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Wolters Kluwer

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## **Abstracts and Programme**

## **EUROANAESTHESIA 2015**

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 **Wolters Kluwer**



**Learning Points:** Our case confirms the importance of the pre-anaesthetic clinical examination as a gold standard - it was decisive in identifying this rare but potentially lethal congenital anomaly, as it triggered a series of tests which eventually established the diagnosis. Any apparently "healthy" patient may hide a serious medical condition.

### BAP8-3

#### Diagnostic exercise testing: expanding the remit pre-operative cardio-pulmonary testing

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**Background and goals of Study:** Cardiopulmonary exercise testing (CPET) is an established pre-operative investigation for risk stratifying patients undergoing major surgery. CPET may be useful for diagnosis in the pre-operative period, optimisation of the exercise-limited patient and resource-sparing for the complex medical patient.

The goal of this study is to assess the feasibility of producing a service for medical diagnostics using CPET.

**Study:** A reference structure for interpretation of the complex and abundant data produced during CPET is required to analyse the information obtained. This study created a diagnostic flow chart to assimilate the CPET data and investigated its diagnostic sensitivity and specificity.

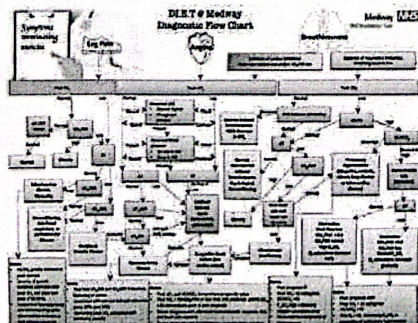
**Methods:** A literature search was conducted to establish the most sensitive and discriminating CPET data for differential diagnoses of various common medical conditions responsible for exercise limitation. 25 patients were chosen from a database of pre-operative patients who had previously undergone CPET. The physicians were blinded to the patient's co-morbidities. Interpretation of the CPET data was performed with the most likely cause of exercise-limitation documented.

**Results and Discussion:** The literature search resulted in the flow chart being produced (figure 1). The calculated specificity of the DLE.T flow-chart was 0.71 and the sensitivity was 0.65. The comparison between documented co-morbidities and identified co-morbidities is demonstrated in figure 2. Errors occurred due to rigid symptom classification which limited the sensitivity. Multiple co-morbidities often gave conflicting results, which needed to be resolved with medical judgment.

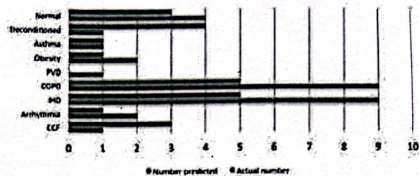
**Conclusions:** The algorithm proved useful in excluding causes of exercise limitation in this sample population. A limitation of the study reducing the calculated sensitivity is the possibility of undiagnosed co-morbidities responsible for the observed exercise limitation. The flow chart had a number of limitations necessitating the use of clinical judgement. Modification to improve sensitivity is underway. A prospective analysis in pre-operative and medical patients will be undertaken allowing further tests to be conducted to confirm the presence or absence of an identified cause for exercise limitation.

#### Reference:

Huddart et al. Preoperative cardiopulmonary exercise testing in England - a national survey. *Perioperative Medicine* 2013; 2:4



[CPET flowchart for diagnosis]



[Co-morbidities in study population]

### BAP8-4

#### The influence of epidural versus systemic analgesia on incidence of cardiac complications in elderly with hip fracture

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**Background and Goal of Study:** patients with hip fracture are usually older patients. Uncontrolled acute pain and stress of surgery in elderly patients may cause increased cardiac morbidity and mortality (1). Epidural analgesia blocks sympathetic nervous system and reduces the incidence of myocardial ischemia and dysrhythmias and the response to stress (2).

The aim of this study was to compare the effect of continuous epidural versus general analgesia on the incidence of cardiac complications and their analgesic effect in patients with hip fracture.

**Materials and Methods:** Sixty patients with hip fracture older than 65 years with previously defined high pre-operative cardiac risk according to ACC/AHA guidelines were included and were randomly assigned to two groups of 30 patients: SA group - patients with systemic analgesia, nifedipine 2 x 100 mg/iv and tramadol 1 mg/kg/iv every 8 hours; and EDC group - patients with a continuous epidural analgesia with bupivacaine 0.125% - 5ml/h and fentanyl 3µg/ml. As end points of the study were registered the incidence of cardiac events in both groups: cardiac death, myocardial infarction, congestive heart failure, unstable angina and new-onset atrial fibrillation. In all patients were determined laboratory parameters and pain intensity by using Verbal Descriptive Scale as well as the side effects.

**Results and Discussion:** The epidural analgesia decrease the incidence of per operative cardiac events in patients with high pre-operative cardiac risk for surgery for hip fracture (SA group 46.6% vs. 15% in EDC group) and in the same time decrease cardiac mortality (10% in SA group vs. 0% in EDC group). The values of VDS were significantly lower in patients with EDC block versus patients with systemic analgesia in all experimental times as well as lower number of side effects.

**Conclusion(s):** Early administration of continuous epidural analgesia in patients with high pre-operative risk with hip fracture decrease the incidence of cardiac morbidity and mortality and provide superior pre- and post-operative analgesia comparing systemic analgesia, with minimal side effects.

#### References:

1. Katsanos S.N. Mavrogenis A. F et al. Current concepts for preoperative cardiovascular evaluation and perioperative care of the elderly with hip fracture. *EEJOT* 2009; 60:134-141.
2. Auerbach A. Goldman L. Assessing and Reducing the Cardiac Risk of Noncardiac Surgery. *Circulation* 2006;113: 1361-1376.