Abstracts
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Safety and Challenge
AP36 Geriatric anesthesia
Date & Time: Fri. June 4, 2010  13:00-14:00
Site: Marinemesse, Area AACA03

AP36-1
Risk factors of major cardiovascular complications in elderly patients undergoing orthopedic surgery

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Objective: To analyze the clinical course, contributing risk factors of major perioperative cardiovascular complications, which including cardiac arrest, acute myocardial infarction/ ischemia and congestive heart failure, in elderly patients who underwent orthopedic surgery.

Material and method: The study was a prospective cross-sectional study. Data were collected from 65 year-old patients who underwent orthopedic surgery under anesthesia in Ramathibodi Hospital, Thailand. Our anesthesia provider team completed the data collecting form in first postoperative day.

Preoperative, intraoperative and postoperative data were collected.

Each report was reviewed by authors for clinical courses, contributing risk factors of major perioperative cardiovascular complication. Statistic analysis was performed using Chi-square, Fisher's exact test and Multiple logistic regression model. P-value < 0.05 was considered significant.

Results: There were 217 patients enrolled in this study. The authors found 5 (2.3%) major perioperative cardiovascular complications cases (1 cardiac arrest case, 1 acute myocardial infarction case and 3 congestive heart failure cases). The significant risk factors of complications were diabetes mellitus patients, history of congestive heart failure, emergency surgery.

Conclusion: Our result indicated that orthopedic surgery was risk procedures in elderly patients. The contributing risk factors of perioperative cardiovascular complications were diabetes mellitus patients, history of congestive heart failure, emergency surgery.

AP36-2
Risk factors for peri-operative death and significant cardiovascular event in geriatric patients underwent anesthesia.

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Introduction: Advancement of medicine makes people live longer. From 2004 to 2006, life expectancy of Thai male and female increased from 67 to 69 and 73 to 75 respectively. Elderly patient percentages among all patients who need surgery under anesthesia also increased in our institute. Many published data show that perioperative complications are more likely in elderly compare to younger population. We, therefore, would like to identify patient at risk for perioperative complications in geriatric patients.

Method: We prospectively enrolled all elderly patients underwent surgery under anesthesia in Ramathibodi Hospital, Thailand between June 2007 and February 2008. We followed them 24 hours post-operatively and recorded pre-operative, intra-operative and post-operative data. Multiple logistic regression was used to analyze data.

Result: During nine months period of study, there were 614 patients enrolled into this study and 60.8% of them received general anesthesia. Two hundred and ninety one (47.4%) of them are male and 323 (52.6%) are female. Average age of the population was 72.87±5.9 year old and average operation time was 145±95 minutes. Most of the patient had low clinical predictor (47.9%) and moderate surgical predictor (60.3%). We found that 57% of patient had at least one underlying disease and cardiovascular system was the most common involved system which affected 69.2% of population. Twenty eight patients had significant cardiovascular events such as myocardial infarction, significant arrhythmia or sustain significant hypotension, and two of them died within 24 hours from operation. After multivariate analyses with a backward elimination procedure, we found that age > 70 (Odds ratio=1.44; 95% CI: 1.01,2.00), ASA III-V (Odds ratio=1.58; 95% CI: 1.09,2.30), high surgical predictor (Odds ratio=2.48; 95% CI: 1.67,3.08) and smoking with respiratory disease (Odds ratio=2.34; 95% CI: 1.04,5.27) were independent risk factors for perioperative death and significant cardiovascular events.

Conclusion: Most of geriatric patients underwent surgery under anesthesia had underlying disease. We found that age > 70, ASA III-V, high surgical predictor and smoking with respiratory disease were independent risk factors for perioperative death and significant cardiovascular events in geriatric population.

| Age > 70 yr | 1.44(1.01, 2.06) | p=0.046 |
| ASA III-V | 1.58(1.09, 2.30) | p=0.017 |
| High surgical predictor | 2.48(1.67, 3.68) | p<0.001 |
| Smoking with respiratory disease | 2.34(1.04, 5.27) | p=0.04 |
| Non smoking with respiratory disease | 0.57(0.27, 1.18) | |

AP36-3
Hip replacement surgery under regional anaesthesia for high risk geriatric patients

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Introduction: Hip fractures in the elderly is a major problem in most countries. It can potentially lead to many life threatening complications if not managed well. The elderly patient poses unique problems to the anaesthetist as physiologically they are different from the others. We would like to present a case series of 3 high risk elderly patients with fracture neck of femur who successfully underwent hip replacement surgeries under combined paravertebral lumbar plexus, iliac crest and sciatic nerve blocks.

Case Report: Case 1:
Patient was a 67 year old man with severe mitral stenosis with a valve area of 0.6cm2. The pulmonary artery systolic pressure was 76 mm Hg. He had a fracture of the right neck of femur and was scheduled for total hip replacement.

