Turkish Journal of Geriatrics
2010; 13 (3) 206-207

Gülbin AYGENCEL

Case Report

SHOULD WE EVALUATE ALL PATIENTS IN MEDICAL INTENSIVE CARE UNIT FOR OSTEOPOROSIS?

Abstract

The prevalence of osteoporosis is increasing with aging of the world population. While dealing with numerous vital problems of the patients in intensive care units (ICUs), ICU physicians ignore the presence or treatment of osteoporosis. However, as reported here osteoporosis may sometimes have serious consequences.

An 86 year old male patient was accepted to our ICU due to acute severe hypercapnic respiratory failure, pneumonia and urinary tract infection. During the hospitalization period, a "humeral fracture", unrelated to any traumatic incidents, was observed. Following this spontaneous fracture, bone mineral density of the patient was measured. T score on femoral neck was -4.53 SD and T score on lumbar vertebra was -3.19SD.

Osteoporosis may occur in all populations and at all ages. To address undetected and untreated osteoporosis among men and women, public health education should involve both sexes. Not only the public, but also the doctors should be educated about osteoporosis.

Key Words: Osteoporosis; Intensive care unit.

Olgu Sunumu

YOĞUN BAKIM ÜNİTESİNE YATAN HER HASTAYI OSTEOPOROZ YÖNÜNDEN İNCELEMELİ MİYİZ?

Öz

Dünya nüfusunun yaşlanması ile birlikte osteoporoz sık görülmektedir. Yoğun bakım ünitesinde yatan hastaların birçok yaşamsal sorunları ile uğraşılırken, osteoporozun varlığı veya tedavisi genellikle yoğun bakım hekimlerince gözardı edilmektedir. Fakat zaman zaman osteoporoz bizim olgumuzda olduğu gibi ciddi sonuçlara neden olmaktadır.

Seksen altı yaşındaki erkek hasta ağır akut hiperkapnik solunum yetmezliği, pnömoni ve idrar yolu infeksiyonu nedeniyle yoğun bakım ünitemize kabul edilmiştir. Yatış sürecinde travma olmaksızın humerus kırığı meydana gelmiştir. Bu spontan kırık sonrası hastanın kemik mineral dansitesine bakılmıştır. T skoru femur boynunda -4.53 SD, lumbar vertebrada -3.19 SD ölçülmüştür.

Osteoporoz her yaş grubunda ve tüm nüfusta görülebilir. Tespit edilmeyen veya tedavi edilmeyen kadın ve erkekteki osteoporozun belirlenebilmesi için, halk sağlığı eğitimi içine kadın ve erkekler katılmalıdır. Sadece halk değil, doktorlar da osteoporoz konusunda eğitilmelidir.

Anahtar Sözcükler: Osteoporoz; Yoğun bakım ünitesi.

İletişim *(Correspondance)*

Gülbin AYGENCEL
Gazi Üniversitesi Tıp Fakültesi İç Hastalıkları Anabilim Dalı Yoğun Bakım Bilim Dalı ANKARA
Tlf: 0312 202 42 16
e-posta: aygencel@hotmail.com

Geliş Tarihi: 03/06/2009
(Received)

Kabul Tarihi: 07/10/2009
(Accepted)

Gazi Üniversitesi Tıp Fakültesi İç Hastalıkları Anabilim Dalı Yoğun Bakım Bilim Dalı ANKARA

Introduction

The prevalence of osteoporosis is increasing with aging of the world population. While dealing with numerous vital problems of the patients in intensive care units (ICU), ICU physicians ignore the presence or treatment of osteoporosis. However, as reported here osteoporosis may sometimes have serious consequences.

