

Cancellations of Cardiac Surgical Patients and their Emotional Aspects

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Methods

This is a prospective audit conducted in a tertiary cardiac surgical unit between January and April 2004. The aim of this audit is to find out the incidence of cardiac surgical cancellations, reasons for cancellations and to find out the emotional aspect and the patients perception following cancellation. A questionnaire based interview was done on the previous day of the surgery. Eight variables of emotional aspects were looked into in these patients. We also tried to correlate between surgical cancellations and aggravation of their pre-existing symptoms.

Results

64 patients posted for various cardiac surgical procedures were interviewed during this audit period. 22 of these patients had no cancellations. 41 patients had their procedures postponed. One patient had his procedure preponed by a week. Number of cancellations ranged from one to six times with a mean of 1.15. There was total of 82 cancellations. ICU bed shortage was the commonest reason (45/82) followed by emergency procedures (17/82).

Table 1 Showing patients' emotional aspects following postponement

Variable	Number	%
Angry	8	19.51
Anxiety	21	51.22
Boredom	12	29.27
Depression	9	21.95
Fear	12	29.27
Frustration	23	56.10
Reduced Social Activity	6	14.63
Sleep Disturbance	11	26.83

Discussion

Cardiac surgery affects the patient and their family both physically and emotionally. There is normally a waiting period before these procedures are performed during which time Fear and Anxiety are common¹ in these patients. These procedures may be cancelled or postponed due to various reasons with deleterious effects on patients.

In our audit following postponement of their surgical procedure, the most common emotional variable was frustration (23/82). 11 patients whose procedure was cancelled had their pre-operative symptoms aggravated. Chest pain was the commonest aggravated symptom (9/11). The patients' view of postponement was that they had been cancelled.

References

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Association analysis of stroke risk index for neurological complications in patients following surgery with cardiopulmonary bypass

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Background: A preoperative Stroke Risk Index¹ (SRI) to predict neurological complications following cardiopulmonary bypass (CPB) surgery allows rapid assessment of 'at risk population', however its clinical significance is still debatable. We aim to investigate the association between SRI and prevalence of neurocognitive impairment in a large cohort of patients undergoing CPB surgery in our centre over six years.

Methods: Retrospective data of 6,846 patients who underwent adult intracardiac and coronary artery surgical procedures on CPB performed between 1997 and 2003 were analysed. Notes were reviewed and patients grouped based on preoperative SRI score {Group-A ≤ 50 (low risk); Group-B, 51-100 (moderate risk) & Group C, >100 (high risk)}. Bivariate analyses were applied to determine associations between SRI score and postoperative outcomes. Statistical significance was accepted at a level of P<0.05.

