8AP6-6

Bezold-Jarish reflex and cardiac arrest under spinal anaesthesia

Louro da Cruz J., Gomes C., Oliveira C., Fragoso P.
Hospital de Braga, Dept of Anaesthesiology, Braga, Portugal

Background: Cardiac arrests during spinal anaesthesia (SA) are described as "very rare", but are actually relatively common. 1 Hemodynamic instability is expected with the onset of the block, but delayed bradycardia or asystole may be more sinister. 2 The Bezold-Jarisch reflex (BJR) includes the triad of bradycardia, hypotension and peripheral vasodilation triggered by cardiac mechanoreceptor activation. 2 We report a successful intraoperative resuscitation during SA.
Case report: Male patient, 75 years old, 90Kg, ASA II, with hypertension (medicated with ACEI) and a sinus bradycardia of 57 bpm was admitted for suprapubic prostatectomy. No other medical or surgical history. A SA was performed using hyperbaric bupivacaine 8 mg plus sufentanil 2mcg. At the incision a T6 sensitive block level was documented and developed hypotension (MAP< 55mmHg) that was treated with ephedrine 10mg. He was otherwise stable until 40min after SA when the ECG showed severe bradycardia shortly followed by asystole. Atropine 0,5mg and adrenaline 1mg were immediately administered. Sinus rhythm and spontaneous circulation resumed after 1min of CPR. Noradrenaline was started to maintain MAP>60mmHg. Blood loss was minimal and until the time of cardiac arrest the patient had received 1L of ringer lactate solution. After surgery he was transferred to the ICU, heart disease was excluded and was discharged 1 week later after a iatrogenic pneumothorax.
Discussion: During SA the cardiac vagal tone is enhanced and the effect on venous return can be profound.[1] The BJR can be triggered by reduced venous return.[2] Strong resting vagal tone (bradycardia) and dermatomal block to T5/6 or higher, increases the risk of cardiac arrest during SA.[1,2] Volume loading is critical in maintaining adequate preload to decrease the risk of severe bradycardia and cardiac arrest. Inadequate volume loading was most probably the culprit. Early administration of a powerful alpha-adrenergic agonist to increase venous return and improve cardiac output, as recommended by Caplan et al[2] was performed.
References:
1. Anesth Analg 2001;92: 252-6;
2. Br J Anaesth. 2001;86(6): 859-68
Learning points: Although the resting bradycardia and sensitive block to T6 contributed to the sudden bradycardia followed by asystole, the activation of the BJR by the decrease in preload plays a key role in this case. Adrenaline must be used early in established cardiac arrest, especially after high SA.[2]

8AP6-7

Evaluation of patients' discomfort regarding regional anesthesia

Gomes B., Sá Couto P., Amadeu M.E.
Centro Hospitalar do Porto, Dept of Anaesthesiology & Intensive Care, Porto, Portugal

Background and Goal of Study: Regional anesthesia may cause physical and psychological discomfort. 50% of patients scheduled for urologic procedures undergo regional anesthesia, and their comfort represents a concern to the anesthesiologist. This study aims to:
1. identify factors related to patients' discomfort regarding regional anesthesia(position for anesthesia and surgery procedures, puncture site pain, room temperature, audio-visual perception, sensitive/motor blockade);
2. Evaluate patients' satisfaction with anesthesia.
Materials and Methods: After approval from the Hospital Ethics Committee all patients over 18years old, scheduled for urologic surgery, understanding Portuguese and anesthetized with spinal anesthesia were included. Patients in day case surgery or with incomplete medical records were excluded. We performed a questionnaire(with closed ended questions) in the first 24 hours after surgery and consulted anesthesia records. We asked yes or no questions, used a 1-10 scale to evaluate pain and a 1-4 scale to evaluate satisfaction.Because there isn't a valid questionnaire in the literature to evaluate what we aimed to, we created one based on multiple articles[1,2].
Results and Discussion: 50patients were included; mean age 65 years old (min.32, max.89); 78% males and 70% ASAII. 75%denied discomfort during positioning for back puncture and 58% referred cold during anesthesia or surgery. One person was uncomfortable in the surgical position and no one considered being awake uncomfortable; sensitive/motor blockade was uncomfortable for 22%. Spinal was more painful than the venous puncture for32%; for 50%venous puncture was more painful and for 18%pain was similar. Patients were satisfied or very satisfied with the anesthetic technique and would choose the same technique in the future in 98% of cases.
Conclusion: Although this questionnaire is not validated, it allowed us to understand that cold during anesthesia/surgery is a problem for most patients but this is easily solved. It also showed us that most patients are not uncomfortable with positioning during procedures, being awake and not feeling the legs.Interestingly only about one third of the patients thought that the back puncture was more painful than the venous puncture. In general we consider spinal anesthesia a good choice for these patients and we are satisfied that patients don't find it uncomfortable and are also satisfied.
References:
1. Anesthesia,2008, 63,pg 143-146
2. Korean J Anesthesiol 2010, 59,pg 260-264

