

ELDERLY PATIENTS AND DAY SURGERY: AN APPROPRIATE CHOICE?

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Objective: Aging will determine increase in day surgery (DS). Old age is associated with comorbidities and ASA>II Class. ASA III-IV pts can be treated in DS, but little evidence exists on elderly as outpatient. Due to higher ASA class, co-morbidity and low acceptance, elderly are often treated as inpatient. This paper aims to investigate if age itself represents an independent risk factor in day surgery.

Methods: With key-words “ambulatory surgery” and “elderly” over the period January 1999-January 2008, 5 studies were found (1: Fortier J. *Can J Anesth* 1998; 45: 612-19; 2: Chung F. *Can J Anesth* 1999; 46: 309-21; 3: Chung F. *Br J Anaesth* 1999; 83 (2): 262-70; 4: Fleisher L. *Arch Surg* 2004; 139: 67-72; 5: Aldwinkle R. *Anaesthesia* 2004; 59: 57-9).

Results: The total of pts was 603410. Age ranged between 65-101 y. In studies 1-3, endpoints were UpO/NA and intra- or postoperative AEs; study 4 identified predictors of UpO/NA or death within 7 days, study 5 examined ASA Class distribution. Age is not predictor of UpO/NA (1). Intraoperative cardiovascular AEs significantly increase in pts over 65 y (2). AEs frequency correlates with age inversely: intraoperative (respiratory and cardiovascular) AEs linearly increase, whereas postoperative (nausea, vomit, shivering, pain) AEs decrease with age. Predictors of UpO/NA or death within 7 days after DS are: age>85 y, previous hospital admission within 6 months, and office-based surgery (4). The percentage of over 65s belonging to ASA Class>II ranges from 2.3 (2), and 12 (5).

Conclusions: Peri-operative complication rate increases with age, but there is no evidence that age represents an independent risk factor for AEs after DS. Outcome of over 65 outpatients is favourable considering both peri-operative course and outcome at short (UpO/NA) and mean time (mortality within 7 days). ASA>2 Class does not exclude DS. Age itself represent an independent risk factor after 85 y.

DAY SURGERY FACILITIES FOR ELDERLY: WHICH DESIGN?

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Objective: With the expansion of DS, a wide number of facilities will be built in the future. Motor/sensorial deficits and comfort requirements are a challenge for hospital engineers and health care managers.

Methods: We reviewed the literature searching for studies, from which to draw basic principles or design patterns. The focus was on: prevalence and characteristics of the commonest disabilities in elderly; review of the environmental/technical requirements facing with the discomfort caused by disabilities; definition of a set of design patterns.

Results: Results are shown in Tables 1 and 2

Table 1: Prevalence of different impairments in the 65-75 and 76-85y

age	motor	visual	acoustic
65-75		50 %	25 %
76-85		75 %	50 %

The only one existing codified regulation facing with disabilities is architectural barriers removal. A group of technological/typological requirements for geriatric DS facilities was identified, as a starting point toward the definition of a regulation frame by the Healthcare Ministry.

Tab. 2: Space / Technical Requirements

access	Hearing Comfort	Visual Comfort	Thermal Comfort	Safety in Use	Security
By-law 236/89 assoc. to safety in use	RT ^(*) < 1 " 1.8 " < EDT ^(**) < 2.6 " Leq < 50 dB(a) (ext.) ^(***) Leq < 35 dB(a) (int.)	lighting: E > 100 lux Glare GL ⁽⁺⁾ < 15	t _{op} = 23°C t _{air} = 26 °C (summer) t _{air} = 23 °C (winter) v _{air} < 0,05 m/s (winter) v _{air} < 0,1 m/s (summer) 30% < RH < 60 % air rec = 5 vol/h	floor attrition coeff: 0.4 - 0.7 hand-rails availability function comprehension: see spc, color codes, space markers	entry filtering, CCTV (Closed Circuit TV)

(*) Reverberation Time (**) EDT, Early Decay Time (***) Equivalent Noise Level (+) Glare Factor

Conclusions:

This study represents a first approach to the definition of requirements and design patterns for geriatric DS facilities.

SATISFACTION AND DAY SURGERY ACCEPTANCE IN A SAMPLE OF OVER 85 y OUTPATIENTS

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Objective: It is generally reputed and believed that Day Surgery (DS) is poorly accepted by elderly pts, due to difficulties in understanding instructions, fear of adverse events or need for unplanned admission. This paper investigates acceptance and satisfaction toward DS on a sample of 38 over 85y pts.

Methods: Over the period June 2007-May 2008, 38 over 85y pts (range: 85-98; ASA 2: n30; ASA 3: 8) underwent DS at the INRCA Hospital. After 21-42 days, a follow-up call reached 35 pts, investigating:

- 1: difficulties in understanding pre and postoperative instructions and moving around the facility
- 2: need to contact the facility before the date established for postoperative surgical control or to visit the practitioner within 7 days after surgery
- 3: occurrence of pain, PONV, headache, within 48 h after discharge
- 4: occurrence of disorientation or agitation, weakening, inappetence or weight loss within the first 3 weeks
- 5: number of days needed to reassume previous style of life (personal care, going around alone and/or doing home works or hobbies if they did it previously)
- 6: the level of satisfaction (scarce, acceptable, good) after DS.

