EDITORIAL

Emergency Surgery and Hypertension

Hypertension is the most common reason for cancellation of elective surgery. It is a matter of great concern for the anaesthetist if a patient scheduled for emergency surgery is found to be hypertensive. There are valid reasons for this concern. Hypertension is a major risk factor for coronary artery disease, cardiac failure, cerebral vascular accidents, renal failure and arrhythmias .All these are independent risk factor for perioperative cardiac morbidity and mortality. All necessary precautions need to be taken if any hypertensive patient with target organ damage presents for surgery which may include postponing surgery for proper workup.

What should be done if a patient is hypertensive but has no target organ damage? Answer to this question is less clear. Hypertension per se has not been mentioned as independent risk factor for perioperative cardiac complication in most of the risk assessment criteria. Moreover, the definition of hypertension has changed over time. Most of the patients taken as normotensive in the past are now categorized as hypertensives. Low threshold for treating hypertension comes from the study which shows that there are more deaths in the blood pressure range of 140-149 systolic. The British Hypertension Society has set 140/90 as limit for initiation of treatment. International Society of Hypertension set even a lower limit. If this limit is applied to the general population, 45% of all and 60% of the adult population will be hypertensive. We have to keep in mind that this applies to general medical cases and it has not been validated for the perioperative population.

The American Heart Association/American College of Cardiologists guideline states that stage I and stage II hypertension are not independent risk factor for perioperative cardiac complication. Stage III hypertension (> 180/110 mmHg) is associated with an increased risk for perioperative cardiac complication.These cases as far as possible should be treated and their blood pressure brought under control before surgery. Most of the studies support this view that if there is no clinical evidence of target organ damage, elective surgery should not be cancelled if blood pressure is <180/110 mmHg.Opinion is divided on blood pressure >180/110mmHg. General censes is that these cases should be treated before surgery but there is no randomized control trial supporting this view. In one study they were unable to show any increase in the perioperative cardiac complications if these cases were subjected to surgery. So randomized control trials are required to settle this issue.

Even if there is no clinical evidence of target organ damage such as ischemic heart disease, cardiac failure, cereberovasculer accident, renal failure and arrhythmias; it is very difficult to be sure that target organ damage is not present.

Diastolic blood pressure by tradition has been linked with complication. Higher the diastolic pressure higher the complication. Now more stress is given to pulse pressure and isolated systolic hypertension. Wide pulse pressure and isolated systolic hypertension are associated with more cardiac complications than diastolic blood pressure.

There is general agreement that the hypertensive patients show more fluctuation in blood pressure on induction than a normotensive patient or treated hypertensive patient. This is because of the fact that the hypertensive has increased systemic vascular resistant and all induction agents cause decrease in systemic vascular resistant.

Controlled induction technique should be used whenever dealing with hypertensive patient i.e. induction agent tailored to the desire blood pressure level. There should be no more than 20% swing in the mean blood pressure. This is a difficult target to achieve at induction, but fluid loading and controlled use of induction agent can achieve this target.

Generally, the degree of hypotension is less

important than the duration of hypotension. Hypotension should be treated by fluid administration which is a physiological way of treating hypotension in hypertensive patient. Vasopressors should be used with caution, keeping in mind that hypertensive patient exhibit an exaggerated response to the vasopressors drugs.

In well conducted anaesthesia there is seldom need to use antihypertensive drugs, titration of inhalational agent is all that is required. In cases where an antihypertensive drug is required, beta blockers are a preferred choice because of there cardio protective properties.

Wide fluctuations in blood pressure are associated with cardiac complications and should be avoided. Hypertension and tachycardia are the major killer. A well planned anaesthetic technique carried out in a smooth and confident environment can produce much better results than the use of fancy drugs in a hasty and stormy environment.

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