Original Article

A Case Report of a Delayed Diagnosed Femoral Neck Fracture

Angelo V. Vasiliadis, MD, PhD
Department of Orthopaedic and Trauma Surgery, General Hospital of Grevena, Greece

Nikolaos Mylonakis, MD
Department of Orthopaedic and Trauma Surgery, General Hospital of Grevena, Greece

Michalis Kotsapas, MD
Department of Orthopaedic and Trauma Surgery, General Hospital of Grevena, Greece

Dimitrios Giotis, MD, PhD
Department of Orthopaedic and Trauma Surgery, General Hospital of Grevena, Greece

Dimitrios Kontokotsios, MD
Department of Orthopaedic and Trauma Surgery, General Hospital of Grevena, Greece

Correspondence: Angelo V. Vasiliadis, K. Varnali 45, 54352 Konstantinopolitika-Thessaloniki, Greece
e-mail: vasiliadisvangelo@hotmail.com

Abstract

Hip fractures in elderly population are frequent representing a significant health care problem which sometimes results in permanent impairment of independence and quality of life. We present a case of a 91 years old man retired farmer submitted at the hospital after one month of left hip pain, mobilization difficulty and with a missed femoral neck fracture after a fall while doing his daily farm activities. He initially diagnosed with left sciatica and given analgesia. One month later he presented with deterioration of hip pain and difficulty in weight-bearing, despite continuing to work on his farm.

Keywords: hip fracture, etiology, delay diagnosis, complications

Introduction

Hip fractures in the elderly are frequent and represent a health care problem which sometimes results in significant permanent impairment of independence and quality of life (Pathak, Parker and Pryor, 1997). The most common cause of hip fractures in elderly is a fall in conjunction with undiagnosed osteoporosis (Pathak, Parker and Pryor, 1997; Humadi, Alhadithi and Alkudiari, 2010). Delay in diagnosis occurs in approximately 10% of total hip fractures (Pathak, Parker and Pryor, 1997; Humadi, Alhadithi and Alkudiari, 2010) and is usually due to failure to seek medical help, late presentation to the doctor, difficulty in confirming the suspected diagnosis or/and initial failure of doctors to make the diagnosis (Humadi, Alhadithi and Alkudiari, 2010; Eastwood, 1987).

Complications in patients with delayed diagnosis of hip fracture are important with significant impact on patients involving continued pain, fracture displacement, increased risk of nonunion and avascular necrosis (Thomas, Mason and Deshpande, 2014).

Our case highlights an elderly patient with a transcervical femoral neck fracture and delayed diagnosis who continued weight-bearing activities.

Case report

A 91-year-old retired farmer presented at our hospital after one month of left hip pain and difficulty in mobilization. His acute symptoms gradually started after an accidental fall while

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doing his daily farming activities. After the fall, he
got to his feet and continued his usual activities.
Prior to the accident he was fit and active only
taking medication for substitution of thyroid
function as regular medication. He had not been
previously diagnosed with osteoporosis and hence
was not under treatment for this condition. Prior to
review in our Department he had consulted a
health-care professional at a regional health center.

He was initially diagnosed with left sciatica and
given analgesia. On this visit he had concealed the
occurrence of the fall and, as result, no
radiographic examination was performed.
Throughout this period his symptoms gradually
worsened and he required a stick for mobilization.
One month later he presented at our department.
He had severe left hip pain with abductor
weakness. Radiographs showed a left trans-
cervical fracture of the femoral neck (Figure 1).
He was admitted to hospital where we performed a
cemented unipolar hemiarthroplasty (Figure 2a).

At 8 weeks follow-up, clinical examination
showed that the wound had healed and
radiographic assessment showed a congruent
position of the fracture (Figure 2b). After 1-year
follow-up the patient had made a good recovery,
he no longer complained of pain or impairment,
with full range of motion of the left hip for his age
and had returned to the activities of daily living.

