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Original Research Article

Knowledge of Hip Fracture and its Risk Factors among General Practitioners

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Abstract: A hip fracture is probably one of the most fatal fractures for the elderly and estimated worldwide to reach 5 million cases annually by the year 2050. Thus, continuing efforts in preventing fractures, with more research and improved treatment strategies for those who do fracture, seem crucial. The study was carried out with the help of questionnaires on knowledge of hip fracture and its risk factors. The study was included of 88 general medical practitioners in the nearby area. It included of only the general practitioners and all the practitioners with any specialization were excluded from the study. It was found that the general medical practitioners were not having sufficient knowledge of the risk factors. They had knowledge of hip fractures, its clinical and radiological findings but the knowledge of risk factors were lacking. Women with multiple risk factors and low bone density are at especially high risk. A woman may be able to minimize her risk of hip fracture in a number of ways, notably by walking for exercise, avoiding long-acting sedative–hypnotic agents, reducing caffeine intake, quitting smoking, treating impaired vision, and taking measures that maintain bone density.
Keywords: Hip fracture, Risk factor, General medical practitioners

INTRODUCTION

Hip fracture represents the second leading cause of hospitalization for elderly people.1 Incidence increases substantially with age, rising from 22.5 and 23.9 per 100,000 populations at age 50 to 630.2 and 1289.3 per 100,000 populations by age 80, for men and women, respectively. Following a hip fracture, patients have increased health service utilization for at least 1 year, with much of health care costs attributable to subsequent long-term care. Identifying best practices for elderly hip fracture patients while using available health resources effectively and efficiently is relevant to both clinicians and policymakers. Standardized care, based upon current ‘‘best evidence,’’ constitutes approach to facilitate optimal outcomes and resource use. Studies also conducted a systematic literature review of management of this patient population, examining all practices throughout the care continuum from preoperative assessment through surgical management and subsequent rehabilitation. Some of the clinical areas investigated apply to elderly patients in general, but are still important aspects of care for hip fracture patients (e.g., pressure sore prevention) [1-3].

Hip fractures, which are primarily caused by accidental falls, have been related to pre-existing mobility, balance, osteoporosis, and visual or other health problems. In addition, predictors of mortality or rehabilitation outcome after hip fracture surgery include age, gender, the prefracture functional and/or ambulatory level, cognitive function, the American Society of Anaesthesiologist’s (ASA) rating or comorbidities, fracture type, more physiotherapy post-surgery and the postoperative early mobility level [4-6].

Several guidelines of best practice in the management of hip fracture have been published in recent years. Early assessment and appropriate rehabilitation is one element of what is accepted as good practice (Scottish Intercollegiate Guidelines Network (SIGN), 2002). It is therefore important to get a sense of the cost implications of the current system for those older people with dementia who have fractured a hip, and any strategies to improve outcomes for this group [7].

This particular study was done to evaluate the knowledge of hip fracture and its risk factors among the general medical practitioners.

MATERIALS AND METHODS

The study was carried out with the help of questionnaires on knowledge of hip fracture and its risk factors. The study was included of 88 general medical practitioners in the nearby area. It included of only the general practitioners and all the practitioners with any specialization were excluded from the study. Approval of the ethical committee was taken before start of the study and informed consent was also taken from each of the participants. Only the participants willing to participate in the study were taken for the study. The questions were based on the general risk factors for the hip fractures, its pathogenesis, clinical features, radiological findings, etc.

RESULTS

Total 78 participants had submitted their responses out of 88 general medical practitioners. 10 participants had not submitted their responses. All the responses were collected, tabulated and analyzed. It was found that the general medical practitioners were not having sufficient knowledge of the risk factors. They had knowledge of hip fractures, its clinical and radiological findings but the knowledge of risk factors were lacking.

