

Geriatric patients in the ICU

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ABSTRACT

The proportion of patients older than 80 years admitted to the ICU is constantly increasing. Despite well-known admission criteria, older patients are frequently not referred and are admitted to the ICU. The emergency ward and ICU management of acute medical conditions should not depend on age only, but should be tailored to the individual patient in line with standards of care. After the successful treatment of acute illness, elderly people should receive complex and prolonged physical, social and psychological rehabilitation. Nevertheless, we must be able to recognize the point of futile treatment and provide proper palliative care. Less traumatised procedures that are better tolerated are preferred in the management of specific medical conditions in geriatric patients. General preventive programs promoting healthy lifestyles have been developed, but these must be implemented by a majority of older people. Medical science should promote adequate education of all professionals who are involved in the treatment of geriatric patients; societies should provide equal access to health-care in developed countries and countries in transition.

Key words: intensive care unit, outcome, survival, elderly, treatment intensity

INTRODUCTION

Over the last 150 years the rapid ageing of the population occurred in developed countries and in those undergoing transition. This is not only a success of the modern way of life, wellbeing, and progress of health sciences, but also creates many medical, psychological, sociological and financial problems. (1, 2) In the elderly we can observe typical geriatric syndromes (sleep problems, delirium, dementia, os-

teoporosis, heart failure, falls, and weight loss) that reduce the health-related quality of life, activities of daily living, and therefore increases their dependence and need for various support. (3, 4, 5) The elderly also frequently suffer from age-related vulnerability due to reduced compensatory and defence mechanisms that leads to frailty with associated polymorbidity and polypharmacy, undernutrition, poor social status, loneliness, and repetitive hospital admissions. (6, 7, 8) Once hospitalized, the main goal usually remains only the rapid management of an acute medical condition. Even though older patients have prolonged hospital stay and are at higher risk for hospital acquired infections and death, discharge from a hospital is often premature and with little concern regarding transition to home or nursing/long-term facilities.

ICU TREATMENT OF THE ELDERLY

There is abundant scientific and non-scientific evidence that human societies and modern medicine are simply not prepared nor adapted to the aging of the population. In clinical practice, age itself is a major hindrance to standards of care. When admitted to emergency facilities or the intensive care unit (ICU), old and very old patients often do not receive adequate diagnostic work-up and treatment as compared with younger patients. In patients with acute myocardial infarction, the elderly have longer pre-hospital delay before treatment and they were less likely to receive the recommended medical and interventional care. (9, 10) The proportion of older patients admitted to the ICU is increasing. Nevertheless, only 40% of patients older than 80 years that fulfilled the criteria for ICU admission were referred to the ICU, and only half of them were finally admitted. (11) Differences in treatment activi-

ties (mechanical ventilation, renal replacement therapy and vasopressors) between younger and older patients were reported, and management intensity of older patient treatment, which improved over the last decade, is probably related with better outcome. (12) Crucial to that is the diagnostic process and initial decision –taking with therapeutic implications, and evidence is emerging that elderly are not withheld key management steps. In our study, we found that once admitted to the ICU older patients were similarly hemodynamically assessed as younger patients with similar impact regarding their treatment in the ICU. (13) A study on triage decisions in seven European countries showed that elderly patients had more intensive care unit rejections and higher mortality than younger ones, but the differences between mortalities of accepted vs. rejected patients were greatest for older patients, indicating that the benefit of ICU admission appears greater for the elderly. (14) Despite being an important and independent predictor of mortality, age cannot be used as the main admission criterion, since the severity of an acute medical condition is more strongly associated with mortality. (15) Surprisingly, almost 70% of patients aged over 90 years were discharged alive from the hospital and a majority of them had no severe cognitive impairment or physical limitations. (16)

MANAGEMENT AFTER ICU DISCHARGE

Problems that are even more important emerge after a patient is stabilised and the discharge process is in sight. Most elderly patients require complex and prolonged rehabilitation, which, in spite of a medical indication, is frequently not provided because of economically oriented insurance agencies and inadequate knowledge

by medical professionals, who should be able to provide holistic and individualized management of elderly patients. (17) The advantages of such multidisciplinary management are shorter hospital stay, appropriate rehabilitation, organized transition from hospital to home, reduced readmissions and reduced costs. One meta-analysis of 17 randomized trials evaluating geriatric rehabilitation units found that inpatient multidisciplinary programs were associated with improvement in all outcomes at discharge, including a better functional status, decreased nursing home admission, and a lower mortality rate. (18) Another meta-analysis of 22 randomized trials found that hospitalized patients receiving comprehensive geriatric evaluation in specialized geriatric units were more likely to be alive and in their homes at six- and 12-month follow-ups. (19) Preventive programs as a promotion of a healthy life style are very important and successful, but they must also include the reduction of negative social attitude and assure the psychosocial integration of the elderly. The prevention and treatment of delirium, which is the most frequent complication following hospitalisation, is possible and of utmost importance. (20) Since cardiovascular and malignant diseases are the most frequent causes of death in older patients, new, more effective and less traumatising treatments are beneficial in geriatric patients. A typical example is the transcatheter aortic valve implantation (TAVI) in elderly patients with severe aortic stenosis, who are at excessive risk of complications with open-heart surgery. Older patients receiving TAVI have favourable in-hospital recovery, and similar mortality compared to standard management. TAVI is therefore a more beneficial and tolerable procedure in very old patients, with similar

complication rates as in younger patients. (21)

Geriatric patients require management using a multidisciplinary approach with active participation of specially trained geriatric specialists. (22) To date, health-care is not prepared to meet the burden and challenges of the increased number and complex management of the elderly. The distribution of geriatric medicine is unequal, geriatric medicine is not a mandatory part of undergraduate medical school programs and the speciality of geriatric medicine is still not recognized in many countries. (23) Pharmacological therapy, in this context, is a specific challenge due to several issues. The evidence for many guidelines suggested therapies are less solid for elderly than for younger patients. (24) In clinical practice, guideline based (poly) pharmacy due to several chronic conditions gives perfect ground to drug-drug interactions. (25) Even very simple systems can be helpful, and it generally holds true that physicians with training in geriatrics are less likely to prescribe potentially inappropriate medications. (26, 27) These issues need to be given first line priority by the decision makers to allow adequate development of geriatric medicine at all levels of a health care system.

The general scheme of old patient management is shown in the figure (Fig 1). In the case of acute illness, geriatric patients should receive standard acute treatment (or specially adapted procedures) mainly according to the severity of the acute condition.

Patients with good prognosis should enter prolonged rehabilitation programs and proper socialization. Patients with futile treatment and poor prognosis should receive proper palliative care. Preventive

programs and education are essential parts of the management. (28)

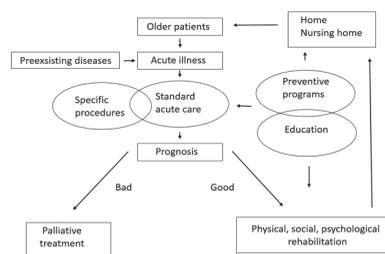


Fig. 1. Management of the geriatric patients.

CONCLUSION

Since the population is rapidly ageing, the proportion of older patients admitted to the ICU is steadily and constantly increasing. When admitted to emergency facilities or the intensive care unit, old and very old patients should receive an adequate diagnostic work-up and treatment, similar or equal to that for younger patients. After the completed management of acute problems, most elderly patients require complex and prolonged rehabilitation, but those with futile treatment and poor prognosis should receive proper palliative care. Older patients generally have higher mortality, but a majority of those discharged have no severe cognitive impairment or physical limitations

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