Case Report

Management of a Patient with Sudden Onset of Intra Operative Atrial Fibrillation Posted for Emergency Evacuation of Clot Following TURP Operation Under SAB

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Abstract

Atrial fibrillation is very common cardiac arrythmia which is encountered during the perioperative period. Atrial fibrillation in perioperative period may lead to hemodynamic impairment and thromboembolic events resulting into significant morbidity and mortality. So it is very crucial for an anesthesiologist to maintain the hemodynamic stability of the patient with atrial fibrillation and prevent furthur complications associated with it. Here we report a case of sixty year old male patient posted for emergency evacuation of clot following TURP operation.

Key words: *Atrial fibrillation; Perioperative; Arrythmia, TURP (Trans urethral resection of prostate)*

(JBSA 2017; 30(1): 48-50)

Introduction

Atrial fibrillation (AF) is one of the most common arrhythmias. Atrial fibrillation may be encountered preoperatively in patients posted for anesthesia and may occur during anesthesia or may occur or persist in postoperative period.[1] A rapid heart rate with loss of atrial systolic function and irregular ventricular response associated with impaired ventricular diastolic function may result into hemodynamic deterioration and reduced cardiac output. This is particularly detrimental in patients with poor cardiac reserve. There is also risk of thromboembolism due to decreased flow in atria and stroke further. Surgical patients may present with atrial fibrillation in different ways which may be either pre-existing AF, new onset AF or paroxysmal AF.[2] The patient should be examined and assessed for the common risk factors which are responsible for the onset of atrial fibrillation like sepsis, pulmonary embolism, electrolyte and acid base disorders, ischemic heart disease, thyrotoxicosis, hypovolemia and hypoxia.[3] Although atrial fibrillation is a common arrhythmia during the perioperative period as several cases were reported in literature but we want to highlight the fact that after reviewing the literature, we have given particular emphasis on avoidance of precipitating factors developing AF along with successful management using pharmacological intervention without electrical cardioversion simultaneously maintaining hemodynamic stability of the patient which was somewhat different in our case.

Case Report

A sixty year old male patient (ASA-2) was admitted in our hospital with complaints of blockage of catheter following TURP operation. He was suffering from COPD, on physical examination his heart rate (HR) was 98/min, regular, non invasive blood pressure (NIBP) was 92/64 mmHg and respiratory rate (RR) of 20/min, arterial oxygen saturation (SpO_2) of 97%. 12 lead ECG and 2D Echo was done and found to be normal. Serum electrolytes were K^+ 3.6 mmol/L and Na^+ 138 mmol/L. His hematological and biochemical investigations were within normal limits except increased total leukocyte count (>11000/cumm). He was advised for emergency clot evacuation. So the patient was posted for emergency evacuation of clot under spinal anesthesia.

The preoperative vitals of the patient were HR-106/min, regular, NIBP-116/74 mmHg, SpO_2-97%. Ringer Lactate solution was started. All standard

monitors were attached to the patient (NIBP, SpO_2, $EtCO_2$, and ECG). SAB was given at L4-L5 space. Total 3 ml of bupivacaine heavy with fentanyl 10 microgram was used. After 30 minutes of operation HR suddenly increased to 140/min, irregularly irregular with no P wave in ECG and BP falls to 95/64 mmHg. As the patient was conscious due to spinal anesthesia, we were observing the patient at the same time GA drug, intubation kits, resuscitation drug including defibrillator were kept ready. One unit of hydroxyethyl starch was given concomitantly. In the mean time, Esmolol 10 mg iv slowly given. The BP raised to 110/74 mmHg with persistent tachycardia (92-114/min). ABG was done and showed no abnormality. After 20 minutes of onset of atrial fibrillation surgery was completed and patient was shifted to post operative recovery room as there were no complications.

In the recovery room atrial fibrillation was persisting, so we had to called cardiologist and according to his advised amiodarone 150 mg iv given over 30 min in 100 ml normal saline but no significant change in heart rate was observed. So again amiodarone 150 mg iv repeated over next 4 hour. Then heart rate reduced to 78-94/min and systolic blood pressure was maintained in the range of 90-100 mmHg. Blood pressure remained stable and required no further bolus of vasopressors and inotropic support and the ECG reverted back to sinus rhythm. Anticoagulation (low molecular weight heparin) was started postoperatively after cardiologist's advice and continued until switch over to oral aspirin. After 3 days patient shifted to ward and discharged on 4^{th} postoperative day.