Discussion

Hip fractures are the most serious osteoporotic
fracture, with the incidence of hip fractures rising
continuously due to the ongoing ageing of the
worldwide population (Mosseri et al., 2016). It is
estimated that about 1.6 million hip fractures
occurred worldwide in 2000 (Johnell and Kanis,
2006), while this incidence expected to increase to
more than 6 million by the year 2050 (Mosseri et
al., 2016).

There is clear evidence of marked variations in hip
fracture rates worldwide with the highest rates
presented by Scandinavia, followed by the United
States, Western Europe, Asia and Africa.
Furthermore, it is clear that women suffer a greater
incidence of hip fractures than men (Kanis et al.,
2012).

In the elderly population, most hip fractures can
result from a simple loss of balance leading to a
fall and this is more likely to happen in the elderly
when severe osteoporosis may occur in
conjunction with an increasing loss of certainty in
movement and balance (Pathak, Parker and Pryor,
1997).

Risk factors for falls may be related to the
individual such as vision problems, muscle
weakness and poor balance, or/and related to
person’s environment such as wet surfaces and
unsuitable footwear (Kanis et al., 2012).

Risk factors for osteoporosis include modifiable
factors such as calcium/vitamin D deficiencies,
physical inactivity and the smoking habit, as well
as, unmodifiable factors such as family history and
increasing age (Kanis et al., 2012). As result, hip
fractures cause considerable functional decline and
nearly always require surgical treatment.

Hip fractures more generally result from a simple
fall in the elderly. During physical examination,
patients with hip fracture usually present pain in
the groin and inability to perform weight-bearing
activities. They may exhibit shortening and
external rotation of the affected limb and
sometimes minor pain with little or no limitation in
range of motion. Imaging modalities, such as plain
radiographs, magnetic resonance imaging (MRI),
bone scan and computed tomography (CT) can
help in confirming the diagnosis (LeBlanc, Muncie
and LeBlanc, 2014). As result, the diagnosis of hip
fracture can usually be established through a
detailed medical history, a clinical examination,
and imaging findings of the symptomatic limb. A
well structured and easily understood diagnostic
algorithm is always useful in formulating diagnosis
(Figure 3).

Delayed recognition for more than 24 hours occurs
in about 10 percent of hip fractures and may result
in an increased morbidity and mortality (Brunner,
Eshilian-Oates and Kuo, 2003). The delay may
occur from patients not presenting at hospital
immediately, or failure to seek medical help
(Pathak, Parker and Pryor, 1997). Others reasons
for this delay may be an initial failure by doctors to
make the diagnosis, difficulty in confirming the
suspected diagnosis, absence of radiographic
examination, radiologically “invisible” and
initially undisplaced hip fractures (Pathak, Parker
and Pryor, 1997; LeBlanc, Muncie and LeBlanc,
2014).
Figure 1. Pre-operative antero-posterior (a) and frog-leg (b) radiographs show a left trans-cervical fracture of femoral neck.
Figure 2. Post-operative (A) antero-posterior (a) and lateral (b) radiographs show a unipolar hip hemiarthroplasty. 8 weeks post-operative (B) antero-posterior (a) and lateral (b) radiographs show union and satisfactory position of the fracture.
In our study, the patient had concealed the fact of his fall at his initial examination during medical history taking. It is obvious that the doctor must be honest and sincere in order to gain the confidence of their patients. If this principle is not adhered to, patients may become anxious, hide useful information and finally lose confidence in their doctor, resulting in an impaired medical history and introducing the possibility of additional risks in the course of their treatment. Confidence building between doctor and patient remains the major goal and is the “key” to a good medical history. The importance of building confidence cannot be overemphasized because of its relationship to wider treatment outcomes. As a result, delay in diagnosis can be catastrophic resulting in the three major complications of avascular necrosis of the femoral head, nonunion/malunion and later degenerative changes (Brunner, Eshilian-Oates and Kuo, 2003). Furthermore this delay could lead to unnecessary pain, disuse osteopenia, femoral neck resorption, high failure rates of internal fixation, rise of pulmonary thromboembolism and higher mortality (Thomas, Mason and Deshpande, 2014).

References