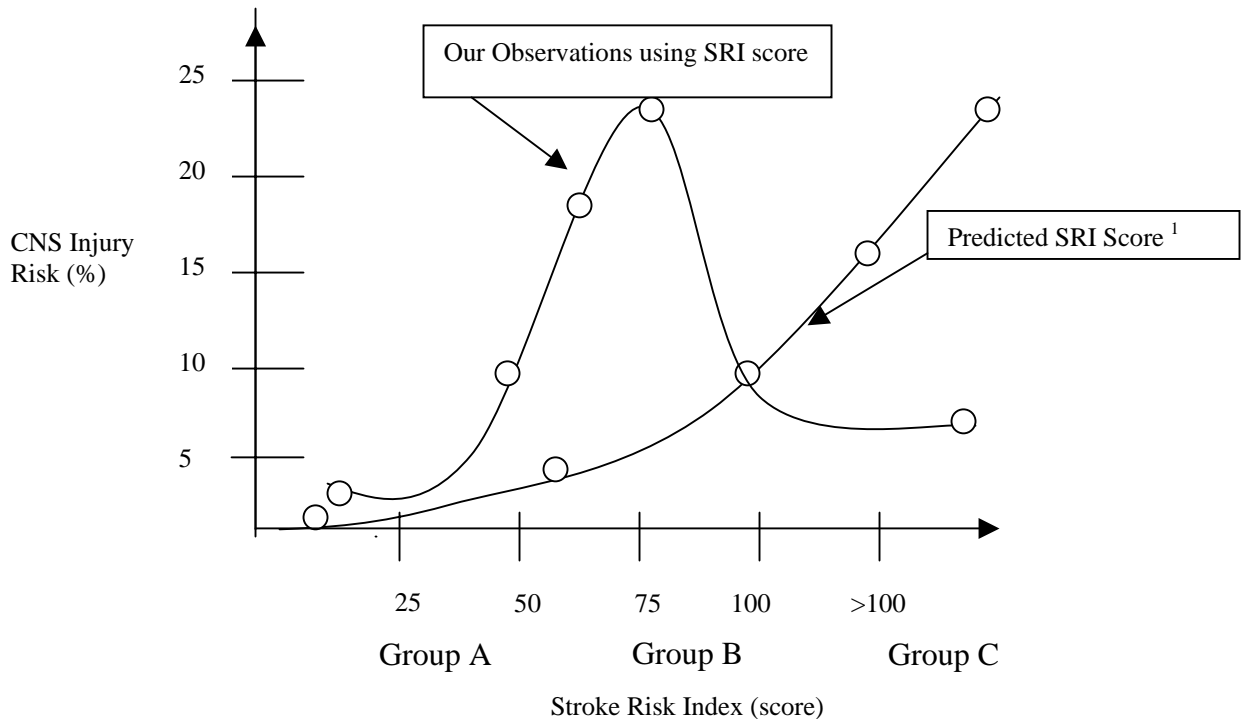
Results: 217 patients (3.2%) developed adverse neurological events, defined as cerebrovascular accident, transient ischemic attack (TIA), or persistent vegetative state with mean age 65.9 ± 11.7 years. In Group A the CNS injury risk was observed to be 4%, in Group B, 23%, whereas in Group C, 8% (Figure-1). Preoperatively, patients in Group -B were older (P<0.05), had a much higher proportion of redo operations (OR 8.23; P<0.001), diabetes mellitus (OR 2.01; P<0.05), hypertension (OR 3.02; P<0.01), myocardial infarction (OR 3.79; P<0.05), ejection fraction <30% (OR 1.46; P<0.01) and absence of sinus rhythm (OR 2.52; P<0.05) when compared with their counterparts. In contrast to patients without CNS injury, median intensive care unit stay was significantly prolonged from 3 days to 15 days in Group B (P<0.001) and to 7 days in Groups A & C (P<0.05). CNS events also increased hospital stay by 40% in Groups A&C, (P=0.04) and 72% in Group B (P<0.001). Specialized care after hospital discharge was frequently necessary in patients with neurological complications. Only 31% returned home compared with 85% of patients without cerebral complications (P<0.001).

Conclusions: These findings demonstrate that patients with a SRI score of >50≤100 (Group-B) undergoing CPB surgery are at a formidable increased risk of cerebral complications, compared with patients scoring >100 (Group-C). This suggests that factors such as preoperative history of redo procedures, myocardial infarction, ejection fraction <30% and absence of sinus rhythm play an important role in recognising the at risk population. Therefore, a further refinement and validation of SRI is necessary.

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Figure-1:



Effect of cardiopulmonary bypass on propofol infusion rate to maintain a constant Bispectral Index value

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The end-tidal concentration of isoflurane required to maintain a constant Bispectral Index (BIS) value after cardiopulmonary bypass (CPB) is less than that required before CPB [1]. Is the same true for propofol?

