

that described effective interventions to prevent postoperative delirium. We did not find any studies that targeted the prevention of pressure ulcers in older cardiac surgery patients.

Conclusions.– There are interventions that prevent the occurrence of postoperative depression (comprehensive approaches), postoperative pulmonary complications (comprehensive approach) and infection (combined disinfection with CHX and immune-enhancing nutritional supplement) in older patients undergoing cardiac surgery. Unfortunately, there are no studies of strong or moderate evidence that have demonstrated effective strategies preventing delirium or pressure ulcers in these patients.

Disclosure.– No significant relationships.

<http://dx.doi.org/10.1016/j.eurger.2012.07.387>

0024

Malnutrition screening in older patients undergoing cardiac surgery: Both in preoperative patients not having an increased weight and in postoperative overfilled patients

R. Ettema^{a,*}, L. Peelen^b, A. Koops-Oosterhuis^c, E. Van Meeuwen^c, M. Schuurmans^d

^a Healthcare, University of Applied Science Utrecht, Utrecht, Netherlands

^b Julius Center For Health Sciences And Primary Care, University Medical Center Utrecht, Utrecht, Netherlands

^c Department Of Heart And Lung Surgery, St Antonius Hospital, Nieuwegein, Netherlands

^d Nursing Research, University Medical Center Utrecht, Utrecht, Netherlands

*Corresponding author.

Background.– As a result of the cardiopulmonary bypass procedure older patients do have the possibility of having a higher weight after their cardiac surgery. Mostly all malnutrition screening instruments have the patient characteristic “weight” included, which can result in unreliable (under)estimations, in the period after the cardiac surgery.

Method.– We systematically reviewed the literature to identify patient variables with a predictive value for malnutrition in cardiac surgery patients and afterwards selected only available or easy to collect predictors to improve clinical applicability. Additionally, in a patient population of 247 cardiac surgery patients, we prospectively collected these selected patient characteristics and the outcome “malnourished”. A logistic model was fitted using bootstrap resampling validation with backward step-down variable selection, resulting in a final model. Finally, a scorecard was developed and the performance of the final model and the scorecard was expressed by accuracy, discrimination and calibration.

Results.– The full model, the final model and the scorecard showed good accuracy and discrimination performances (area under the receiver operating characteristic curve 0.88 [95% confidence interval, 0.82–0.93], 0.87 [0.81–0.92] and 0.87 [0.82–0.92] respectively). The calibration performance of the full model and of the final model were very good (*P*-value of the U-statistic 0.973 and 0.955 respectively) and poor in the scorecard (0.000).

Conclusions.– We developed a malnutrition screening instrument for older cardiac surgery patients that has a high discrimination performance and is easy to use in clinical practice, both in preoperative patients not having an increased weight and in postoperative overfilled patients.

Disclosure.– No significant relationships.

<http://dx.doi.org/10.1016/j.eurger.2012.07.388>

0025

Predicting functional decline in older cardiac surgery patients: Validation the ISAR-HP

identification of seniors at risk – hospitalized patients

J. Hoogerduijn^{a,*}, S. De Rooij^b, D. Grobbee^c, M. Schuurmans^d
^a Research Group Care For The Chronically Ill, University of Applied Sciences Utrecht, Utrecht, Netherlands

^b Geriatric Medicine, Academic Medical Center, Amsterdam, Netherlands

^c Julius Center For Health Sciences And Primary Care, Utrecht University, Utrecht, Netherlands

^d Nursing Research, University Medical Center Utrecht, Utrecht, Netherlands

*Corresponding author.

Background.– A growing number of older and weaker patients undergo cardiac surgery. These patients are at increased risk for functional decline after hospitalization, leading to decreased quality of life and autonomy, increased risk of hospital readmission, nursing home placement and mortality. First step in prevention is to identify patients at risk for functional decline. No risk profiles or tools to predict functional decline in cardiac surgery patients are available. The aim is to validate an existing prediction model, the ISAR-HP in this patient population.

Methods.– Multicenter cohort study (*n*=475), follow-up three months after hospital admission in cardiac surgery wards at two university hospitals. Included were: cardiac surgery patients ≥ 65 . Functional decline was defined as a decline of at least one point on the Katz ADL Index at follow-up compared to preadmission status.