Case

An 86 year old male patient with acute severe hypercapnic respiratory failure, pneumonia and urinary tract infection was accepted to our intensive care unit. The patient had a history of COPD, hypertension, dementia and two cerebrovascular accidents. He had been immobile at home. He was intubated and mechanically ventilated. During his hospitalization period, weaning was repeatedly tried, but the ventilatory support could not be fully stopped. Tracheostomy was performed. Enteral nutrition could not be started because the enteral tube could not be placed. Total parenteral nutrition was provided during his hospitalization. On his second month of hospitalization, a "humeral fracture", unrelated to any traumatic incidents, was observed. Following this spontaneous fracture, the patient's bone mineral density was measured. T score was measured as – 4.53 SD on femoral neck and – 3.19 SD on lumbar vertebra. Spontaneous fracture risk was found very high in the patient. A week after this incident, the patient died due to a septic shock and a multi-organ failure.

Discussion

Osteoporosis is a skeletal disorder characterized by compromised bone strength, which predisposes the individual to increased risk of hip, spine, and other skeletal fractures. Many risk factors are associated with osteoporotic fractures, including low peak bone mass, hormonal factors, use of certain drugs (e.g., glucocorticoids), smoking, low physical activity, low intake of calcium and vitamin D, race, small body size, and a personal or a family history of fracture. All of these factors should be taken into account when assessing the risk of fracture (2). Because osteoporotic fracture risk is higher in older women than in older men, all postmenopausal women should be evaluated for signs of osteoporosis during routine physical examinations. Radiological laboratory assessments of bone mineral density should generally be reserved for patients at highest risk, including all women over 65 years of age, younger postmenopausal women with risk factors, and all postmenopausal women with history of fractures. Measurement of bone density is suggested for men with clinical manifestations of low bone mass such as radiographic osteopenia, history of low trauma fractures and loss of more than 1.5 inches in height, as well as for those with risk factors for fracture, such as long-term glucocorticoid therapy, hypogonadism, primary hyperparathyroidism and intestinal disorders (3). Clinical assessment of osteoporotic risk factors together with objective measurements of bone mineral density can help identify patients who will benefit from intervention and thus can potentially reduce the morbidity and mortality associated with osteoporosis-associated fractures in this population (4).

The information provided above is considered as general information that might be found in any internal medicine book or introductory portion of articles related to osteoporosis. However, the main question is how much of this information is put into practice,. How many of us actually deal with the risk of osteoporosis in patients unless they have acute problems? How many of us ask for DXA in clinical practice for a female patient who is over 65 and whose bone mineral density has not been previously measured? How many of us evaluate a fracture risk of our patient? Who should evaluate the fracture risk? Is it the responsibility of an ICU physician or should it be evaluated by public health, preventive medicine or family practitioner? These and other similar questions frequently come to my mind after this particular incident. In our case, factors such as age, underlying illnesses, nutritional deprivation, immobilization, enteral nutrition failure, medications...etc. might have accelerated the existing osteoporotic process and increased the fracture risk. Daily treatments, nursing, changing positions, physiotherapy or transportation for investigations may each have contributed to the risk of fractures.

Osteoporosis may occur in all populations and at all ages. Though more prevalent in white postmenopausal females, it often goes unrecognized in other populations. Osteoporosis is a devastating disorder with significant physical, psychosocial, and financial consequences (5). To address undetected and untreated osteoporosis among men and women, public health education should involve both sexes. Not only the public, but also the doctors should be trained on osteoporosis.

KAYNAKLAR

1. Dennison E, Cole Z, Cooper C. Diagnosis and epidemiology of osteoporosis. Curr Opin Rheumatol 2005; 17: 456-61.
2. Guthrie JR, Dennerstein L, Werk JD. Risk factor for osteoporosis: A review. Medscape Womens Health 2000; 5(4): E1.
3. Olszynski WJ, Davison KS, Adachi JD, et al. Osteoporosis in men: epidemiology, diagnosis, prevention, and treatment. Clin Ther 2004; 26: 15-28.
4. Singer A. Osteoporosis diagnosis and screening. Clin Cornerstone 2006; 8(1): 9-18.
5. Gannon B, O'Shea E, Hudson E. Economic consequences of falls and fractures among older people. Ir Med J 2008; 101(6): 170-3.