± 56.4 pg/ml), CT (4855 ± 268 pM) and 1,25-2OH-vit D (46.8 ± 7.4 pg/ml) showed high values. After treatment the calcium-treated women showed a significant decrease of AP (15.7 ± 3.3 U/l), PTH (35.8 ± 25.8 pg/ml), CT (2490 ± 1498 pM) and 1,25-2OH-vitD (38.0 ± 8.0 pg/ml) while the other parameters remained without significant changes. The placebo-group showed increments of AP, PTH, CT and 1,25-2OH-vitD.

Conclusions In pregnant women with low dietary Ca intake a parathyroid hyperfunction is present at least at the 20th week of pregnancy, a situation reverted by calcium supplement. In contrast to other studies IGF-1 did not show a systematic increase.

HP0016 FAMILIAL RISK TO OSTEOPOROSIS IN THE IRISH POPULATION

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Osteoporosis is a disease characterised by a low bone mineral density (BMD) and microarchitectural deterioration of bone tissue leading to fractures, especially of the hip and spine. It is a major public health problem of western societies that affects the elderly population. Both environmental and genetic factors have been evoked as determinants of peak bone mass, but the major determinant of BMD is heritability. Families were recruited as part of an ongoing study to identify susceptibility genes to low BMD. Osteoporotic and osteopenic women were identified retrospectively from records at the Bone Densitometry Unit of Cork University Hospital. Individuals with a disease or on medications known to influence calcium metabolism were excluded. Participants were requested to nominate both female and male relatives for bone densitometry measurement. Relatives over 40 years of age, with a history of fracture or dowager's hump were preferentially selected for inclusion in the study. Of the 220 families who participated in the study to date, relative pairs with low BMD were found in 152 families. There was a total of 525 low BMD pairs among the 152 families, of whom 310 were sib-pairs. Our study will help to increase public awareness in Ireland of the familial risk of osteoporosis.

Fibromyalgia

HP0017 EVALUATING THE EFFECTIVENESS OF A FIBROMYALGIA EXERCISE PROGRAMME

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Background Exercise has been identified as the most effective intervention in the management of Fibromyalgia (FM), however, patients often report difficulty in initiating and maintaining a regular exercise programme.^{1,2} In 1996 a FM programme was developed at our hospital. Patients attend for 6 weeks and follow a progressive exercise programme of land-based exercise and hydrotherapy. The initial emphasis is on conditioning and stretching as preparation for increased activity. Patients are then encouraged to develop their own home exercise/activity

programme, which they should continue on completion of our programme.

Method 50 consecutive patients with FM were diagnosed by Consultant Rheumatologist using the ACR criteria for FM.³ Female patients 39 (78%), male patients 11 (22%), age range 28–78 (mean 51.8 years). Symptom duration was as follows; <1 Year 11.1%; 1–5 Years 50.0%; 6–10 Years 16.7%; > 10 Years 5.5%; Patient Unsure 16.7%. Time since diagnosis was as follows; Less Than 1 Year 55.6%; 1–5 Years 38.9%; 6–10 Years 5.5%. Patients completed a series of validated questionnaires prior to participation on the programme and again at 6 weeks. The Nottingham Health Profile, Health Assessment Questionnaire and Hospital Anxiety Depression Scale were used thus assessing the major areas affected by FM – quality of life, mood, function and pain.

Results A third of patients reported improvements in mood and in some measures of global health specifically Physical Function and Social interaction. Generally pain did not significantly improve. However it should be remembered that this programme is designed as an initiation to exercise. Much of the work previously reported regarding the benefits of exercise entailed aerobic exercise with most studies having high drop out rates.^{4,5} Our programme introduced patients to gentle levels of exercise and progressed to more intensive work. The limitations of a 6-week programme mean we cannot progress to the aerobic levels where it has been demonstrated that pain and fatigue levels can be altered. The next stage of our project is to develop a community-based exercise programme. This combined approach of a gentle initiation followed by long-term exercise will be assessed at 6 and 12 months.

Conclusion We believe that this collaboration is innovative and has great potential in offering significant health improvements to Fibromyalgia patients.

REFERENCES

- Waylonis MD, Perkin RH. Post-traumatic fibromyalgia – a long-term follow-up. *Am J Phys Med.* 1996;**73**:404–12
- Horven Wigers S, Stiles TC, Vogel PA. Effects of aerobic exercise versus stress management treatment in Fibromyalgia. A 4–5 year prospective study. *Scand J Rheumatol.* 1996;**25**:77–86
- Wolfe F, Smythe HA, Yunus MB. The American College of Rheumatology 1990 criteria for the classification of Fibromyalgia. Report of the Multi-centre Criteria Committee. *Arthritis Rheum.* 1990;**33**:160–72
- Martin L, Nutting A, McIntosh BR, Edworthy SW, Butterwick D. An exercise programme in the treatment of Fibromyalgia. *J Rheumatol.* 1994;**23**(6):1050–3

Orthopedics, sports medicine/soft tissue rheumatism

HP0018 THE DEVELOPMENT OF AN INTEGRATED CARE PATHWAY FOR THE MANAGEMENT OF ANTERIOR KNEE PAIN IN CORNWALL

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Patients with anterior knee pain (AKP) are waiting long periods to see Orthopaedic surgeons for expert advice, few are considered for surgery, most are referred for physiotherapy. This expensive use of a Consultants time increases orthopaedic waiting lists and often delays patients referral to Physiotherapy.