Methods

We studied 10 adult patients undergoing cardiac surgery with CPB. Premedication of diazepam 10 mg p.o., morphine 10 mg and prochlorperazine 12.5 mg i.m. was given 90 min before induction of anaesthesia. Anaesthesia was induced with 1.0 mg.kg⁻¹ of propofol, then maintained with a propofol infusion throughout the procedure. Fentanyl was given either by bolus dose at induction (10 µg.kg⁻¹) or infused by STANPUMP to maintain an effect site concentration of 3ng.ml⁻¹ using Shafer's pharmacokinetic model [2]. The P_aCO₂ was maintained between 4.5 and 5.5 kPa and α-stat blood gas management was used on CPB. The infusion rate of propofol was titrated to maintain the Bispectral Index (Aspect, A-2000) at 45 throughout surgery. BIS, State Entropy (Datex Ohmeda), nasopharyngeal temperature and propofol infusion rates were recorded at five consecutive one-minute intervals on five occasions (1 before sternotomy, 2 after sternotomy, 3 at normothermia before the end of CPB, 4 after weaning from CPB, 5 at skin closure) and the mean value calculated. Blood pressure was maintained within acceptable values using phenolamine 0.5-1.0 mg and phenylephrine 50-100 µg. Heart rate was controlled where necessary using esmolol 0.5-1.0 mg.kg⁻¹ or glycopyrrolate 0.6-1.2 mg.

Results

Data were obtained from 6 men and 4 women with a mean age of 69.8 yr (range 59-76). There were no differences between fentanyl bolus and infusion groups.

	Propofol rate	BIS	Entropy	T °C
1	5.1 (4.2-5.2)	45.3 (37.2-53.4)	34.0 (25.0-43.0)	35.7
2	4.9 (3.4-6.4)	44.4 (40.4-48.4)	35.8 (28.9-42.7)	35.6
3	3.8 (2.4-5.2)*	44.7 (42.0-47.4)	32.8 (26.5-39.1)	36.4
4	3.9 (2.7-5.1)*	46.3 (43.4-49.2)	38.0 (32.0-44.0)	36.3
5	3.6 (2.9-4.3)*	43.3 (39.8-46.8)	39.6 (33.0-46.2)	35.8

Table 1 Infusion rates of propofol in mg.kg⁻¹.hr⁻¹ at the study times. Data are mean values (95% confidence intervals). *P<0.01 v baseline.

The BIS was considered unreliable in two patients. Entropy indicated a consistently lower 'depth' of anaesthesia than BIS.

Discussion

There is a consistent reduction in the dose rate of anaesthetics required to maintain a constant BIS value following cardiopulmonary bypass.

References

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2 Online at <http://pkpd.icon.palo-alto.med.va.gov> (accessed 15.10.02)

The haemodynamic effects of parenteral sildenafil after mitral valve surgery in patients with pulmonary hypertension - a pilot study

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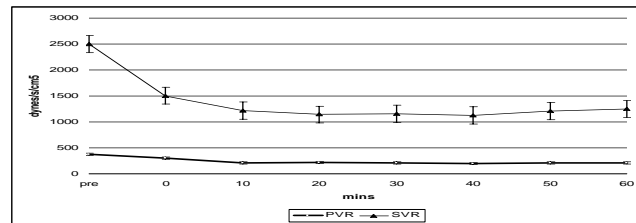
In the post-operative adult cardiac surgical patient raised pulmonary vascular resistance may occur, especially following mitral valve surgery. Cyclic GMP is abundantly expressed in the vascular smooth muscle of the lungs and causes vascular smooth muscle relaxation. Phosphodiesterase-5 inhibitors (such as sildenafil) prevent the hydrolysis of cyclic GMP and have been shown to be effective pulmonary vasodilators in experimental pulmonary hypertension [1]. To date there are no clinical studies which investigate its parenteral effects in adults with pulmonary hypertension

Methods

Eight patients who underwent mitral valve replacement or repair surgery were included in the study. In the cardiothoracic surgical intensive care unit, baseline systemic and pulmonary haemodynamic values were recorded. An infusion of sildenafil citrate 1 mg/ml at a dose of 1mg/kg over one hour was then administered to patients who were diagnosed as having pulmonary hypertension (defined as a mean pulmonary arterial pressure of > 25mmHg). Systemic and pulmonary haemodynamic values were measured every 10 minutes during the sildenafil infusion.