DISCUSSION

A hip fracture is a break occurring at the top of the thigh bone (femur), near the hip. In a person with healthy bones, a strong force is usually needed to cause a fracture. But some diseases and conditions can make bones fragile, so that a fracture can occur with a small amount of force—for example, a fall from a standing height or less. This type of fracture is called a 'minimal trauma fracture'.

Osteoporosis is a condition where the bones weaken and lose their structural integrity. It is most common in older females but also affects males. People who have osteoporosis are at high risk of minimal trauma fractures, which are therefore sometimes called 'osteoporotic fractures'. The term 'osteoporotic hip fracture' is used in this report to mean a hip fracture that has occurred with a relatively small amount of force [2, 6].

Although osteoporotic fractures can occur anywhere in the body, they occur more frequently at certain sites, such as the hip, pelvis, spine, wrist and forearm. Hip fractures are generally more serious and debilitating than fractures at other sites. They are divided into three subtypes depending on where the thigh bone breaks: femoral neck fracture, pertrochanteric fracture and subtrochanteric fracture [2, 6, 7].

Osteoporotic fractures, including hip fractures, are a global health concern associated with significant morbidity and mortality as well as a major economic burden. This disease is caused by a modification of the bone's structure which translates into an increased risk of hip fractures. Hip fractures commonly result in permanent disability, institutionalization or death, and are one of the most damaging fractures among elderly people. Thus, identifying the causal risk factors for the development of timely interventions, such as pharmacotherapy, to limit bone structure degradation in the elderly osteoporotic population is an important challenge [8-10].

Low bone mineral density (BMD), maternal history of hip fractures, insufficiency fractures, low body weight, tall stature, previous hyperthyroidism, and use of long-acting benzodiazepines or anticonvulsants are significant risk factors of hip fractures. Other risk factors include parameters describing hip geometry. BMD is the most powerful single predictor of fractures in general, and hip fractures in particular. For each standard deviation (SD) decrease in the femoral neck density, age-adjusted hip fracture risk increased by 2.6-fold [11, 12].

Elderly people are usually osteoporotic, have multiple comorbidities, and are at high risk of hip fractures and postoperative complications. The latter may lead to functional decline, prolonged recourse to specialized care, and mortality. The goal of treatment is to restore pre-injury function with minimal morbidity [13, 14].

Standardization of care (medical and rehabilitation) would also be expected to streamline practice and improve the quality of care, although we acknowledge this hypothesis ought to be more rigorously tested. Nonetheless, several clinical areas require much further investigation. Of particular note is the lack of evidence available in the subacute recovery period, commencing after postoperative day 7 to 10, where very little research has been conducted. Summarizing the limited available evidence is further hindered by heterogeneity in study settings and interventions assessed. Investigation as to type and extent of rehabilitation and nutritional services is needed in subacute settings (e.g., long-term care, regional hospitals, homecare) as is greater consideration of secondary prevention measures for recurrent [3].

Although men have lower age-specific incidence rates of hip fractures than women, hip fractures are common in men, affecting more than 1 percent of men 80 years of age and older each year.

Moreover, the mortality rate in men after hip fractures is nearly twice that of women. Although there have been few studies of risk factors for hip fracture in men, explanations for gender differences in hip fracture rates include differences in bone mass, absence of perimenopausal-associated bone loss, and possibly decreased rates of falls in men compared with women [15-17].

Hip fracture diagnosis usually is established based on patient history, physical examination, and plain radiography. A patient with hip fracture typically presents with pain and is unable to walk after a fall. On physical examination, the injured leg is shortened, externally rotated, and abducted in the supine position. Plain radiographs of the hip (a postero-anterior view of the pelvis and a lateral view of the femur) usually confirm the diagnosis. However, when clinical suspicion for hip fracture is high and plain radiographs are normal, occult fracture should be ruled out with magnetic resonance imaging (MRI). If MRI is contraindicated, a bone scan may be useful in diagnosing fracture, but results may be normal for up to 72 hours after the injury [18].