Results: Results showed:

- 1: no difficulties in 100%
- 2: no need for hospital/practitioner contact in 100%
- 3: no pain, PONV, headache within the first 48 h
- 4: disorientation for few days in 2.7%; no inappetence or weight loss
- 5: previous style of life reassumed within 1 day in 71%9, 2-3 days in 20%, one week in 9%
- 6: level of satisfaction quoted as "good" in 100%.

All the pts investigated affirmed they would repeat the experience as outpatient in case of need.

Conclusions: In spite of co-morbidities, related poly-medication and reduced reserve to stress, patients older than 85 y may beneficiate of day surgery and be satisfied of this setting of treatment.

A CONTROLLED TRIAL OF GERIATRIC LIAISON INTERVENTION IN FRAIL SURGICAL ONCOLOGY PATIENTS

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Objective: Comparison of occurrence of delirium in frail elderly cancer patients selected with the Groningen Frailty Indicator and treated by usual care or with a geriatric liaison intervention in the perioperative period.

Methods: Multicenter prospective randomized clinical trial.

Study population: Patients over 65 years of age undergoing surgery for a solid tumor are assessed using the Groningen Frailty Indicator (GFI). Patients with a GFI greater than 3 are most likely to experience adverse events postoperatively and a poor outcome after discharge.

Intervention: The patients are assessed by a geriatric team preoperatively and monitored during hospital stay. This geriatric team contributes to the individual care plan during hospital stay. Multi-component interventions are focused on best-supportive care and prevention of delirium. The geriatrician is the supervisor of the geriatric team.

Outcome measures: The primary outcome is the incidence of delirium (measured with the Delirium Observation Screening Scale and the DSM-IV criteria) up to 10 days postoperatively.

Secondary outcomes are:

- Return to the pre-operative living situation within 3 months postoperatively.
- The Physical and Mental Component Summary measures of the SF-36.
- Complications during hospital stay including mortality.
- Care Dependency Scale at discharge
- Percentage of patients receiving adjuvant treatment.
- Direct health care and non-health care costs during hospital stay will be used as economic indicators.

Results: This study has been recruiting since April 2007 and has now included 163 patients. It is expected to close in June 2010 after recruitment of 290 patients. Problems encountered during this study and preliminary results will be presented.

ADVANTAGES OF THE LOW INSUFFLATION PRESSURE IN THE GERIATRIC LAPAROSCOPIC SURGERY

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Introduction: Insufflation pressure used at laparoscopic cholecystectomy is usually 12 -15 mmHg. Pneumoperitoneum made by carbon dioxide insufflations into abdominal cavity has a strong effect on the function of cardiovascular and respiratory system. These effects are temporary and they are usually well compensated at young, healthy patients. Contrary to them, at geriatrics patients with limited cardiopulmonary reserve (ASA III/IV), pneumoperitoneum caused by high pressure of insufflation pressure can be a cause of significant cardiopulmonary instability.

Aim of the work: The aim of this work is to estimate the influence of various values of the intraperitoneal insufflation pressure on hemodynamic and respiratory status of geriatric patients (ASA III/IV) during the laparoscopic cholecystectomy.

Materials and methods: The examination included 30 patients, divided into two groups of 15 patients. All the patients belonged to ASA III/IV. Insufflation pressure of 8 mmHg was used in Group I, while insufflation pressure of 14 mmHg was used in Group II. The examination was divided into five temporal stages. **T₁**- parameters are registered immediately before taking into general anaesthesia; **T₂**- after taking into anaesthesia; **T₃**- 5 minutes after setting the patient into AT position; **T₄**- 5 minutes and **T₅**- 20 minutes after intraperitoneal carbon dioxide insufflations until they reach the proposed values of intraabdominal pressures. Monitoring included the middle arterial pressure, CVP, minute heart volume, PaCO₂ and etCO₂. The identical techniques of general endotracheal anaesthesia were used at all examined patients (propofol, fentanyl, pancuronium bromide, O₂/N₂O/sevoflurane). At all patients there was also used IPPV with respiratory volume of 10 ml/kg/tt and respiratory frequency of 12/min. Statistic importance ($p < 0.001$.) of differences of these two groups was tested by *t-test of average values* in the case of two independent samples.

Results of the research: Obtained results point to expressed hemodynamic instability and significant disturbance of arterial blood gas analyses in Group II. The significant decrease of the values MAP (> 32%), CVP (>28%) and minute heart volume (>42%) in the third, fourth and fifth temporal examination stage were determined in this group. There is, at the same time, the significant increase of PaCO₂ (>49 mmHg) and difference of PaCO₂ - etCO₂ (>10.6 mmHg) ($p < 0.001$). Contrary to Group II, the patients of the group I showed less hemodynamic instability and slight disturbance of arterial blood gas analyses.

