OP0301 **ADOLESCENT AND YOUNG ADULT CARE IN ADULT RHEUMATOLOGY: HOW WELL DO WE KNOW OUR HEEADDSS?**

E. Bruce[1], J. Fox[1], A. Samsudeen[2], P. Watson[1], R. Gorodkin[2], J. McDonagh[3,4]. *[1]Rheumatology, University Hospital of South Manchester; [2]Rheumatology, Central Manchester University Hospitals; [3]Paediatric Rheumatology, Royal Manchester Childrens Hospital; [4]Centre for Musculoskeletal Research, Manchester University, Manchester, United Kingdom*

Background: Most rheumatology departments will have a significantly larger cohort of older adolescents and young adults (AYAs) that enter adult services de-novo than will have transitioned from paediatric services. The current move towards a hub and spoke model of care makes it increasingly important that both secondary and tertiary care services are aware of AYA specific needs.
Objectives: Our aim was to evaluate AYA care within two different adult Rheumatology clinics, in particular focusing on use of the HEEADDSS psychosocial interview.
Methods: A review of clinical correspondence for 120 patients aged 16–25yrs attending adult rheumatology clinics at a secondary and tertiary care hospital in Greater Manchester, UK.
Data collected focussed on evaluating the documentation of components of the HEEADDSS screen.
Results: At both sites the "did not attend" rate was equal at 13%. The tertiary hospital had significantly more AYAs with Juvenile Idiopathic Arthritis (JIA) (22 patients) than the secondary care hospital (4 patients).
There were differences in recording of the HEEADDSS criteria. The three most frequently documented at the tertiary hospital were drugs, education, home (41%, 36%, 19% respectively), least documented was sleep (5%). The three most often documented at the secondary care hospital were, education, exercise, activities (24%, 15%, 13% respectively), least documented was sex (1%).
Conclusions: There were significantly more AYAs with JIA in the tertiary hospital. Documentation of HEEADDSS criteria varied between the two hospitals, documentation of any component was achieved in less than 50% of AYAs.
A hub and spoke model of healthcare requires all adult rheumatologists to have an understanding the unique needs of AYAs.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2016-eular.1516

SATURDAY, 11 JUNE 2016

New approaches to understanding and managing chronic musculoskeletal pain

OP0302-PARE **SUPPORTING PEOPLE WORKING WITH RHEUMATIC AND MUSCULOSKELETAL DISEASES (RMDS)**

G. O'Leary. *Arthritis Ireland, Grand Canal Quay, Ireland*

Background: Work is proven to be good for your health and it is important to people with rheumatic and musculoskeletal diseases (RMDs), both financially and for their quality of life and wellbeing. There is also an enormous social cost. In Ireland, RMDs account for 7 million days in absenteeism - half of the total. That amounts to €750 million each year. €295 million is paid out in illness benefit. Arthritis Ireland is working to improve the supports available to people with RMDs so that they can continue in their jobs or get back to work.
Objectives: The objectives of the project were to 1) develop succinct informative guides to working with RMDs for both employees and employers 2) develop an online educational programme to provide information, guidance and support to employees, employers and healthcare professionals on working with RMDs.
Methods: In 2011, Arthritis established Fit for Work Ireland – a coalition of stakeholders including employer and employee representatives and health professionals with the key goal of improving employees' ability to work with RMDs and reducing the impact of RMDs on workplace absenteeism.
Arthritis Ireland has developed a number of educational tools to support people with RMDs in the workplace as part of our Fit for Work Programme. 2014 saw the development of two comprehensive guides for employees and employers to help address these challenges. 1) "*Working with arthritis, back pain & related conditions: A guide for employees*" provides up to date and accurate information and advice to make sure an individual can find the help they need to stay in their job. If a person is worried or concerned following a recent diagnosis of an MSD, they can find more information about what kind of support they are entitled to. This guide also discusses the options of re-training or moving to different types of jobs within an organisation. 2) "*Arthritis, back pain & related conditions: A guide for employers*" provides a practical source of information and guidance for employers to help them to understand what MSDs are; understand how MSDs may affect employees and support employees working with MSDs.
In 2015 Arthritis Ireland developed an online education programme "*Fit for Work Online*" which focuses on the tripartite relationship between the employee, employer and healthcare professional.
Results: The two published guides for employees and employers have been distributed widely to rheumatology clinics, physiotherapy clinics and GP surgeries. The guides are also available for order or for download on the Arthritis Ireland website. The information has been positively received but employees, employers and healthcare professionals alike.
"*Fit for Work Online*" will launch formally in February 2016.
Conclusions: Despite the staggering incidence and the fact that RMDs are the leading cause of work absence in Ireland, these conditions often remain overlooked by policy makers and employers. This project has aimed to improve employee's ability to work with RMDs through the provision of clear and quality information and support.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2016-eular.3704

