Research article

THE ROLE OF FAMILY DOCTORS AND ORTHOPAEDIC SURGEONS IN PREVENTING OSTEOPOROTIC FRACTURES IN ITALY.

Giuseppe Rinonapoli(1), Fabio Momì(2), Paola Commimiello(1), Michele Bisaccia(1), Riccardo Chiavetti(1), Paolo Ceccarini(1), Giuseppe Rollo(3), Luigi Meccariello(3), Auro Caraffa(1).

1) Department of Orthopedics, Traumatology and Rehabilitation, University of Perugia, Perugia, Italy;
2) Department of Sport Medicine Cus Siena Rugby, University of Siena, Siena, Italy;
3) Department of Orthopedics and Traumatology, Vito Fazzi Hospital, Lecce Italy;

Corresponding Author:
Luigi Meccariello, MD
U.O.C. Orthopedics and Traumatology, Vito Fazzi Hospital, Via Ada Cudazzo, Block: A- Floor:V, Lecce, Italy
E-mail: drlordmec@gmail.com
Phone: +393299419574
Fax:+390823713864
ORCID: 0000-0002-3669-189X

CONFLICT OF INTEREST STATEMENT:

All authors disclose any financial and personal relationships with other people or organisations that could inappropriately influence (bias) their work.

This work is licensed under a Creative Commons Attribution 4.0 International License.

Abstract

In Italy, about 4.5 million people suffer from osteoporosis. The present paper examine the situation on the correct diagnosis, treatment and common errors made by Italian physicians.

Key Words: Italy; Epidemiology; Osteoporosis; Prevention; Diagnosis; Management.
Introduction

Osteoporosis is estimated to affect 200 million women worldwide - approximately one-tenth of women aged 60, one-fifth of women aged 70, two-fifths of women aged 80 and two-thirds of women aged 90 (1). Worldwide, osteoporosis causes more than 8.9 million fractures annually, resulting in an osteoporotic fracture every 3 seconds (2).

"Fragility" fractures are mostly referred to fractures that occur in patients affected from osteoporosis. They have to be considered "pathological" fractures, as much as all the other fractures facilitated by a fragile bone, consequent, for example, to a bone tumor, but the denomination "fragility fractures" is relative to those occurring in osteoporotic patients, mostly older patients and postmenopausal women. The maximal incidence of fragility fractures are at the level of the hip, spine, wrist, proximal humerus. But ribs, ankle, pelvis and other bones are often sites of osteoporosis fractures.

By 2050, the worldwide incidence of hip fractures in men is projected to increase by 310% and 240% in women, compared to rates in 1990 (3).

The combined lifetime risk for hip, forearm and vertebral fractures coming to clinical attention is around 40%, equivalent to the risk for cardiovascular disease (4). This "silent" disease can cause invalidity and death much more than the common popular belief.

Unfortunately, the general underestimation of this issue, also involves physicians, causing missed diagnosis, undertreatment and poor adherence to therapy. Data reported by the International Osteoporosis Foundation (IOF) are very worrying: evidence suggests that many women who sustain a fragility fracture are not appropriately diagnosed and treated for probable osteoporosis (5, 6), the great majority of individuals at high risk (possibly 80%), who have already had at least one osteoporotic fracture, are neither identified nor treated (7). An IOF survey, conducted in 11 countries, showed denial of personal risk by postmenopausal women, lack of dialogue about osteoporosis with their doctor, and restricted access to diagnosis and treatment before the first fracture result in underdiagnosis and undertreatment of the disease (8).

The Italian picture.

The major responsible for osteoporotic patients management in Italy are family physicians and orthopaedic surgeons. In Italy (but in several other countries, too), osteoporosis experts are mostly endocrinologists, geriatrists, rheumatologists and very few specialists in orthopedics and general internal medicine. Therefore, if the patient is not specifically sent to an osteoporosis specialist, he/she is managed by the family physician, who is the first responsible for the diagnosis of osteoporosis and the primary prevention of fragility fractures. The orthopaedic surgeon is more responsible for the secondary prevention, since he treats the fracture and dismisses the patient from the Emergency or the Traumatology department. He should not miss the indication for osteoporosis diagnosis and treatment. Often, the diagnosis is already made before the dismissal, since a hip or vertebral fragility fracture is defined as a sign of severe osteoporosis, without any necessary further exam.

