Injuries due to Inpatient Falls: Report of two Consecutive Cases

Hastane Yatağından Düşmeye Bağlı Yaralanmalar; İki Ardışık Olgunun Sunumu

Hastane Yatağında Düşmeyle Yaralanma / Inpatient Fall Injuries

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Özet

İki ardışık yataktan düşme olgusunu sunarak düşme önlemlerinin önemini hatırlatmak istedik. Sunulan iki hasta üniversite hastanelerine yolculukları esnasında iki ayrı şehirde trafik kazalarında yaralanmışlardı. Hastalar farklı malignitelere sahiplerdi ve kemoterapilerini almaya geliyorlardı. Her iki hasta trafik kazalarına bağlı yaralanmalarının yakın takibi için kliniğimize kabul edildi. Kabullerinin ilk 24 saatinde gece nöbeti esnasında hasta odalarındaki yataklarından düştüler. Ek travma tedavisi yapılan bu hastalarda tanı ve tedaviye daha çok zaman ve kaynak harcandı. Dolayısıyla asıl onkolojik tedavileri gecikti.

Anahtar Kelimeler

Hastane Yatağından Düşme; Hasta Güvenliği; Bakım Kalitesi; Travma

Abstract

We aimed to present two consecutive fall cases in order to remind importance of fall precautions. Two patients were injured in traffic accidents in two different cities, during transportation to university hospitals. They had different malignancies and were coming to receive their chemotherapy. Both patients were admitted to our surgical clinic for close observation due to the traffic accidents. They fell from their beds in the ward during the night shift in the first 24 hours after admission. They were treated for additional trauma and more time and source was spent for diagnosis and treatment. Thus their main oncologic treatments were delayed.

Keywords

Inpatient Fall; Patient Safety; Care Quality; Trauma

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Introduction

Patient falls generally are defined as the rate at which patients fall during their hospital stay per 1000 patient days. According to American Nurses Association (2002) it is perceived as the indicator that could be most improved through nurse-led interventions or safety strategies.[1] There is no reliable statistics about this subject in Turkey; but international studies have reported rates of falls in hospitalized patients as between 2 and 12 per 1000 patient bed days. Fall-related injuries cause individual severe health problems and economic cost to organizations. It is estimated that in the USA, the total number of falls resulting in injury will be achieved to 17 million by the year 2020 at a projected cost of USD 85.5 billion per year. There is an urgent need for quality research on patient falls in hospitals, particularly in the area of fall prevention interventions.[2]

We aimed to present two consecutive fall cases in order to remind importance of fall precautions.

Case Report

We met two consecutive cases within a fortnight. Both patients had been diagnosed with malignant diseases in different cities. They were sent to university hospitals in Ankara for adjuvant chemotherapy. The patients had traffic accidents in on the way to Ankara from their home cities those approximately 500 and 600 kilometers away.

Our institution is a tertiary reference trauma center. The patients were transferred to our emergency department. No signs and findings of major traumatic injuries existed in the first physical examination and radiographic evaluation. Patients were taken to the surgical clinic for observation.

Case # 1: Sixty-three years old female patient was previously diagnosed with non-Hodgkin lymphoma. She was accepted in a one-bed private room with one of her relatives. She fell from the bed at 3:00 a.m. while her companion was asleep. Fractures in two ribs were seen in chest x-ray. No cranial injury was detected. She stayed for another 48 hours for further observation and intravenous analgesia. She eventually was referred to a university hospital for chemotherapy regimen.

Case # 2: 67-year-old male patient was previously diagnosed with small cell carcinoma of the lung. He was accepted in a 6-bed ward. He fell from the bed at 5:00 a.m., while his companion was sitting in a chair nearby. A fracture was seen in distal phalanx of fifth finger of his right foot. A conservative treatment was followed with soft-cast stabilization. No cranial injury was detected. He stayed for another 24-hour for observation and after then, he was referred to a university hospital for chemotherapy.

Discussion

Falls and consequent injuries in hospitalized patients are difficult problems those are needed to be solved. They have medical, economic and legal aspects. It is stressed that inpatient falling falls not only causes physical injury, but also causes psychological fear by affecting the individual's level of independence and subsequently delays recovery. We can estimate the ratio in Turkey is as high as the other countries from which the exact investigative results are available. Koh and colleagues claimed that the proportion of falls associated with injury is far higher in Asian countries than Western countries. The reason was cultural, and anecdotally many falls are unreported by patients and relatives when there is no associated injury, and as they deem the fall to have been uneventful.[2] Schwendimann and co-authors from Switzerland reported 8.9 falls per 1,000 patient days in a 300-bed urban public hospital among 34,972 hospitalized patients from 1999 to 2003.[3] Koh and colleagues collected data from medical, surgical and geriatric units of five different hospitals in Singapore. They found 825 fallers in 6,000 medical records in four months. Analysis showed that fall rates ranged from 0.68 to 1.44 per 1,000 patient days and the proportion associated with injury was found to be 27.4%-71.7%.[2] Reasons for this fluctuation in fall-rates over time have been debated, but never been scientifically researched. In a study interesting association with lunar cycles was investigated via "Gravitational pull hypothesis" or "Tidal force hypothesis" but no correlation was established.[3] In literature there is no difference with genders but older patients have a higher risk.[2,4]