Results

Figure 1 Haemodynamic effects of intravenous sildenafil



Discussion

Our study showed no statistically significant reduction in HR, PCWP, MPAP or MAP from baseline. Intravenous sildenafil did produce a statistically significant reduction in PVR ($p < 0.001$) from baseline. There was a decrease in SVR and an increase in CI that did not achieve statistical significance. These early results from a small group of patients indicate that intravenous sildenafil is indeed an effective pulmonary vasodilator and we await the results of the completed study.

Acknowledgements

Pfizer Inc., Sandwich, UK for providing intravenous sildenafil

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Outcome in Octogenarians after cardiac Surgery

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Introduction: Cardiac surgery is being performed with increasing frequency in patients aged 80 years and older. Patients are selected individually for surgery based on their quality of life, life expectancy, and co-morbidities. Patients are evaluated based on their physiological age and not the chronologic age. Age is a significant indicator in cardiac surgery, strongly correlating with morbidity and mortality (1). We have analysed our hospital database to evaluate the co morbidities and the outcome in Octogenarians after cardiac surgery during the last five years.

Methods

We collected the patient data from the cardiac surgery database (PATS). 156 patients aged 80 years and above underwent cardiac surgery during a period of five years from June 1999 to June 2004. Control group was established as mean age of all patients \pm one SD. We looked at and compared the pre-operative co-morbidities, Euroscore and Parsonnet score of these patients. As a measure of outcome we compared the post-operative HDU and hospital stay, total mortality, mortality by type of surgery and the causes of death.

Results

Preoperatively there was no marked difference in the incidence of renal or respiratory diseases and left ventricular function in both the groups. Octogenarians underwent more combined CABG and valve surgery procedures than the control group. Mortality was more than double in the above 80 year group. The length of the HDU and the hospital stay were also higher in the Octogenarians.

Variable	Control	> 80yrs
EuroScore	4.0	8.0
Parsonnet Score	9.0	26.0
Mortality	4%	11%
HDU stay (median)	1 day	2 days
Hospital stay (median)	6 days	8days

Discussion

According to our analysis, octogenarians showed increased morbidity and mortality compared to the younger patients. This has been reported by other studies (2)(3). Our result shows that, as previously reported, age is an independent predictor of adverse outcome as suggested by the Euroscore.

Reference

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Impact of Transfusion on Time to Extubation

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Blood transfusion has been identified as one of the predictors of prolonged mechanical ventilation after coronary artery bypass graft surgery [1,2]. By analysing data from our continuous prospective audit of blood transfusion, we aimed at evaluating the impact of transfusion on the time to extubation in our practice.

Method: The continuous blood transfusion audit is a permanent project supported by the Trust since the year 2000. Data obtained from patients who underwent elective cardiac surgery between January 2003 and May 2004 and bled less than 400 ml in the first 4 postoperative hours were included in this analysis. Patients returned to theatre were excluded. Data are described as median.

Results: Tables shows the time from arrival in intensive care (ITU) to extubation in relation to the location (table 1) or amount (table 2) of transfusion of red blood cells.

Table1	<i>Red Blood Cells</i>				
<i>Location</i>	<i>None</i>	<i>In Theatre</i>	<i>In ITU</i>	<i>In Either</i>	<i>In Both</i>
<i>n</i>	850	149	154	379	76
<i>Time to extubation (min)</i>	390	475	480	500	608

Table 2	<i>Red Blood Cells</i>			
<i>Amount (units)</i>	<i>None</i>	<i>1</i>	<i>2</i>	<i>3 or more</i>
<i>n</i>	850	72	62	15
<i>Time to extubation (min)</i>	390	448	483	480

Discussion: In this review of our audited practice, we observe that patients who were transfused were extubated later than non transfused patients. This difference even applies to patients who received RBC only in theatre but were not transfused in ITU. We also report an increase in the time to extubation related to the number of units transfused. It is therefore possible that transfusions may hinder the process of weaning from mechanical ventilation. Structured randomised studies rather than audits are needed to confirm this observation.

