BONE QUALITY EVALUATION USING THE NEW TRABECULAR BONE SCORE (TBS) TOOL IN RHEUMATOID ARTHRITIS PATIENTS SUPPLEMENTED WITH VITAMIN D

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Background: Patients affected by Rheumatoid Arthritis (RA) show an increased risk of low bone mass, as a result of multi-systemic disorders including toxic drug, low vitamin D levels, use of glucocorticoids and physical inactivity. Trabecular Bone Score (TBS), is an index extracted from the dual-energy X-ray absorptiometry (DXA) images, that provides an indirect measurement (Score) of bone axial microarchitecture and allows to get information about bone quality.1,2

Objectives: The aim of this investigation was to evaluate by TBS the bone quality in AR patients (high risk population) receiving vitamin D supplementation from at least 3 months (1000 IU/die).

Methods: 108 female patients (mean age 61±8 years) affected by RA and 60 age- matched controls (CNT) (mean age 64±11 years) were analysed in winter time. Bone Mineral Density (BMD, g/cm2) of the lumbar spine (L1-L4) was analysed using a DXA scan (GE, Lunar Prodilig), Lumbar spine TBS (TBSisight Medimaps) was derived for each spine DXA examination. All patients were evaluated for serum 25 hydroxvitamin D (25(OH)D) serum concentrations.

Results: RA patients showed lower 25(OH)D concentrations (18.4±1.3 ng/ml) than CNT (26.2±0.9 ng/ml; p<0.04) possibly due to low dosage and short treatment. Seventy-eight RA patients (80% of study population) presented a bone loss that was significant when compared to the control group (p<0.001). In particular, BMD was found significantly lower in RA patients compared with matched control group (respectively, Lumbar spine: 0.982±0.194 g/cm2 vs 1.240±0.932 g/cm2; Femoral neck: 0.668±0.141 g/cm2 vs 0.845±0.164 g/cm2; Ward: 0.486±0.221 g/cm2 vs 0.657±0.106 g/cm2; Trochanter: 0.598±0.231 g/cm2 vs 0.725±0.143 g/cm2; Total hip: 0.764±0.244 g/cm2 vs 1.033±0.161 g/cm2, all p<0.001). Likewise, lumbar spine TBS score was found significantly lower in RA patients when compared with controls (0.904±0.148 vs 1.361±0.126, both p<0.001). The analysis of paired TBS lumbar spine score showed that TBS was significantly lower in AR compared with CNT (0.904±0.148 vs 1.361±0.126, both p<0.001).

Conclusions: This study shows in RA patients a reduction of TBS values that seem placed side by side with reduced BMD values and in presence of serum 25 (OH)D insufficiency. A more careful analysis of the clinical status/treatments should let to better identify RA patients at higher risk of bone loss.

REFERENCE:

Disclosure of Interest: None declared

THE IMPACT OF A LOW-COST DIGITAL AND PRINT AWARENESS CAMPAIGN ON PATIENT BEHAVIOUR IN RELATION TO PERSONAL RISK OF OSTEOPOROSIS AND FRACTILITY FRACTURE


Background: The National Osteoporosis Society (NOS) ‘Stop at One’ campaign aims to encourage people who are over 50 and have broken a bone to find out, by taking an online quiz, if they are at risk of osteoporosis and to take action to reduce their risk of further fractures. A low-cost marketing intervention was trialed making printed campaign materials available direct to patients at the point of care (fracture clinic).

Objectives: The analysis sought to establish whether the marketing intervention increased take up of the online quiz, and to what extent taking the quiz influenced people’s behaviour with regard to their bone health.

Methods: Between May and October 2017, the NOS placed Stop at One printed campaign materials encouraging people to take the online bone health quiz at 8 sites across the UK covering 13% (16/124) of UK postcode areas. 7 sites had no enhanced provision for secondary fracture prevention such as a fracture liaison service, 1 had a partial service. People who took the online quiz were sent a follow-up survey one month later.

Results: Up to 1st January 2018 1909 people took the quiz:

- 89% (1699) of these were over 50
- 95% (1814) were female.
- 21% (443) of these lived in postcode areas of the pilot sites.
- 1359 people were sent a follow up survey one month after taking the online quiz, and 10% (142) completed it. 27% of these were individuals living in the postcode areas of the pilot sites.

When surveyed, of the 142 respondents:
- 50% (71) of respondents had broken a bone in the previous ten years,
- 73% (104) thought they were at risk of osteoporosis after taking the test,
- 24% had either booked or attended an appointment with their GP to discuss their possible risk of osteoporosis.
- A further 10% planned to book a GP appointment to discuss their risk.
- 31% had made changes to their exercise habits.
- 33% had made changes to their diet.

Conclusions: Digital activity (patients accessing website) and the electronic patient survey show meaningful changes in patient behaviour to reduce their fracture risk. Visibility of the awareness campaign at the point of care increased uptake of the quiz and subsequent survey.

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THREE YEARS IMPROVEMENT IN OSTEOPOROSIS TREATMENT ADHERENCE FOLLOWING A THERAPEUTIC PATIENT EDUCATION (TPE) PROGRAM

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Background: The management of osteoporosis requires a restrictive drug treatment over several years and lifestyle changes: maintaining a suitable physical activity, a sufficient calcium intake and maintenance of ground balance. Unfortunately, treatment adherence at one year doesn’t exceed 50%. The education of the patient allows to take care of himself in his therapeutic approach but requires a relay to continue the follow-up over several years.

Objectives: To improve the follow-up of the patient, we created a cooperation between the doctor and the pharmacist.

Methods: We suggested to patients treated for osteoporosis by diphosphonate, denosumab or teriparatide to participate at two half-day TPE sessions, one year apart. It’s taught that osteoporosis requires at least 5 years of treatment, and must be associated with the absorption of three daily dairy products, maintaining physical activity and preventing falls.

A follow-up notebook that contains 6 doctor and 6 pharmacist questionnaires is given to each patient participating in a TPE session. The patient sends his book to the doctor, and then to the pharmacist twice a year for three years.

33% of patients who started in January 2013. We studied the results of the 3 year questionnaires for 94 patients included in 2013 and 2014.

Results: Among the 49 patients, only 49 continue their treatment at 3 years. Patients who stopped treatment, 4 died, 1 presented an atypical fracture of the femoral shaft, 6 stopped due to dental treatment, 4 had a contraindication to any anti-osteoporosis treatment, 1 stopped treatment due to multiple sclerosis 11 left the program, 2 had poorly tolerated the infusion and 1 discontinued treatment because of improved bone mineral density (BMD). Among the 48 patients who continued their treatment, 13 returned a doctor and pharmacist questionnaire at 3 years. There are 4 doctors and 2 pharmacists who refused to fill out the questionnaire, 20 patients didn’t agree to respond to our request for news about their health condition and 4 patients lost to follow-up.

The study of 13 questionnaires received shows that at 3 years, 38% of patients continue to consume 3 daily dairy products against 56% at 6 months. Nearly 70% of patients maintained their physical activity, 8% improved and 8% decreased it. It also shows that 46% of patients walk more than 30 min per day. The ground balance is satisfactory for 62% of patients compared to 71% at 6 months. Regarding compliance, at 6 months and 3 years, only 69% of patients never forget their treatment and 15% wanted to stop it. During the 3 years of follow-up, all patients were re-contacted at least once.

Conclusions: Only 52% of patients included continued the treatment at 3 years. 21% refuse to participate in the program. The doctor/pharmacist collaboration around the patient requires time and understanding. Patients recall and their participation in a research program improves their adherence to treatment and lifestyle changes.

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