Conclusion: People of low SES undergo less hip JRS, suggesting that there may be under-provision in this group and may be due to access to services (truncated).