

O 003

Prediction of postoperative delirium, depression, pressure ulcer and infection in older cardiac surgery patients using preadmission data

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Objective.– Timely identification of patients at risk for prevalent postoperative hospital complications provides the opportunity for appropriate preoperative preparation. Patient characteristics known before hospital admission that are predictive for frequently occurring postoperative complications, were identified.

Design.– In a prospective cohort of 1761 cardiac surgery patients ≥ 65 years, using physical and psychosocial predictors collected in the pre-admission period, logistic regression models were developed. Performance of the models was expressed by accuracy, discrimination and calibration.

Setting.– Older patients undergoing elective cardiac surgery.

Main outcome measures.– Postoperative delirium, depression, pressure ulcer, hospital infection, and from the thought of the multifactorial geriatric syndrome, any of these complications.

Results.–Pre-admission characteristics associated with delirium were the EuroSCORE, age, history of CVA or TIA, benzodiazepines, use of a walking stick or walker, and depending on informal care. Female gender, benzodiazepines, deafness, and insoles were related to postoperative depression. Patient characteristics associated with postoperative pressure ulcer were the EuroSCORE, history of tricuspid insufficiency, fraxiparin, serum creatinin level, living alone, and being physically disabled. The EuroSCORE, history of tricuspid insufficiency and diuretics were associated with postoperative infection. The model predicting any of these complications did not outperform the models predicting delirium and pressure ulcer.

Conclusions.– We identified groups of predictors for common postoperative complications in older cardiac surgery patients and found that these outcomes are best predicted separately. As these predictors are known before admission, patients with increased risk can be selected timely for more intensive evaluation and preparation in order to reduce their risk

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O 004

Effectiveness and costs of intensive exercise intervention on Alzheimer's patients – A randomized, controlled trial

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Introduction.– There is gap of knowledge whether exercise rehabilitation is effective on dementia patients. The aim of this study was to clarify the effectiveness of intensive exercise rehabilitation on home-dwelling Alzheimer (AD) patients functioning, cognition, falls and use of services.

Methods.– A total of 210 AD patients were randomized into three arms:

- group-based exercise (GE) (4hx2/wk in day center for one year);
- tailored home-based exercise (HE) (1hx2/wk for one year);
- control group (CG).

Patients with confirmed AD were assessed with Functional Independence Measure (FIM) for physical functioning and clock drawing test (CDT) for cognitive functioning. Calendars were used

to count falls. The use and costs of social and health care services were collected during a two-year follow-up.

Results.– All groups deteriorated in their physical functioning according to FIM during the follow-up year but the controls significantly faster than GE and HE groups. FIM declines at 12 months, were -7.1 points (95% CI: -3.7 to 10.5), -10.3 points (95% CI: -6.7 to -13.9) and -14.4 points (95% CI: -10.9 to -18.0), in the HE, GE, and CG, respectively. HE and GE groups had significantly lower number of falls than the CG during the follow-up year. According to CDT, cognition improved in HE compared with CE. The total costs of health and social services decreased in GE and HE compared with the CG.

Conclusions.– Intensive tailored home-based exercise has beneficial effects on AD patients' physical functioning and cognition over 1 year. These effects were executed without increasing net costs.

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O 005

The role of wrist actigraphy in the evaluation and safety of patients in psychogeriatric ward

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Introduction.– As part of the project "INTERREG IVB 2007–2013, North Western Europe", entitled "HEALTH and DEMOGRAPHIC CHANGES (HDC)", some gerontechnological applications were developed. The main purpose of this study is to assess the quantity and quality of sleep by analyzing the sleep–wake rhythm, its phase shifts, and to relate any anamnestic evidence to explain some disturbances. Besides this, analysis of activity periods could also detect signals of alert of events, such as falls.

Materials and methods.– IST Vivago[®] WristCare system was used as actigraphic device. The wrist unit measures the activity of psychogeriatric patients and measurements are stored in the watch and are transferred to a computer at the end of the experiment. The study was conducted in a psychogeriatric clinic (Pèri, Liège).

Results.– The study shall be conducted until the end of 2013. At present, we have collected data from approximately 20 patients who have completed their hospitalization and which are currently being analyzed. From actigraphic data, indicators are extracted for sleep analysis, such as the mean and median of sleep duration and their variation, WASO (Wake After Sleep Onset), sleep latency, sleep fragmentation indices. For activity analysis, other indicators are sought like circadian rhythm, number of naps, etc. Then, these indicators are linked with clinical events, pharmacological treatment and psychogeriatric assessment data (ADL, IADL, MMS, AWS, etc).

Conclusions.– Actimetric measures analysis are promising in the objectification of circadian cycles disturbances in elderly patients. Wake phase curves examination could also detect alarm events, such as falls signals.

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O 006

Effect of initial response to treatment with a cholinesterase inhibitor on the course of cognition in patients with Alzheimer's disease: Results from the Frisian Alzheimer's disease cohort study