From a study carried out by the Authors from October 2009 to March 2010 (six months), several interesting data have emerged. The study regarded the hip fractures, the fragility fractures of the vertebral column, the fragility fractures of the proximal humerus and the wrist fractures in over 65 year patients. All the fractures were new fractures diagnosed at the emergency service of our hospital. The results showed 197 intertrochanteric and 149 femoral neck fractures. Totally, 346 hip fractures, mean age 81.3 years. Out of these, 47 patients had already had a previous contralateral hip fracture and 52 an extrafemoral fragility fracture. Totally, 99 patients (about 28%) already had one or more fragility fractures. Out of the 245 hip fractured patients with no story of previous fragility fractures, only 26 (10.5%) were on pharmacological therapy for osteoporosis. Of these 26, 17 had been following a correct therapy, 9 had suspended the therapy one or more times, 9 did not take vitamin D, 13 did not take a calcium supplement. Of the 99 hip fractured patients with one or more previous fragility fractures, 25 (25%) were on pharmacological treatment for osteoporosis. Of these 25 patients, 7 had undergone a hip fracture, 14 hip and vertebral fractures, 4 vertebral fractures. In 7 out of 25 cases, the therapy was prescribed by the orthopaedic surgeon. Of the 245 patients with no story of previous fragility fractures, 53 (21.4%) had been submitted to bone mineralometry (DEXA), while, of the 99 patients with a story of previous fragility fractures, only 21 (21.2%) had been submitted to DEXA before the first fracture, only 35 (35.3%) after the first fracture. The collected data impress because of the poor consideration of
the possible osteoporotic consequences by the family doctors, who rarely care whether his/her patients have a fragile bone, with dangerous risks, and even forget to prescribe a simple mineralometry, also after a clear fragility fracture. All postmenopausal women should be submitted to DEXA. The poor number of patients under osteoporotic therapy is striking. Orthopaedic surgeons have the fault of neglecting the therapy in case of fragility fracture conservatively or surgically treated by himself, giving up, de facto, doing a secondary prevention of osteoporotic fractures.

Some Authors (9, 10) state that the practical management of osteoporosis is greatly influenced by economic reimbursement policies, particularly for secondary forms of osteoporosis. The refinement of risk assessment, the long-term treatment of osteoporosis and the prevention and management of disease-associated bone loss constitute open issues, but we do not think that this can be the unique explanation for underdiagnosis and undertreatment.

Family physicians should prescribe to all the postmenopausal women and people who undergo a fragility fracture, a DEXA and the first level osteoporosis investigation tests, vitamin D dosage included. Indeed, it is widely known that a large amount of people over 40 years old are vitamin D deficient. Then, in case of positive diagnosis, the same doctors should prescribe the right therapy or send the patient to a center for osteoporosis. As regards the orthopaedist, he/she cannot neglect an osteoporotic fracture, forgetting to address the patient towards the right therapy.

According to Cavalli et al (11), the high prevalence of secondary osteoporosis in the Italian population clearly indicates the importance of additional risk factors not yet included in the FRAX™ algorithm, for which preventive measures should be considered. Screening campaigns may allow both early diagnosis and access to treatment.

Conclusions

Italy is one of the countries with the highest percentage of fragility fractures in the world. Following a general trend, osteoporosis is in Italy severely underdiagnosed and undertreated, with severe consequences on the Italian population.

ACKNOWLEDGMENTS

CONFLICT OF INTEREST STATEMENT: All authors disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding.

HUMAN AND ANIMAL RIGHT: For this type of study is not required any statement relating to studies on humans and animals. All patients gave the informed consent prior being included into the study. All procedures involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments.

References