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Use of transoesophageal echocardiography (TOE) for detection and quantification of pleural fluid in cardiac surgical patients

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TOE can image pleural fluid. The descending aorta may help locate fluid in the dorsal left pleural space by serving as an acoustic window. Conversely right sided fluid may be more difficult to detect.¹ Attempts to quantify pleural fluid using TOE are restricted to a single case report.² In this report the authors predicted the volume of a right sided collection by multiplying maximal cross-sectional area (CSA) by axial length (AL).

Methods

8 male patients were studied before chest closure following coronary bypass surgery. 50ml saline aliquots were infused into the left pleural space until detected by TOE. Saline was then instilled up to the next 200ml increment and further 200mls aliquots infused until it spilled from the pleural space. At each stage CSA was measured with the trace facility on the TOE platform. Similarly AL was measured using the cm marks on the TOE probe by moving the probe cephalad and caudad. Following completion of the study sequence on the left, the saline was removed and the process repeated for the right.

Results

The mean detection volumes (95% CI) were 125ml (34 to 216) on the left and 225ml (134 to 316) on the right (P 0.016, Wilcoxon-signed-rank test). The ranges of total volumes instilled were 1000 to 1800ml on the left and 1000 to 1600ml on the right. Volumes calculated from TOE measurements were strongly correlated with actual volumes instilled on both sides (left TOE volume=1.14×actual volume-191, R^2 =0.93, right TOE volume=1.23×actual volume-228, R^2 =0.86). Bland Altman analysis³ showed a mean difference between TOE and actual volumes of -98ml (-396 to 199) on the left and -50ml (-495 to 395) on the right. Inspection of the Bland Altman plots revealed a tendency for TOE to underestimate at low volumes and overestimate at higher volumes on both sides. There was an increase in variability of the TOE estimate with volumes >1000ml on the right.

Discussion

TOE detects surprisingly small volumes of pleural fluid. There was a statistical difference in the minimum detection volume in favour of the left side though this difference was small and not clinically significant. CSA×AL provides a reasonably accurate measure of actual volume on both sides, particularly with collections <1000ml and is therefore a clinically useful measure.

References

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Appropriateness of Blood Transfusion in First Time Coronary Artery Grafts – A Review of One Year’s Practice

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In recognition of the hazards associated with transfusion of blood products [1] and the possible future scarcity of these products, hospitals are obliged to adopt strategies to ensure rational blood usage. We therefore examined the practice in our hospital to determine whether the use of red cell transfusion was appropriate.

Methods

This study reviewed red cell transfusion and cell salvage for patients undergoing first time coronary artery bypass graft (CABG) surgery in our hospital.

We collected data on patients undergoing first time CABG surgery between 1st April 2002 and 31st March 2003. In our hospital demographic data and cell salvage volume returned is entered into the PATS (Patient Analysis and Tracking System) computer database by surgeons, anaesthetists and perfusionists. Blood component use is extracted from the blood transfusion laboratory database and also transferred to PATS. Haemoglobin values (pre-op, day 1 post-op and discharge) were obtained from the laboratory database and integrated with the data from PATS, linked via the patients' hospital registration numbers.

Results

Data were identified for all 609 patients who had first time CABG surgery during the year studied. There were 514 males and 95 females. Age range was 36 to 86 years (median 66 years).

Sixty one percent of patients received no red cell transfusion. This included 95 patients who underwent CABG without cardiopulmonary bypass. A further 27 percent received two units or less. The number of units transfused was between zero and ten units.