Regarding functional assessments, the latest Cochrane review of mobilization strategies after hip fracture surgery conclude that "development of a standard portfolio of validated and patient orientated outcome measures would enable meta-analysis of the results of future trials" [19]. Further, a critical review of literature regarding the effectiveness of physiotherapy management of hip fracture in elderly persons recommends that, "future research should focus on specific locations of the hip fracture as opposed to merely a universal "hip fracture", including an operational definition of functional recovery after hip fracture" [6].

Although hip fractures cause substantial morbidity, disability, and mortality in men, hip fractures in men have received much less attention than in women [20, 21]. It is thought that the lower age-specific incidence of hip fractures in men compared with women may be due to greater bone mass, the absence of a menopause equivalent acceleration of bone loss, and a lower rate of falls in men [22, 23]. Many of the results of this study of hip fracture in men are consistent with previous studies of women. Thinner men were at substantially greater risk for hip fracture than their heavier counterparts. The protection due to increased body mass in women has been postulated to be a result of increased adipose-based production of estrogen, greater gravitational forces on bone mass, and increased padding around the hips that may decrease the transmission of energy from the impact of the fall to the proximal femur [17].

Studies have indicated that early surgery (i.e., 24 to 48 hours after hospitalization) for hip fracture is associated with lower one-year mortality, a lower incidence of pressure sores, decreased confusion,4 and a lower risk of fatal pulmonary embolism (PE). However, many of these studies did not control for the presence and severity of comorbidities. Although further studies are needed to identify persons who are at a high risk for surgery because of medical conditions, the risks of early surgery may outweigh the risks of delaying surgery in patients with unstable comorbidities (e.g., congestive heart failure, unstable angina, sepsis, severe hypoxia, and anemia). Delaying surgery while stabilizing these patients is reasonable; however, waiting more than 72 hours should be avoided to prevent complications from prolonged immobilization [18].

A number of chronic illnesses and measures of disability that have previously been reported as risk factors for falls were associated with increased risks of hip fracture in men. Premorbid lower limb dysfunction, upper limb dysfunction, limitations in instrumental activities of daily living, and the previous use of an ambulatory aid were also associated with increased hip fracture risk [17].

Others have found that smoking may increase the risk of osteoporosis through decreasing body weight, earlier menopause in women, a decrease in testosterone levels in men, or a reduction in gastrointestinal absorption of calcium. Although we did not assess testosterone levels or calcium absorption, the association of smoking and hip fracture risk in our sample of men was independent of body mass [17, 22-25].

Many potential risk factors for hip fracture, such as lower body weight, cigarette smoking, caffeine intake, use of long-acting sedatives, and inactivity, have been identified in case–control and prospective Studiesm [26].

At the present time, different definitions and assessments are commonly being used. Thus, physiotherapists involved in clinical practice or research concerning patients with hip fracture needs a set of easily applicable measurement tools. This requires that the "instruments used to measure outcomes are valid (measure what they are supposed to measure), reliable (provide consistent ratings between repeated measures in a stable population), and responsive (able to detect meaningful change)" [6].

Hip fracture has been studied as a 'tracer condition' for measuring health system responsiveness, and has been the subject of two Audit Commission studies, which identified persistent problems such as

delays in admitting patients with hip fracture from the A&E department within an hour, delays in carrying out operations within 24 hours of admission, and (in the majority of hospitals) not implementing joint ward rounds between physicians and orthopaedic surgeons [7, 26].

CONCLUSION

We conclude that many factors increase the risk of hip fracture in older white women living in the community. The effect of most individual factors is moderate, but together their impact is substantial. Women with multiple risk factors and low bone density are at especially high risk. A woman may be able to minimize her risk of hip fracture in a number of ways, notably by walking for exercise, avoiding long-acting sedative–hypnotic agents, reducing caffeine intake, quitting smoking, treating impaired vision, and taking measures that maintain bone density.

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