Discussion

Atrial fibrillation is a common arrhythmia frequently seen during the perioperative period in patients undergoing surgery. Usually new onset atrial fibrillation is uncommon during the perioperative period. The rapid rates of new onset AF or pre-existing AF may be precipitated by several factors including sepsis, electrolyte and acid-base abnormalities, pulmonary complications like pulmonary embolism, hypoxia, hypovolemia, myocardial ischemia etc.[1,3] Roger et al reported that overall incidence of supraventricular tachycardia was estimated to be less than 1% and in those with an SVT, the incidence of AF and atrial flutter was 30% and 12%, respectively with only 20% of arrhythmias occuring intraoperatively.[4]

The aim of this particular case report is to review the management strategies of atrial fibrillation with particular attention given on the management of perioperative atrial fibrillation and prevent further complications. Atrial fibrillation is a common arrhythmia occurring in 0.4-5% of adult population and most of these are not associated with any cardiac disease.[5] So particular emphasis was given on management of AF including the elimination of precipitating factors which might worsen the clinical condition of the patient, and treatment of arrythmia itself with pharmacological intervention. In our case the precipitating factors were likely to be sepsis. The acute onset AF is usually treated by direct current cardioversion when patient is unstable but pharmacological agents can be used to achieve cardioversion. The patients with rapid and chronic AF, priority was given to control the ventricular rate using pharmacological interventions as we have done in our case.[1] The arrhythmias may develop again if precipitating factors were not removed or treated aggressively. Anticoagulation can be given to reduce the risk of thromboembolism. Platia et al[6] compared the efficacy of esmolol and verapamil in the management of AF and concluded that the reduction in ventricular rate and the incidence of hypotension were similar. We have used esmolol, a selective beta blocker, titrated according to ventricular rate with concomitant administration of fluids to avoid hypotension. Amiodarone, a class 3 antiarrythmic drug, can be used to convert acute onset AF to sinus rhythm or partially effective in some patients.[7,8] . We used all of these agents to control the rate and maintain sinus rhythm and thereby effectively managed the patient without using electrical cardioversion.

Conclusion

The management of perioperative AF is very crucial for an anesthesiologist. All possible precipitating factors for AF should be identified and eliminated before and during anesthesia with effective treatment of arrhythmias to avoid further complications.

References

1. Nathanson MH, Gajraj NM. The peri-operative management of atrial fibrillation. Anaesthesia. 1998: 53; 665-76.
2. Bajpai A, Rowland E. Atrial fibrillation. Contin Educ Anaesth Crit Care Pain. 2006;6(6):245-246. doi:10.1093/bjaceaccp/mkl055.
3. Thompson A, Basler JR. Perioperative cardiac arrhythmias. Br J Anaesth. 2004 Jul;93(1): 86-94.
4. Rogers WR, Wroblewski F, Ladue JS. Supraventricular tachycardia complicating surgical procedures: a study of the contributing cases,course and treatment of this complication in the fifty patients. Circulation 1953 Feb;7(2):192-9.
5. Prabhakar H, Bhatnagar S, Mishra S, Narang R. Intraoperative atrial fibrillation of unknown etiology:A unique complication. The internet journal of anaesthesiology 2002 Volume 7 Number 2.
6. Platia EV, Michelson EL, Porterfield JK, Das G. Esmolol versus verapamil in the acute treatment of atrial fibrillation and atrial flutter. Am J Cardiol. 1989 Apr 15;63(13): 925-9.
7. Pilati G, Lenzi T, Trisolino G, Cavazza M, Binetti N, Villecco AS, et al. Amiodarone versus quinidine for conversion of recent onset atrial fibrillation to sinus rhythm. Curr Ther Res. 1991;49:140-6.
8. Basler JR.The rationale use of intravenous amiodarone in the perioperative period. Anaesthesiology 1997;86:974-87.