Is ASA 1 really ASA 1?

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Abstract

It is not unusual for an anesthesiologist to feel a slight sense of relief when his/her pre anesthetic evaluation reveals an ASA1 (American Society of Anesthesiologists class 1) patient. My motivation to report this case is to contradict this very fact that a simple ASA1 patient can be the one who lands up in complications. A 28 year old male was posted for repair of ACL (anterior cruciate ligament) tear following a sports injury. Pre anesthetic evaluation was completely normal. We chose CSE (combined spinal epidural) anesthesia for him. After 10 minutes of surgery he developed SVT (supraventricular tachycardia) which came in paroxysms of 5-10 minutes. He initially responded to vagal maneuvers but stopped responding during the second paroxysm after which we administered adenosine 12mg after which it immediately subsided. We terminated the surgery and sent him to our cardiology department. Further testing revealed MVP (mitral valve prolapse) with MR (mitral regurgitation) (Grade 1). He was put on beta blockers and discharged after 3 days. MVP can have several complications like bacterial endocarditis, severe MR, and sudden death. MR is the most common complication. Does this mean we must subject every ASA1 patient to several investigations? No, unnecessary investigations are unethical, more traumatizing to patients and definitely not cost effective. Our case however draws light on the importance of vigilance and having a high index of suspicion and treat every patient with equal importance whether ASA 1 or ASA 4.

Key words: Mitral valve prolapse (MVP), supraventricular arrhythmia, vagal maneuvers

We had a 28-year-old male patient posted for repair of right anterior cruciate ligament tear following a sports injury at ESI hospital. He had excellent Metabolic equivalent of task (METS) >12 without any associated comorbidities. We planned a combined spinal epidural block for him. On the day of surgery, he was Nil per oral (NPO); standard American Society of Anesthesiologists (ASA) monitors were attached and he was placed in a sitting position. Under strict asepsis, local anesthetic was infiltrated at L2-L3 interspace and L4-L5 interspace. An 18-G Tuohy needle: (BRAUN) was used and epidural space was identified by loss of resistance to air technique at 4 cm. Catheter was threaded up to 9 cm and secured. Test dose response (2% lignocaine with adrenaline) was negative after 30 s. A 26G Quincke-Babcock spinal needle (Becton Dickinson) was used in the lower space to place the subarachnoid block with 2.5 mL of 0.5% bupivacaine heavy. The level of block was maintained around T10. About 10 min into the procedure, the patient developed his first episode of supraventricular tachycardia (SVT). His blood pressure, however, was maintained and he was conscious and responsive. We performed vagal maneuvers (carotid sinus massage and valsalva) after which the SVT subsided. In another 5 min, he developed another episode of SVT with a heart rate of 220-250 bpm. This time, all vagal maneuvers were unsuccessful. We immediately cannulated his right internal jugular vein and administered 12 mg Adenosine. His SVT then subsided and his baseline heart rate returned, which was around 70 bpm. We terminated the surgery and shifted him to a cardiac center where his echocardiogram showed mitral valve prolapse (MVP) with mitral regurgitation (MR) (Grade 1). He was put on beta blockers and discharged after 3 days.

Discussion

MVP is generally understood to be the systolic displacement of an abnormally thickened, redundant mitral leaflet into the left atrium during systole. This valvular abnormality has been associated with midsystolic clicks, late systolic murmurs, and serious complications such as bacterial endocarditis, severe MR, and sudden death. MR is the most common complication of MVP. The incidence of mortality is related to the severity of associated MR and left ventricular (LV) dysfunction. The presenting features are anxiety, panic attacks, arrhythmias, exercise intolerance, palpitations, atypical chest pain, fatigue, orthostasis, syncope, and neuropsychiatric symptoms.

In our case, the presenting feature was supraventricular arrhythmia that was probably triggered due to the following reasons: anxiety, surgical stimulus, or slow systemic absorption of the epinephrine from epidural space. We must be prepared for any arrhythmia even if the patient belongs to ASA Grade 1.

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