- 184 -
Case 2: Patient was a 82 year old lady with fracture left neck of femur for bipolar hemiarthroplasty. She had triple coronary vessel disease with unstable angina.

Case 3: Patient was a 83 year old lady with fracture right neck of femur and was planned for bipolar hemiarthroplasty. Premorbidly she had diabetes mellitus and senile dementia.

All patients received lumbar plexus and sciatic nerve blocks under aseptic technique with the nerve stimulator. The Mansour approach was used for the sciatic nerve block. All 3 cases proceeded uneventfully with stable haemodynamics throughout the surgery.

Discussion:
We chose this method of anaesthesia as it is associated with less haemodynamic changes compared to central neuraxial blockade and general anaesthesia. Paravertebral lumbar plexus block involves all components of the lumbar plexus and occasionally the lumbar spinal trunk as well. As the hip joint is also innervated by the nerve to the quadratus femoris muscle and articular twigs from sciatic nerve, a sciatic nerve block is also required. Iliac crest block is needed as ipsilateral subcostal nerves may innervate the surgical incision site. Regional anaesthesia for hip surgery is associated with reduced early mortality. Moreover lumbar plexus block for hip arthroplasty reduces blood loss peroperatively. However this method of anaesthesia is technically difficult, time consuming and needs a certain degree of cooperation from the patient.

AP36-4
Postoperative complication of hip fractures of elderly patients in Buriram Hospital
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Introduction: Hip fracture is complex orthopedic problem in old age. The treatment and outcome of geriatric patients in regional hospital were reported.

Material and Methods: Patients with and age of sixty five years or older who had been hospitalized with hip fractures at Buriram hospital between 1st October 2006 to 30 September 2008. The hospital records were reviewed data of treatment, underlying diseases, perioperative care, anesthetic technique and short term outcome. Descriptive analysis were used.

Results: There were 167 elderly patients with hip fractures, 55.09% of them underwent operation, 44.91% of them were conservative treatment due to their physical status and their relative’s decisions. The mean age was 78.57 +/- 7.20 years. The length of stay was 9.42 +/- 6.57 days. There 57.50% of them were undergoing diseases, 86.81% of operative patients were undergone spinal anesthesia, 6.6% were general anesthesia. The postoperative mortality rate was 2.17%, morbidity rate was 59.78%. The postoperative complication were anemia, electrolyte imbalance, pneumonia found, 54.38%, 45.61% and 8.77%, respectively. The mortality rate between operative fixation and conservative treatment were 2.17%, 5.88% with significantly different.

Conclusion: Only 55.01% of hip fractures in geriatric patients were operative fixation with less mortality rate but high morbidity rate.

AP36-5
Assisted sedation for percutaneous endoscopic gastrostomy procedure in sick patients in a developing country
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Background: In a developing country, percutaneous endoscopic gastrostomy (PEG) procedure is being performed at increasing rate. The aim of this study was to evaluate the clinical efficacy of assisted sedation, compared with general anesthesia for PEG procedure in sick patients in a hospital in Thailand.

Patients and methods: We undertook a retrospective review of the anesthesia or sedation service records of patients who underwent PEG procedures from October 2006 and September 2008. All patients with ASA physical status III and IV were classified into two groups. In group S, PEG was done by using intravenous sedation (IVS) technique. In group G, PEG was applied with general anesthesia (GA) technique. The primary outcome variable of the study was the successful completion of the procedure. The secondary outcome variables were sedation/anaesthesia related complications during and immediately after the procedure.

Results: Anesthesia/sedation was provided for 184 sick patients. Of these, 116 (M, 52: mean age, 71.4±15.8 years) procedures were performed with patients under assisted sedation (S) and 68 (M, 37: mean age, 67.8±18.5 years) procedures with GA (G). There were no significantly differences in age, gender, weight and duration of procedure between the two groups. All patients in both groups were concluded with the successful completion of the procedure. In group G, the combination of fentanyl, propofol and midazolam was the most common combination. In group S, sevoflurane was the most common inhalation agent, and atracurium was the most common muscle relaxant drug. The mean dose of propofol and midazolam in group S was significantly lower than in group G (p=0.001). Overall adverse events in group S significantly occurred less common than in group G (p=0.003). Respiratory adverse events were not statistically significantly different in both groups. Hypotension was the most cardiovascular adverse event in the two groups. All complications were easily treated, with no adverse sequela.

Conclusion: In the setting of the developing country, assisted sedation for PEG procedure in sick patients by trained anesthetic personnel with appropriate monitoring was safe and effective. The clinical efficacy of this technique was not different or worse than GA technique. Serious adverse events were rare in our population.

AP36-6
Rectectomy under general anesthesia with epidural anesthesia is a risk factor of the postoperative delirium after laparotomy in elderly patients.
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Introduction: Postoperative delirium is the common complication of the anesthesia. Postoperative delirium has been reported to increase the morbidity and mortality, and to be developed in 1-61.3% in elderly patients. We need to make the causes and