Cell salvage was used in 522 patients. For these patients median volume of red cells returned was 548ml, range 200 – 3000ml.

Table 1 Haemoglobin concentrations (g/dl) on admission, day 1 post-op and at time of discharge (median, range and inter-quartile range for all patients).

	Median	Range	Inter-quartile range
Admission	13.9	8.8 – 17.7	13.0 - 14.8
Day 1 post-op	9.5	6.9 – 13.4	9.0 – 10.3
Discharge	10.1	6.5 – 15.3	9.3 – 11.0

Thirteen of the patients (2.1%) were discharged with haemoglobin concentrations greater than admission values. Of these, five did not receive red cell transfusion. The eight who were transfused had a median admission haemoglobin concentration of 9.9 g/dl (range 8.8 – 11.9)

There was a significant negative correlation between transfusion requirement and height, weight, and admission haemoglobin concentrations. A positive correlation was shown between age and transfusion requirement. The positive correlation between transfusion requirements and returned cell salvage volume was weak.

Discussion

Our study demonstrated a rational transfusion policy for first time CABG surgery in our hospital, with the majority of patients receiving no transfused red cells. In those patients whose discharge haemoglobin was higher than their admission haemoglobin 38% were not transfused and all the others were admitted with a haemoglobin less than 12 g/dl. In common with previous studies we demonstrated factors associated with increased transfusion requirements [2,3]. There was a very weak correlation between the volume of red cells returned by cell salvage and transfusion requirement.

References

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Importance and availability of pre-operative left ventricular function, retrospective analysis and prospective audit

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Left ventricular (LV) function is an important risk factor for mortality following coronary artery surgery. It has a high weighting in most scoring systems¹

Methods

In order to assess the availability of information regarding LV function we carried out a prospective audit of the information available at the pre-operative visit for one month, taking 100% quantitative description of LV function as our standard². To assess the impact of LV function on patient management we used our database to look retrospectively at all patients who had primary coronary artery bypass grafting (CABG) over a one year period taking insertion of pulmonary artery catheter (PAC) or transoesophageal echo (TOE) intraoperatively as indicators of altered anaesthetic management and length of stay in the cardiac intensive care unit (CICU) as an outcome measure.

Results

The database revealed 490 primary CABG procedures performed in one year. Worse ventricular function was associated with more interventions. 16/40 patients in the poor ventricle group (40%) received an additional invasive monitoring tool, 16/142(11%) in the moderate and 21/308(7%) in the good LV group. The mean CICU stays were 1.3 days for good, 1.5 for moderate and 2.05 days for patients with a poor LV. In 73/75 patients (97%) included in the prospective audit a measure of LV function was available at the preoperative visit. In most cases the report was in the form of a qualitative assessment and there appeared to be no standardisation of the terminology used.

Discussion

It is well known that LV function is an important predictor of outcome following coronary artery bypass grafting. We have confirmed this in our patient group by showing increased length of stay in CICU for those with a poor LV.

It is common practice for anaesthetists to use PAC and/or TOE to direct treatment in higher risk patients. For these reasons it would be useful if preoperative assessment for CABG were to include a quantitative measure of LV function. Our present system provides good qualitative information which is difficult to interpret: are good, normal and reasonable the same for example? Standardisation of LV description would improve communication.

References

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A survey of epidural and spinal techniques in cardiac anaesthesia

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Thoracic Epidural Analgesia (TEA) for cardiac surgery continues to be a controversial technique as evidenced by recent articles. Evidence for the benefit of epidurals has been documented in terms of improved pain relief, decreased pulmonary infection, improved respiratory mechanics, a decreased incidence of new postoperative supraventricular tachycardias and a decrease in postoperative confusion¹. Evidence of the level of any added risk, especially regarding the feared complication of epidural haematoma, is less forthcoming. We have conducted a postal survey of the use of epidural and spinal techniques in cardiac surgery in the United Kingdom. We were keen to compare this to a similar study from 2001 in the USA².