OP0303-PARE **RAISING PUBLIC AWARENESS ON OSTEOARTHRITIS THROUGH AN EDUCATIONAL CAMPAIN**

N. Avielle, K. Blidberg, B. Svanberg. *Reumatikerförbundet, Stockholm, Sweden*

Background: The Swedish Rheumatism Association has in collaboration with Netdoktor.se, Sweden's leading public portal for health issues, developed an online test with the aim of improving public awareness of osteoarthritis. There are many myths surrounding osteoarthritis that we need to address, for example that osteoarthritis is just something one needs to accept rather than it being treatable.
Objectives: There is a lack of knowledge in the Swedish society about osteoarthritis. With this online test we want to improve the understanding of the condition. Without basic knowledge it is hard for a patient to demand one's right in the health care system.
Methods: The Swedish Rheumatism Association has in collaboration with Netdoktor.se put together a team of experts to review all information in the test. The experts have different backgrounds from both the medicine, IT and PR.
Results: This far the test has been very successful, a total of 9 720 individuals have completed the whole test and 35 388 have visited the website for more information.
The test shows that among women with symptoms of osteoarthritis, who had sought medical advice, only 40% have received any explanation on what may cause their joint pain. And out of these women, 23% use naturopathic drugs for their condition. The numbers are almost the same for men; only 41% have received an explanation on what may cause their joint pain and 20% uses naturopathic drugs.
Out of the category which already has been diagnosed with osteoarthritis, 62% have not been invited to join an evidence based supportive osteoarthritis self-management program lead by a physiotherapists. The program helps the patient to gain knowledge to improve their health condition, a program which the Swedish Rheumatism Association recommends.
Conclusions: The Swedish Rheumatism Association is able to use the different statistic that the test generates to raise awareness about osteoarthritis. Approximately 800 000 Swedes suffer from osteoarthritis in one or more joints. It is in other words a huge public health issue and more needs to be done for a better care of this patient group. Our aim is that the health care system will increasingly recommend their patients to the supportive osteoarthritis self-management program.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2016-eular.3953

SATURDAY, 11 JUNE 2016

Picking knowledge from other medical disciplines for SSc

OP0304 **ESTROGENS INHIBIT THE PROFIBROTIC EFFECTS OF TGF-BETA AND PROTECT FROM THE DEVELOPMENT OF EXPERIMENTAL DERMAL FIBROSIS**

J. Avouac[1], L. Baudoin[2], A. Cauvet[2], B. Ruiz[2], M. Elmerich[2], Y. Allanore[1]. *[1]INSERMU1016 and Rheumatology A department, Paris Descartes University, Cochin Hospital; [2]INSERM U1016, Cochin Institute, Paris, France*

Background: Systemic sclerosis (SSc) primarily affects postmenopausal women. This sex bias could partly be explained by the action of estrogens on the immune system and/or fibrogenesis. Since little is known about their direct role in fibrogenesis.
Objectives: Our aim was to evaluate the effects of estrogens i) on the pathological activation of dermal fibroblasts induced by transforming growth factor-b (TGF-β) and ii) in the development of experimental dermal fibrosis.
Methods: Effects on estrogen inhibition by gene inactivation (knockout mice for the estrogen receptor-α, ERKOα) or targeted molecular strategy (tamoxifen, a selective estrogen receptor modulator that display anti-estrogenic properties) were evaluated in the mouse model of bleomycin-induced dermal fibrosis and in the tight skin (Tsk-1) mouse model.
SSc dermal fibroblasts were stimulated with TGF-β and incubated with different concentrations of 17-β-estradiol and/or tamoxifen. Collagen release from fibroblasts was evaluated by mRNA levels of col1a1 and col1a2 and by measuring the concentrations of collagen in cell culture supernatants with the SirCol collagen assay. Differentiation of fibroblasts into myofibroblasts was assessed by the ex-

