Review Article
Orthopedics and Traumatology

Medical Journal of Islamic World Academy of Sciences
doi: 10.5505/ias.2023.68442 2023;30(1): 21-22

Orthogeriatric trauma units and orthogeriatric care improve patient outcomes in geriatric fractures

Recep OZTURK[1], Mahmut Nedim AYTEKIN[2]

[1] Department of Orthopaedics and Traumatology,, Dr Abdurrahman Yurtaslan Ankara Onkoloji Eğitim ve Araştırma Hastanesi, Ankara, Turkiye
[2] Department of Orthopaedics and Traumatology, Medical Faculty, Yuksek Ihtisas University, Ankara, Turkiye.

Correspondence
Recep ÖZTÜRK
Mehmet Akif Ersoy Mahallesi 13. Cadde No: 56
Yenimahalle/Ankara/Türkiye
e-mail: ozturk_recep@windowslive.com

ABSTRACT

Recent studies and meta-analyses have shown that orthogeriatric trauma units and orthogeriatric care improve patient outcomes in geriatric fractures. Orthogeriatric patients require a more complex treatment approach in trauma units than younger patients. Cognitive disorders, fragility, comorbidities, inadequacies in self-care, and mobility inadequacies are some of the main factors showing that these patients have complex approach needs. Orthogeriatric care should include orthopedic surgeons, geriatricians, physiotherapists, occupational therapists, and social assistants. This study aimed to review the effects of orthogeriatric trauma units and orthogeriatric care on patient outcomes in geriatric fractures.

Keywords: Hip fractures, mortality, orthogeriatric co-management, osteoporosis

INTRODUCTION

Hip fractures in older people are a serious health problem. The incidence of hip fractures has increased with the increase in average age and due to comorbidities in recent years. Hip fractures seriously affect both morbidity and mortality. According to previous reports, 1 out of every 20 patients with a hip fracture dies in the first month, with a mortality rate of approximately 20% in the first year (1,2). However, one out of every two patients who survive a hip fracture does not return to his/her pre-fracture functional status (3,4).

Orthogeriatric patients require a more complex treatment approach in trauma units compared with younger patients (5). Cognitive disorders, fragility, comorbidities, inadequacies in self-care, and mobility inadequacies are some of the main factors showing that these patients have complex approach needs (6). Orthogeriatric care should include orthopedic surgeons, geriatricians, physiotherapists, occupational therapists, and social assistants (7).

The traditional approach focuses on the patient's ability to receive anesthesia for surgery. This approach perhaps brings with it many inadequacies, complications, and poor cognitive and functional outcomes. However, these patients require an integrated multidisciplinary approach, starting from the preoperative phase. This approach should include postoperative rehabilitation, and the goal should be to return the patients to their pre-fracture functional state (1-6).

Orthogeriatric care or orthogeriatric co-management programs report differences between centers. Inadequacies in management protocols and lack of awareness may make practice difficult for clinicians. Consensus recommendations are required by making multidisciplinary panels comprising geriatricians, orthopedic surgeons, anesthesiologists, psychiatrists, physiotherapists, and general practitioners. The consensus decisions should provide information and support to clinicians, patients, researchers, and health policy makers (1-5).

Three models of orthogeriatric trauma care have been defined in the literature. The first model includes orthopedic surgical care and geriatrician consultation. The second model includes geriatric care and orthopedic surgeon consultation. The third model includes the shared responsibility of the surgeon and geriatrician in the orthogeriatric trauma unit. Although all these

models are superior in terms of traditional approaches, consensus on which model is superior is lacking. Hence, large-scale studies examining the clinical results of different orthogeriatric care models in detail are still needed. Schujit *et al.* compared different models and reported that the shared responsibility model had the best results in terms of postoperative complications, mortality, time spent in the emergency room, and clinical outcomes (8,9).

Many studies have shown that orthopedic care units reduce both short- and long-term mortality in hip fractures, shorten the length of hospital stay, and reduce the time required for postoperative mobilization (6-8).