Results.– Sixteen percent of all patients and 20% of patients ≥ 70 suffered functional decline. The prediction model accurately predicted functional decline using four criteria: preadmission need for daily assistance in instrumental activities of daily living, use of a walking device, need for assistance in travelling and no education after age 14. AUC was 0.72, for patients ≥ 70 it was 0.73. A scorecard was developed: identification of Seniors At Risk–Hospitalized Patients. Sensitivity and specificity for patients ≥ 70 were 85%, 48% respectively.

Conclusions.– Both the prediction model and the scorecard gave good discriminative values for older cardiac surgery patients, supporting the generalizability of this prediction model for this patient group.

Disclosure.– No significant relationships.

<http://dx.doi.org/10.1016/j.eurger.2012.07.389>

0026

Prediction of common complications in hospitalized elderly patients

I. De Brauwere*, P. Cornette

Geriatric Medicine, St-Luc University Hospital, Brussels, Belgium

*Corresponding author.

Introduction.– In Belgian general hospital, elderly patients should be screened for frailty upon admission, in order to benefit from geriatric intervention, e.g. for adverse events prevention. We studied ability of two screening tools to predict common complications.

Methods.– Prospective cohort study (13 months) including all elderly patients aged ≥ 75 years admitted through emergency department in acute non-geriatric ward for ≥ 48 h. Direct admission to intensive care, functional dependence for all basic Activities of Daily Living, recent major stroke, or poor life expectancy excluded the patient. The value of ISAR [1] and SHERPA [2] to predict common adverse events was assessed by c-statistic and likelihood ratios (–LR, +LR) at our defined cut-offs (ISAR ≥ 3 ; SHERPA ≥ 5). Complications recorded were common adverse geriatric events (AGE) – i.e. behavioural problems (BP), pressure sore (PS) and fall-, any medical complications (MC), in-hospital mortality (IM), and 3-month rehospitalisation. Discharge to rehabilitation center (RC) was also reported.

Results.– Of 355 patients (mean age 83 ± 5 years; 55% women; 92% community-dwelling; LOS mean = 10.2 ± 6.8 days, 33% > 10 days), 108 (30%) presented ≥ 1 AGE (23% BP, 9% PS; 5% fall) and 104 (29%) ≥ 1 MC. Fifteen (4%) patients died during hospital stay and 85 (25%) were discharged to RC. Eighty-three (27%) underwent rehospitalisation. Frailty scores showed poor discrimination (ISAR c-statistic 0.53–0.66; SHERPA c-statistic 0.51–0.67; $-LR > 0.5$; $+LR < 2$) to predict these complications excepted for IM (c-statistic: ISAR 0.72 [0.56–0.84]; SHERPA 0.69 [0.57–0.79]).

Conclusion.– These scores helped little in the selection of patients at risk (or not) of complications in hospitalized elderly patients.

Disclosure.– No significant relationships.

References

- [1] JAGS 1999;47:1118–24.
- [2] Eur J Public Health 2006;16:203–6.

<http://dx.doi.org/10.1016/j.eurger.2012.07.390>

0027

The incidence, severity and duration of delirium at the coronary care unit

M. Baden^{a,*}, R. Vreeswijk^a, M. Keijzers^b, K. Kalisvaart^a

^a Geriatric Med, Kennemer Gasthuis Haarlem, Haarlem, Netherlands

^b Cardiology, Kennemer Gasthuis Haarlem, Haarlem, Netherlands

*Corresponding author.

Text.– **Background.**– Delirium is a common neuropsychiatric disorder among the elderly in general hospitals. Delirium is associated with elevated morbidity, mortality, longer-hospital- and rehabilitation stay, and higher costs. There are no known incidence rates of delirium for CCU patients. The goal of this study is to investigate delirium incidence, its risk, severity and duration in elderly CCU patients.

Methods.– A prospective cohort study of patients (> 65) admitted to a CCU at a large teaching hospital. Delirium risk at admission, incidence, duration and severity were assessed within the first 72 hours of admission. The Delirium Risk Assessment Score (DRAS score > 5 (score range 0–12)) established delirium risk. Screening for delirium was done daily with the Confusion Assessment Method (CAM) and Delirium Observation Scale (DOS), severity was measured with the DRS-R-98 and Delirium-O-Meter (DOM).