Discussion and conclusion: Key moments which cause various pathophysiological changes at laparoscopic cholecystectomy are pneumoperitoneum formation by carbon dioxide insufflations and position of the patient at the surgery desk. Coordination of those factors has a very negative influence on cardiovascular and respiratory function of geriatrics patients with limited cardiopulmonary reserve (ASA III/IV). Although the changes, which have been made, are well gone through at younger patients, they can also have negative consequences at older and ill patients with damaged cardiopulmonary function. Pneumoperitoneum creation by using mild insufflation pressure, negative cardiopulmonary effects of pneumoperitoneum at geriatric patients can be minimized during laparoscopic interventions. Geriatric patients with existing cardiopulmonary disease can have normal values of etCO₂ without expressed hypercarbia at the same time, with significantly increase of PaCO₂. This happens because of decreasing of minute heart volume, increasing alveolar dead space and disturbance of ventilation-perfusion relation. During laparoscopic surgeries, older patients and the patients with chronic cardiopulmonary disease can require a careful postoperative monitoring.

Key words: low insufflation pressure, geriatric surgery, hemodynamic and respiratory changes.

EPIDURAL ANALGESIA VERSUS OPIOID INTRAVENOUS ANALGESIA IN MAJOR ABDOMINAL SURGERY

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Objective: The objective of this study was to compare epidural analgesia with opioid intravenous analgesia in geriatric patients who undergo major abdominal surgery.

Methods: In this retrospective study we examined the medical records of patients over 64 years old, who underwent major abdominal surgery (colectomy, nephrectomy, and pancreatic resection) between January 2006 and December 2008. The patients were randomized and the statistical method used was student t test.

Results: Thirty patients received epidural analgesia (first group) and thirty patients received intravenous opioid analgesia (second group). There were no differences in the type of surgery and ASA status between groups. The intravenous opioid analgesia group required more intravenous NSAIDs dosages ($P=0.032$). This group also had a longer intrahospital ($P=0.01$) and UCI stay ($P=0.02$), twelve and ten days, respectively. In the other hand, intrahospital and UCI stay in the epidural analgesia group was five days and three days. Moreover, epidural analgesia group used more opioid dosages ($P=0.004$) after the epidural catheter was retired (48 hours after surgery).

Conclusions: This retrospective study suggests that epidural analgesia reduces the use of NSAIDs. The analgesia technique influenced intrahospital and UCI stay. Intravenous opioid analgesia seems to be superior over epidural analgesia in opioids dosages requirements. Prospective trials evaluating economic considerations in the postoperative care and analgesic requirements in the elderly are needed.

A STUDY OF THE MORBIDITY, MORTALITY AND LONG TIME SURVIVAL FOLLOWING RADICAL CYSTECTOMY IN ELDERLY

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Objective: Despite the risks of major surgery in the elderly population, radical cystectomy remains a treatment option in healthy elderly patients and even in those with poor health suffering from complications such as bleeding and pain. The number of radical cystectomies proposed to old patients has increased over recent years. The purpose of this study is to evaluate the morbidity, mortality and long time survival following radical cystectomy in elderly patients over 75 years of age.

Methods: We reviewed all radical cystectomies performed over a period of two years (2006 and 2007) in patients aged 75 years or more in our University Hospital. We evaluated the incidence and type of both early and late complications during a follow up period of 18 -36 months.

Results: 159 radical cystectomies were performed during this period, 37 (23.3%) were performed for bladder cancer in patients over 75 years of age. All of them included an external urinary diversion with an ileal conduit. The mean age was 79.9 years (range 75-86), 34 were men (91.9%). 11 patients (29.7%) were ASA 2 and 26 (70.3%) were ASA 3. Average duration of hospital stay was 17.9 days (range 4-39). Incidence of early complications (during the first 30 days) was 29.7%, 16.2% were surgical (intestinal occlusion, acute pyelonephritis, fistula or wound infection), 13.5% were medical (prolonged ileus, lung aspiration). There were 21.6% late complications (acute renal failure, acute pyelonephritis both due to ureteroileal anastomosis stenosis, intestinal occlusion, and deep venous thrombosis). None of the patients died in the operating theatre or during the first three postoperative days. There were 10.8% early deaths (during the first 30 days) caused by sepsis (complicated lung aspiration and abdominal sepsis) and 5.4% known late deaths caused by cancer progression as only 70.2% were followed up for more than 18 months.

Conclusions: Early complications and mortality seem to often be associated with prolonged ileus. A rigorous multidisciplinary team approach is needed to assure good perioperative outcome and improved life expectancy. Further analyses are needed in order to establish objective criteria for selection of suitable elderly patients for surgery and establish accurate prognostic criteria.