Schwendimann and co-workers improved a program named as "the interdisciplinary falls prevention program". There were three elements: fist, all patients were briefly screened for fall risk as part of regular nursing assessment upon admission; second, patients considered at risk for falling were examined by physician; and third, general safely measures and specific interventions to prevent patient falls and subsequent injuries, were routinely implemented.[5] The Joint Commission (2005) categorized individual risk factors for falls as intrinsic (belonging to patient: reduced vision, unsteady gait, musculoskeletal system deficit, mental status deficit, acute-chronic illness, etc.) and extrinsic (belonging to equipment and environment: medications, height of beds, bedside rails, lack of support equipment in bathtubs-toilets, condition of ground surface, poor illumination, inadequate assistive devices, etc.). The Commission suggested several environmental strategies related to bed height, mattresses and support devices.[1,2] Patient fall rates determined as a kind of adverse patient occurrences and mentioned as a measure of nursing care quality.[6] In a study for patients experiencing adverse events during hospitalization, need for care systems to reduce adverse events and their consequences were stressed. Also having appropriate nurse staffing was a significant consideration in some cases.[7]

Patient beds are 10 cm higher approximately than the home bed frames. Tzeng and colleagues investigated the average height of occupied patient bed in general medical wards and relationship between staff working-height for patient beds, time and whether the patient was on fall precaution. They pointed out that better physical design of hospital equipment such as patient beds may reduce patient falls and related injuries.[1] They found that the average staff working-height measurement taken at weekends was significantly higher than that taken on weekdays. They emphasized higher patient/nurse ratio at weekends resulted in fewer bedside nursing time and nurses being less conscientious about keeping beds in normal position after treatments. On the other hand they emphasized that there were more family visitors at weekends than during the week, which might contribute to nurses spending fewer bedside hours with patients. Based on the analyses of weekday data, the average staff working-height of patient beds in afternoons was higher than in the mornings and evenings. They suggested low beds for patients at high risk of falling. In this study, the average staff working-height of patient beds that were on fall precaution was significantly higher than those that were not on fall precaution. This result may suggest that, in an effort to prevent high-fall-risk patients from falling, nursing staff consciously or unconsciously kept the beds in higher positions, possibly as a means of restraint which does not require physicians' order.[1]

Patient beds have special attachments in hospitals. On this point bedrails are more important. The patient beds in our institution had neither bedrail and nor adjustable height property at that time. All those beds have been replaced with modern patient beds with bedrails afterwards. Each patient had one companion staying with her/him for necessary helping excluding nursing time. Both of patients fall from bed when relatives were with them. The report about these two consecutive cases includes two interesting points. First, inter-city hospital referrals carry a low but natural risk of traumatic injury. These patients could be more prone to further complications because of orientation problems secondary to a depressive period of "home - close hospital – travel - far hospital". Fall was the second unfortunate event for the patients. It not only caused additional injury but also delay the treatment for primary pathology. Chemotherapy regimen was postponed for 10-14 days in the present cases.

Our patients were exposed to severe falling from beds when they were on old type beds which had no bedrail. We could find some papers in the literature that emphasized bedrail hazards. Hanger and colleague's analyzed falls in hospital focusing in bedrails. They adjusted fall rates as number of admissions (falls/100 admission) and bed occupancy (falls/10,000 bed). They performed an educational program and restricted to use of bedrails. They found that the total number of fall-related patient injuries did not change, but the type of injuries did. Serious injuries were less likely to occur after the introduction of bedrail policy than before and there were fewer head injuries.[8] In a review article, despite all included studies had methodological limitations it was found that serious direct injury from bedrails were related to use of outmoded designs and incorrect assembly rather than being inherent, and bedrails did not appear to increase the risk of falls or injury from falls.[9] Fetal bedrail patient entrapments were described.[10-12] In a report restraint use was relatively uncommon in Britain. Nevertheless, inappropriate use of bedrails was a reason for concern.[13]

We presented these two cases in order to remind importance of fall precautions. These two consecutive patients were injured in different traffic accidents. Interestingly, they both had different malignancies and were coming to receive their chemotherapy. Falls caused additional trauma requiring more time and many resources to be spent for diagnosis and treatment. Furthermore, the patients' main oncologic treatments were delayed due to the falls. After we had replaced the former beds with appropriate the hospital beds, and implemented strict fall precautions, we did not have any other falls.

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