**MEDICAL DECISION MAKING**

**P1356 Patient care enhancement with continuous quality improvement techniques**

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**Background:** There is often a disparity between the published findings from randomized clinical trials and their application in clinical practice. The Clinical Quality Improvement Network (CQN), a voluntary partnership of individuals and institutions interested in promoting improvements in practice through a shared vision and collaboration, uses a practical approach of continuous quality improvement techniques to minimize variation in treatment patterns and to improve patient care. This process consists of identifying best clinical practice by literature review, particularly of results of large randomized clinical trials, measurement of current patterns of practice by retrospective data review, development of explicit critical management paths and wide dissemination of these clinical guidelines, and repeated data collection to measure changes and to infer causality of change. In acute myocardial infarction, we found that at initial review the utilization of proven efficacious medical therapy has been suboptimal, and that there appears to be a systematic undertreatment particularly in females and the elderly.

**Purpose:** To adopt a Critical Path technique in order to enhance patient care by optimizing utilization of proven efficacious therapies.

**Method:** Development of explicit guidelines and monitor outcomes.

**Results:** Data from the University of Alberta Hospital cohorts, from 1987 to 1993, indicated that the earliest cohort displayed the latest, thrombolytic use increased from 13% to 42%, beta-blockers 28% to 81%, and ASA 44% to 97%. Similar qualitative changes occurred in all patient subgroups, but patients aged 70 years or older and females received less thrombolytic and beta-blocker therapy and had higher mortality in every cohort. Overall mortality decreased from 20% in 1987 to 11% in 1992–93, with the greatest decrease occurring among elderly and the early cohorts (35% in 1987 versus 19% in 1989–90 and 1992–93). The greatest changes in medication use also occurred between 1987 and 1990. Similar trends are obtained in preliminary data from other centres.

**Conclusion:** These data suggest that the use of CQI techniques enhances patient care by increasing the utilization of proven efficacious medical therapy and, in turn, favourably altering important clinical outcomes such as mortality.

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**PSYCHO-SOCIAL AND BEHAVIOURAL RISK FACTORS**

**P1359 Heart rate variability is associated with quality of life and coping mechanisms**

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**Purpose:** Heart rate variability (HRV) is an important predictor of arrhythmic complications after acute myocardial infarction (MI). Recently, depressive symptomatology after MI has been described as an independent prognostic factor for long-term post-MI mortality. Clinical research on depressed and panic disorder patients provides evidence for the fact that psychological factors have a profound effect on the modulation of the autonomic nervous system, as witnessed by changes in HRV. We postulated that in a healthy population HRV would be linked to the psychological profile.

**Methods:** The study population consisted of 276 healthy volunteers, between the age of 18 and 70. Quality of life was evaluated by the MOS-SF36. The SF-36 includes a multidimensional scale, measuring 8 health concepts. The "Utrechtse Coping Vragenlijst\(^{(UCL)}\), a Dutch adaptation of the Westbrook Coping Scale, was used to evaluate different coping strategies. A Dutch translation of the Spielberger State Trait Anxiety Inventory (STAI) was used to evaluate trait anxiety. After completion of the questionnaires, a Holter recorder with time tracking was attached for 24 hours. The Holter recordings were analysed for arrhythmic events, correct manual annotation was made and time and frequency domain indices of HRV were calculated. Parametric and non-parametric statistical analysis was performed with SPSS.

**Results:** In the SF-36 quality of life survey, better physical functioning was associated with higher HRV (all HRV indices) in nearly exclusively the male subpopulation. General health perception showed comparable results. In men, HRV is related highly significant with one coping mechanism, namely expression of emotions and anger. In females, more depressive-regressive coping was related to higher time domain and frequency domain high frequency variability. Subanalysis by age category showed even stronger correlations between HRV and different dimensions of quality of life and coping mechanisms.

**Conclusions:** This is the first description of an association between the psychological profile and the cardiac autonomic nervous system in healthy subjects. If even in a healthy population, there is a relation between reduced HRV and impaired quality of life and coping behaviour, this is likely to be present to an even greater extent after an MI. Further methodological refinement may lead to the identification of a subpopulation with a specific socio-economic and psychological profile that has deleterious effects on the autonomic nervous system. These people may therefore be more prone to develop cardiovascular disorders.