The concept of orthogeriatric care should not be limited to hip fractures. It should include pathologies such as shoulder and humerus fractures, forearm and wrist fractures, spine and rib fractures, and pelvis fractures (8-11). Despite insufficiencies in these areas, recent studies have reported on other types of insufficiency fractures in elderly patients. Wield *et al.* conducted a 2-year follow-up study, emphasizing that minor fractures in geriatric patients should not be taken lightly and that multidisciplinary orthogeriatric care is essential for major fractures (6).

In the last nearly 70 years, major advances have been made in rotogeriatric standards of care. The survival and functional recovery rates have increased, complication rates have decreased, and adverse events such as geriatric syndromes and infection during hospitalization have reduced. All these have resulted in shorter hospital stays and reduced healthcare costs. Many clinical trials and meta-analyses have confirmed these positive results of orthogeriatric care (9,12). However, deficiencies still exist in clinical practice, and there is room for improvement.

REFERENCES

1. De Vincentis A, Behr AU, Bellelli G, Bravi M, Castaldo A, Galluzzo L, et al. Orthogeriatric co-management for the care of older subjects with hip fracture: recommendations from an Italian intersociety consensus. Aging Clin Exp Res. 2021 Sep;33(9):2405-2443.
2. Öztürk R, Arıkan Ş M, Atalay B, Özanlağan E, Şimşek MA, Beltir G, et al (2018). Comparison of cemented and cementless hemiarthroplasty in the treatent of proximal femoral fractures. Journal of Ankara University Faculty of Medicine, 71(3), 256-259.
3. Haentjens P, Magaziner J, Colón-Emeric CS, et al (2010) Meta-analysis: excess mortality after hip fracture among older women and men. Ann Intern Med 152:380–390. https://doi.org/10.7326/ 0003-4819-152-6-201003160-00008
4. Maggi S, Siviero P, Wetle T, et al (2010) A multicenter survey on profile of care for hip fracture: predictors of mortality and disability. Osteoporos Int 21:223–231. https://doi.org/10.1007/s00198-009-0936-8
5. Pioli G, Bendini C, Pignedoli P, Giusti A, Marsh D. Orthogeriatric co-management – managing frailty as well as fragility. Injury. 2018;49(8):1398–402. https://doi.org/10.1016/j.injury.2018.04.014.
6. Wiedl A, Förch S, Fenwick A, Lisitano L, Röttinger T, Nachbaur T, et al. Orthogeriatric co-management: differences in outcome between major and minor fractures. Eur J Trauma Emerg Surg. 2022 Aug;48(4):2953-2966.
7. Kammerlander C, Roth T, Friedman SM, Suhm N, Luger TJ, Kammerlander-Knauer U, et al. Ortho- geriatric service-a literature review comparing different models. Osteoporos Int. 2010;21(Suppl 4):S637–46.
8. Schuijt HJ, Kusen J, van Hernen JJ, van der Vet P, Geraghty O, Smeeing DPJ, et al. Orthogeriatric Trauma Unit Improves Patient Outcomes in Geriatric Hip Fracture Patients. Geriatr Orthop Surg Rehabil. 2020 Aug 14;11:2151459320949476.
9. R Ozturk, EK Bulut, ZZ Coskun, K Avci, H Dogan, EM Duman, BS Gungor. Clinical quality studies in orthopedic oncology and centers of excellence. Ann Med Res 2020;27(6):1839-43
10. Schray D, Ehrnthaller C, Pfeufer D, Mehaffey S, Böcker W, Neuerburg C, Kammerlander C, Zeckey C. Outcome after surgical treatment of fragility ankle fractures in a certified orthogeriatric trauma center. Injury. 2018;49(8):1451–7. https://doi.org/10.1016/j.injury.2018.06.030.
11. Adam J, Basil Ammori M, Isah I, Jeyam M, Butt U. Mortality after inpatient stay for proximal humeral fractures. J Shoulder Elb Surg. 2020;29(1):e22-8. https://doi.org/10.1016/j.jse.2019.05.030.
12. Tarazona-Santabalbina FJ, Ojeda-Thies C, Figueroa Rodríguez J, Cassinello-Ogea C, Caeiro JR. Orthogeriatric Management: Improvements in Outcomes during Hospital Admission Due to Hip Fracture. Int J Environ Res Public Health. 2021 Mar 16;18(6):3049.