8AP6-8

The role of the direction of the pencil point spinal needle hole on the mean local anaesthetic dose

Valsamidis D., Stammatakis E., Hadzilia S., Saiti A., Leontopoulou S.
General Hospital of Athens Alexandra, Dept of Anaesthesiology & Pain Medicine, Athens, Greece

Background and Goal of Study: The role of the direction of the spinal needle hole on the Mean Local Anaesthetic Dose [MLAD] during intrathecal anaesthesia has not yet been evaluated. We measured the MLAD of intrathecal ropivacaine (Rc) 0.75% plus 15 μg fentanyl when given through a 26G Sprotte needle with either cephalic or caudal direction of the needle hole.
Materials and Methods: Following ethics committee approval 50 women aged 55-75 yrs and ASA I-II scheduled for elective vaginal hysterectomy (VH) had lumbar puncture performed between L2-3 interspace in the lateral decubitus position with Combined Spinal Epidural technique. The epidural space was identified with an 18 G Tuohy needle through which a 26 G Sprotte needle punctured the dura. The patients were randomly allocated such as if the Sprotte needle hole was directed caudally (group Ca) or cephalically (Group Ce). The dose of Rc 0.75% was given according to the Dixon and Massey up-and-down method [1], with a beginning dose of 3 ml (22.5 mg) respectively. In both groups fentanyl 15 μg was added to the solution. An ineffective dose defined as a Verbal Analog Pain Score of greater than 20/100 or no sensory block up to T8 dermatome directed an increase of 0.1 ml (0.75mg) to the next patient and vice versa. Two tailed t-test was performed for statistical analysis and P< 0.01 was considered significant.
Results and Discussion: In Group Ce the mean dose [SE] was 17.1 [3.73] mg and confident interval 95% 14,98-19,22 mg. In Group Ca the mean dose [SE] was 23.75 [1.55] mg and confident interval 95% 22,98-24,52 mg. The difference between the two groups is statistically significant with P< 0.001.
Conclusion(s): The orientation of the eye of a 26-gauge Sprotte needle during induction of intrathecal anaesthesia for VH influences the MLAD of 0.75% ropivacaine. When intrathecal anaesthesia is used for VH, the dose of local anaesthetic must be chosen according to the direction cephalic or caudal of the hole on the Sprotte needle and when different doses are compared, the direction of the needle hole must be known.
References:
1. Dixon WJ, Massey FJ. In: Introduction to statistical analysis. 1983:426-41.

8AP6-9

Effect of injection speed and colloid loading on hypotension associated with spinal anesthesia for orthopedic surgery in elderly patients

Mirea L.E., Ungureanu R., Vasilescu M., Pavelescu D., Grintescu I.C., Grintescu I.M.
Clinical Emergency Hospital of Bucharest, Dept of Anaesthesiology & Intensive Care, Bucharest, Romania

Background and Goal of Study: In a previous study we found that low speed of injection reduces the incidence and severity of hypotension during spinal anesthesia. We kept the same study method but we use also colloid loading in periprocedural time.
Materials and Methods: Eighty-four patients, aged ^{3}65 years, II- III ASA status, undergoing orthopedic surgery under spinal anesthesia were allocated randomly to two groups according to speed of intrathecal injection: group A (forty-two patients) - 150 ml/hour speed and 500 ml of colloid intravenous and control group (forty-two patients) - usual spinal anesthesia technique and crystalloid loading. In first group we use a syringe pumps for injection, using bolus function, adapted to the spinal needle and we administrate 500 ml of Voluven® before and during the procedure. In control group we injected