pression of alpha smooth muscle actin (α-SMA). Activation of the TGF-β pathway was evaluated by the expression of phospho-smad-2/3.
Results: Estrogen inhibition increased the activation of canonical TGF-β signaling and exacerbated skin fibrosis both in the bleomycin model and in Tsk-1 mice. Upon bleomycin injections, ERKO-α mice treated with tamoxifen had a significant increase of dermal thickness (17%, p=0.03 and 20%, p=0.04), hydroxyproline content mice (16%, p=0.02 and 36%, p=0.003, respectively) and number of myofibroblasts (22%, p=0.01 and 20%, p=0.04 respectively) compared to control mice. In Tsk-1 mice, treatment with tamoxifen led to significantly enhanced skin fibrosis, with a 31±8% increase of hypodermal thickening (p=0.03) and a 17% increase of hydroxyproline content (p=0.01) compared to control mice.
In SSc dermal fibroblasts, treatment with 17-β-estradiol significantly decreased the stimulatory effects of TGF-β on collagen synthesis and myofibroblast differentiation, decreased activation of canonical TGF-β signaling, and markedly reduced the expression of TGF-β target genes. Tamoxifen reversed the inhibitory effects of estrogens by restoring Smad2/3 phosphorylation and TGF-β-induced collagen synthesis.
Conclusions: Our results demonstrate a beneficial effect of estrogen in experimental dermal fibrosis. Estrogens reduce TGF-β dependent activation of SSc dermal fibroblasts and estrogen inhibition leads to a more severe experimental dermal fibrosis. These findings may partly contribute to the occurrence of SSc in postmenopausal women and the greater severity of the disease in men and open avenue to potential hormonal therapies.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2016-eular.2835

OP0305 PSYCHOLOGICAL PROFILE OF SCLERODERMA PATIENTS DESCRIBED BY MULTIDIMENSIONAL MINNESOTA MULTIPHASIC PERSONALITY INVENTORY (MMPI II) AND BECK DEPRESSION INVENTORY TESTS (BDI II)

A. Smržová[1], L. Hubáčková[2], S. Kreiselová[2], M. Schubertová[1], M. Skácelová[1], A. Petráčková[3], E. Kriegová[3], Z. Heřmanová[3], F. Mrázek[3], P. Horák[1]. *[1]3Rd Department of Internal Medicine – Nephrology, Rheumatology and Endocrinology; [2]Department of Psychology; [3]Department of Immunology, Faculty of Medicine and Dentistry, Palacký University Olomouc, Olomouc, Czech Republic*

Background: Scleroderma is a systemic multiorgan autoimmune disease with high mortality and morbidity rates. In serious disease with organ manifestation, quality of life and perception of health is deeply influenced in these patients. The face changes and fibrosis of skin, digital ulceration contribute to the psychological trauma of these patients. Only little is known about the objective evaluation of systemic scleroderma psychological impact.
Objectives: The aim of study is detection of psychological profile and manifestation of depression in scleroderma patients.
Methods: From March 2015 to January 2016 we examined 42 patients with scleroderma Patients were evaluated by MMPI-II (The Minnesota Multiphasic Personality Inventory test, standardized psychometric test of adult personality and psychopathology) and BDI-II tests (Beck Depression Inventory test of depression). The data obtained from the multidimensional pachological testing were correlated with the clinical and laboratory pheonotype of the disease (smoking status, BMI, arterial hypertension, diabetes, lipid profile, family history of cardiovascular event, lung manifestation, pulmonary hypertension, digital ulceration, damage of gastrointestinal tract, myositis, renal crisis, autoantibody profile, and presence of cardiovascular events) Statistical tests (descriptive statistic, Student t-test, Spearman test, ANOVA) were performed and p-value $\leq$0.05 was considered as significant.
Results: In this study42 patient were included (6 men, 36 women. mean of age – 57,8±9.4y., duration of disease 8,6±8.2y. duration of Raynauds phenomenon 13,4±11,2y.), 12 patient have diffuse form and 30 patient limited form of scleroderma. Subjective perceived depression detected by BDI II test was present in 16 patients (32.1%, mild 7, moderate 7 and 2 severe). BDI-II correlated with anticentromer antibodies (p=0.05), total cholesterol (p=0.008), LDL (p=0.05) and, gastrointestinal manifestation (p=0.002). Scale L, F and K in MMPI-II test in typical sequence for depressive score was detected in 38 patients (90%). The main scales of MMPI-II test were detected in followed percentage values: – Hypochondria (54.7%), Depression (33.3%), Converse hysteria (28.6%), Psychopathic (14.3%), Masculinity/Felinity (7.1%), Paranoia (9.5%), Psychastenia (26.2%), Schizophrenia (21.4%), Hypomania (11.9%) and Social introverse (33.3%).
Conclusions: The limitation of these data is fact, that these tests showed some of trends of symptoms typical for psychological and personal manifestation; they could not be regarded as a diagnostic test. Patients with scleroderma have high prevalention of subjective perceived depression. In this study we detected high prevalence of depression, social introversion and trend toward somatisation. It will be very useful to be aware of this subjective perception of scleroderma patient and cooperated with psychologist or psychiatrist to improve quality of life and sometimes also morbidity of these seriously ill patients.
Acknowledgement: Grant support: MZ CR VES15–28659A
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2016-eular.5357