The main objective of the study was to determine the percentage of anaesthetists practising epidural and spinal techniques for cardiac surgery. Those anaesthetists that practice these techniques were questioned further regarding issues such as indications for their use, management of perioperative anticoagulation and course of action after a bloody tap.

Methods

A questionnaire was sent to all the ACTA Linkmen in the United Kingdom during the period January 2004 to September 2004.

Results

- 25 hospitals responded out of the 33 hospitals. (76% response rate)
- Of the 243 anaesthetists 46 (18.9%) practised a regional technique.
- TEA was practised by 40 (16.5%). 8 (3.3%) routinely, 15 (6.2%) occasionally and 17 (7%) very rarely.
- 4 (1.6%) perform *both* epidurals and spinals occasionally.
- 2 (0.8%) anaesthetists would perform solely spinals, one occasionally, the other - very rarely.
- The main reason for not practising these techniques was fear of epidural haematoma and reported lack of benefit.
- 6 out of 46 anaesthetists would cancel the case in the event of a bloody tap
- In 66 cases, surgery had continued after a bloody tap but with no consequences.

Discussion

The survey has shown that a significant number of cardiac anaesthetists do use epidural/spinal for cardiac surgery, but the majority do not for fear of epidural haematoma. Interestingly, our figure of 18.9% of anaesthetists who practise a regional technique is very similar to the USA study figure of 15.6%.

References

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Survey on Patient information for cardiac anaesthesia

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This is a survey conducted to look into the views of cardiothoracic anaesthetists along with the patient views on patient information for anaesthesia provided before cardiac surgery. The questionnaire was sent out to all linkmen of the Association of Cardiothoracic Anaesthetists of GB & Ireland.

Methods:

A questionnaire was constructed to gather information about a leaflet for cardiac anaesthesia and having a common leaflet on the ACTA website that all trusts providing cardiac services can use, depending on their local practice. We looked into the number of hospitals that have a leaflet, the type, when such a leaflet is given to the patient and what is thought to be the best time and mode of providing a leaflet. Studies show that providing such a leaflet well before surgery has beneficial effects (1). It is less stressful for the patient, more time saving for the anaesthetist with less litigation and better utilisation of resources towards patient care. We also looked into the opinions of the Linkmen with regard to shared problems like blood transfusion, cardiopulmonary bypass, coagulation problems and post operative breathing exercises.

Results:

We sent a questionnaire to 53 ACTA linkmen with a reply envelope. Twenty nine replied. The response rate was 65%. 49% of the linkmen hospitals do not have a leaflet while 41% have some information either as common leaflet for cardiac surgery, British Heart Foundation leaflet or a local one. 18% had their own leaflet for cardiac surgery that had some information about cardiac anaesthesia. 48% of linkmen felt there should not be a common leaflet due to variations in local practice but 72% felt that if one was available it should be on the web site. 57% of the Linkmen felt that patient information should be provided both as a leaflet and a booklet, while 13% replied either a booklet or brief account of anaesthetic information. 45% of linkmen felt that patients should be informed about blood transfusion by anaesthetists. Opinions are divided with regard to CPB, coagulation problems and breathing exercises and all results will be presented at the meeting.

Discussion:

It is beneficial for both patients and anaesthetists to have patient information regarding cardiac anaesthesia sent with admission letter for surgery. A booklet should be available on the wards for patients and public if they want further information about cardiac anaesthesia before surgery.