Results.– One hundred consecutive patients (age > 65) were screened at admission on the CCU, mean age 80.7 years, 37% men, 25/100 patients developed delirium (25%). Patient's age ≥ 80 , 19/55 developed delirium (34.5%). Patients with a DRAS score ≥ 7 : 20/47 developed delirium (42.6%), patients with a DRAS ≥ 10 : 6/6 developed delirium (100%). Delirium severity (DRS): mean 16.48 (sd 5.55), DOM: mean 10.9 (sd 4.75). Delirium duration: mean 3.5 days (sd 3.72). Three patients died during admission.

Conclusion.– Delirium incidence and severity is high among elderly CCU patients. The DRAS is effective in identifying patients at high risk and makes pinpointing of prevention measures possible to those patients that need and deserve it most.

Disclosure.– No significant relationships.

<http://dx.doi.org/10.1016/j.eurger.2012.07.391>

0028

How is geriatrics taught at medical schools? A systematic review of surveys

B. Montero-Erasquin, J. Mateos-Nozal, N. Pérez-Abascal, C. Sánchez-Castellano*, A. Cruz Jentoft

Geriatría, Hospital Ramón y Cajal, Madrid, Spain

*Corresponding author.

Objective.– To evaluate the methodology, results and limitations of national and international surveys on Geriatric education at the undergraduate level.

Method.– Pubmed search of all articles published, 1992–January 2012.

Results.– Fourteen national surveys were found performed in African, American, Asiatic and European individual countries, and two European and one worldwide survey were also identified. They were answered by deans, academic staff, geriatricians, or medical students. The main author reviewed the medical schools' curricula in another. The answer rate was 77%, half of the authors sent reminders to increase this rate. The mean prevalence of Geriatrics training in the national and European questionnaires was 77.5% (higher than 70% in countries with oldest populations and lower than 15% in those with youngest populations). These rates are similar to those found in the WHO's survey, that showed very heterogeneous pictures of Geriatric training. Usual evaluated areas were the inclusion of Geriatrics in the curriculum, theoretical and practical contents, existence of Geriatrics chairs or departments and teacher's qualifications.

Conclusion.– The number of surveys evaluating Geriatrics training in medical schools is small. Prevalence of training is high in Asian, European and North-American surveys and low in African and South-American countries. The main limitations of these surveys are low answer rates, different assessment methods and the fact that most surveys were carried out in countries with more mature Geriatrics. Therefore, better comparable studies in different countries and regions are needed in order to know the real situation of training in Geriatrics at the undergraduate level.

Disclosure.– No significant relationships.

<http://dx.doi.org/10.1016/j.eurger.2012.07.392>

0029

Paradoxes in the old age – reverse epidemiology

R. Antikainen^a, T. Strandberg^{b,*}, M. Barbagallo^{c,*}, R. Peters^{d,*}, N. Beckett^{e,*}

^a Institute Of Health Sciences/geriatrics, Oulu University/Oulu City Hospital, Oulu, Finland

^b Institute Of Health Sciences/geriatrics, Oulu University/Oulu City Hospital, Helsinki, Finland

^c Department Of Internal Medicine, University of Palermo, Palermo, Italy

^d School Of Public Health, Imperial College, London, United Kingdom

^e Guys And St Thomas' Nhs Foundation Trust, Imperial College, London, United Kingdom

*Corresponding authors.

Session Description/Moderator Details.– The prognostic value of some cardiovascular risk factors, paradoxically seem to reverse in some chronic diseases and in old age (“reverse epidemiology”). But what is the role of confounding factors, especially by comorbidity and frailty? It is important to recognize, so that elderly people are not predisposed to unnecessary interventions and in the other hand, potentially useful therapies are not unnecessarily denied of older people. The evidence and mechanisms of reverse epidemiology for important risk factors in the middle-aged persons such as obesity, hypertension, cholesterol and alcohol, are assessed and the results from intervention and epidemiological studies in the old people are compared. Riitta Antikainen, MD, PhD Oulu City Hospital/Oulu University, Oulu Finland riitta.antikainen@ouka.fi.

Abstract 1.– Cholesterol Timo Strandberg. When measured in old age, low – not high – serum cholesterol is often associated with neutral or worse prognosis (“cholesterol paradox”). However, a distinction must be made between unintentionally (malignancy, frailty, or other state affecting cholesterol metabolism) and intentionally (diet, drugs) lowered cholesterol. Subclinical diseases may lower cholesterol levels for years before clinical symptoms. Also depression and nutritional problems may decrease serum cholesterol concentration. Because these background factors increase mortality risk, too, a hasty but totally erroneous conclusion of “low cholesterol – worse prognosis” is easily drawn. Consequently, it