SATURDAY, 11 JUNE 2016

Paget's and other rare bone diseases

OP0306 TEN YEARS OF DENOSUMAB TREATMENT IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS: RESULTS FROM THE FREEDOM EXTENSION TRIAL

H. Bone[1], M. Brandi[2], J. Brown[3], R. Chapurlat[4], S. Cummings[5,6], E. Czerwinski[7], A. Fahrleitner-Pammer[8], D. Kendler[9], K. Lippuner[10], J.-Y. Reginster[11], E. Vittinghoff[6], N. Daizadeh[12], A. Wang[12], P. Dakin[12], R. Wagman[12], S. Papapoulos[13]. *[1]Michigan Bone and Mineral Clinic, Detroit, MI, United States; [2]University of Florence, Azienda Ospedaliera Careggi, Florence, Italy; [3]Laval University and CHU de Québec Research Centre, Quebec City, QC, Canada; [4]Hôpital Edouard Herriot, Lyon, France; [5]San Francisco Coordinating Center, CPMC Research Institute; [6]University of California, San Francisco, San Francisco, CA, United States; [7]Krakow Medical Centre, Krakow, Poland; [8]Medical University Graz, Graz, Austria; [9]University of British Columbia, Vancouver, BC, Canada; [10]Bern University Hospital, Bern, Switzerland; [11]University of Liège, Liège, Belgium; [12]Amgen Inc., Thousand Oaks, CA, United States; [13]Leiden University Medical Center, Leiden, Netherlands*

Background: Osteoporosis is an important chronic disease, requiring prolonged treatment. Long-term efficacy and safety data are therefore of great importance. Denosumab (DMAb) is used in over 80 countries or administrative districts worldwide for the treatment of postmenopausal women with osteoporosis. The effects of DMAb treatment for up to 10 years have been evaluated in the 3-year FREEDOM study and its 7-year extension.
Objectives: Report results through the final year of the FREEDOM extension, representing up to 10 years of continued DMAb treatment.
Methods: During the extension, all subjects were to receive 60 mg DMAb every 6 months and calcium and vitamin D daily. In this analysis, the long-term group received 10 years of DMAb treatment (3 years in FREEDOM and 7 years in the extension), and the cross-over group received 7 years of DMAb treatment (3 years of placebo in FREEDOM and 7 years of DMAb in the extension).
Results: Of the 4,550 subjects who entered the extension, 2,784 (61%) continued to participate at the beginning of year 10. Of these, 2,212 (80%) have completed their final 10-year visit, 120 (4%) discontinued, and 452 (16%) were ongoing at the time of this submission. In the long-term group, further significant increases in BMD occurred with mean cumulative 10-year gains of 21.6% (lumbar spine) and 9.1% (total hip) from FREEDOM baseline. The cross-over group had mean cumulative 7-year gains of 16.3% (lumbar spine) and 7.3% (total hip) from the extension baseline (Figure 1; all $P<0.0001$ compared with FREEDOM baseline, extension baseline, and previous measurement). Similar and sustained reductions in bone turnover markers were observed in both groups, with the characteristic attenuation of effect at the end of the dosing period. Yearly rates of new vertebral and nonvertebral fractures remained low. Overall incidence rates of adverse events (AEs) and serious AEs were consistent with data reported previously in the extension study.

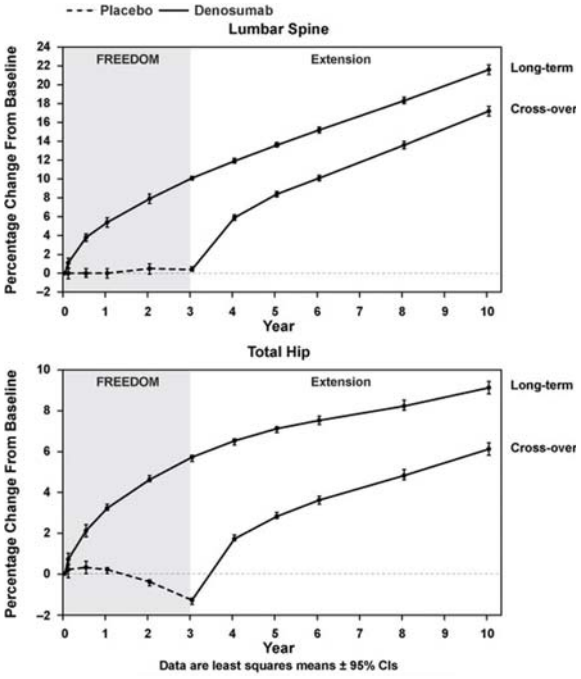

Figure 1

Conclusions: DMAb treatment for up to 10 years was associated with persistent reduction of bone turnover, continued increases in BMD without therapeutic