References:

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An Audit on the need for a Patient Information Leaflet in Cardiac Anaesthesia

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Pre operative information is a requirement for all surgical procedures. Professional organisations, disciplinary bodies and patients expect explicit information about medical treatment including anaesthesia. Pre operative information has been shown to have beneficial effects and improves outcome including a reduction in hospital stay, improved pain control, better coping with surgery and a positive effect on emotional problems (1). Provision of a leaflet is one possible way of improving the delivery of information. Most hospitals provide patient information for cardiac surgery but with little anaesthetic information. The aim of this study was to find out the level of information provided about cardiac anaesthesia within our trust and to explore the possibility of developing a cardiac anaesthetic leaflet to improve the delivery of information to patients.

Methods:

We provided a questionnaire to 61 consecutive patients at GSTT on the third postoperative day after cardiac surgery. The questionnaire looked into the various aspects of pre operative anaesthetic information provided to patients admitted for elective cardiac surgery. The questionnaire was based on the central resources developed by the Royal College of Anaesthetists (RCOA) 'Raising the standards: patient information 2003'. Guidance was provided if required by the investigator. The audit aimed to elicit four aspects of anaesthetic information. (1) How did the patients obtain anaesthetic information.(2)The quality of such information provided based on central resources provided by RCOA (2). (3)The level of patient satisfaction with regard to the information provided. (4)Whether patients felt that an information leaflet would be helpful.

Results:

The available leaflet for cardiac surgery provided very little information to patients regarding anaesthesia and its problems. The vast majority of patients were seen by a consultant anaesthetist usually the night before or on the morning of surgery. Patients could remember very little information about premedication, monitoring or postoperative recovery. Only 40-50% could remember details of pain relief and postoperative ventilation being discussed. 84% were unaware of the possibility of blood transfusion. 48% of patients were unaware of information about 'very common problems'. 60% did not know about 'side effects' or 'very rare complications' of anaesthesia as defined by the RCOA. 93% of patients were satisfied with their overall treatment during their stay in the hospital and 90% with their anaesthetic management. However 74% of the patients felt there should be a leaflet giving them information regarding anaesthetic techniques and complications and that this should be supplied before admission to the hospital. As has been noted in previously a significant proportion of patients (35%) did not know that anaesthetists were doctors!

Discussion:

Producing a separate leaflet for cardiac anaesthesia could be beneficial to the patient, the anaesthetist and the trust.

References:

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Thrombus in transit during urgent CABG – a case report

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An 83 year old lady presented for urgent CABG following a non-ST segment acute coronary event 2 weeks prior. Treatment with LMWH and aspirin was ceased 7 days prior to surgery. Following induction of anaesthesia a routine systematic TOE examination was performed. In the mid oesophageal (MO) bicaval view a mass was noted in the right atrium which could be seen to be prolapsing through the tricuspid valve in the four chamber view. The findings prompted the surgeon (UN) to use bicaval venous cannulation, which would allow him to inspect the right atrium. Following cannulation the mass could no longer be seen. There was no evidence of haemodynamic upset or of RV dysfunction but CPB was quickly instituted nevertheless. Through a stab incision in the main pulmonary artery the surgeon retrieved an 18cm by 1cm fresh clot (figure 1). Thereafter the procedure continued uneventfully. The lady initially did well post operatively but unfortunately died of a ruptured abdominal aortic aneurysm on the tenth postoperative day.



Figure 1 Clot retrieved from pulmonary artery

Discussion

DVT following acute MI has an incidence of about 24%, with a risk of clinical PE of 2.6-9.4%. Aspirin is indicated in this setting both for prophylaxis of venous thromboembolism and for the secondary prophylaxis of myocardial infarction, stroke or vascular death [1]. While it is recommended that aspirin, and other platelet inhibitors, be withdrawn five to ten days prior to elective CABG surgery to reduce the risk of bleeding, the decision is not so clear cut in patients undergoing surgery early after an acute event when the possible prevention of further vascular events may take precedence [2]. This case demonstrates the value of performing a comprehensive TOE examination [3] and has prompted us to review the antiplatelet and anticoagulant management of our patients presenting for urgent CABG surgery.

References

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