Cough projectile during emergence from anaesthesia is an occupational hazard spilling patient’s secretions into operating room personnel’s airspace. The narrow tubular conduit provided by the endotracheal tube causes cough projectile to travel large distance secondary to larger fluid velocity generated across a smaller cross-sectional area of the endotracheal tube. Usually, this distance travelled by patients’ secretions lies enclosed within anaesthesia circuit. However, the anaesthesia circuit is sometimes transiently detached to avoid inadvertent premature extubation secondary to stretched circuit pulling out endotracheal tube during intubated patient’s transfer from operating table to patient stretcher. The endotracheal tube should remain connected to right angle connector and in-line filter to contain cough projectile [Figure 1a]. Unless the anaesthesia team is pre-emptively using closed in-line suction catheter system, the operating room environment can get exposed to cough projectile during suctioning through an open endotracheal tube. An emergent suction catheter system can be created by simple replacement of right-angle connector with fibre-optic bronchoscopy swivel adapter to allow closed suctioning through an endotracheal tube with in-line filter containing cough projectile [Figure 1b]. Fibre-optic bronchoscopy swivel adapter can contain cough projectile during rarely performed inadvisable instillation of normal saline prior to endotracheal suctioning.[1] When secretions are expected to be voluminous enough to overwhelm in-line filter thereby leading to endotracheal spill-back,[2] in-line filter and anaesthesia circuit can be replaced during brief lavage and suction procedure with an anaesthesia circuit extension tubing [Figure 1c and d]. The extension tubing allows spontaneous breathing among adults while containing cough projectile in its circular and corrugated boundaries or diverting it towards operating room ground.

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Conflicts of interest
There are no conflicts of interest.

Figure 1: Schematic diagram with manikin demonstrating how to contain cough projectile during emergence: By keeping endotracheal tube connected to right angle connector and in-line filter indicated by hollow arrowhead (a) or by connecting it to fibre-optic bronchoscopy swivel adapter accommodating either suction catheter (b) or lavage-syringe for normal saline instillation (c) while anaesthesia circuit extension tubing catching copious cough secretions during suctioning (d) or diverting them to operation room ground

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Sir,

Stab wounds of the heart represent a significant surgical and anaesthetic challenge because of their unpredictable clinical course and the need for emergency clinical care often includes emergency room thoracotomy. Haemodynamically unstable patients with penetrating thoracic wounds would more likely be considered as being accompanied by a cardiac injury, especially when the wounds were located on the left or anterior chest wall. Individuals with prompt ongoing aggressive resuscitation and emergency thoracotomy might have a favourable prognosis.

A 28-year-old man with the American Society of Anesthesiologists (ASA) physical status ASA 2E, who was involved in an altercation received a stab wound to the chest, one on each side of left nipple [Figure 1]. When he was brought to the emergency department, he was semiconscious and haemodynamically unstable and oxygen saturation was around 95% with the oxygen mask. Following focused assessment with sonography in trauma (FAST) showing a huge pericardial and left pleural collection, an intercostal drain was inserted and the patient shifted to the cardiac catheterisation laboratory for pericardiocentesis. The patient suffered cardiac arrest on the table. Cardiopulmonary resuscitation (CPR) was started immediately and the trachea patient was intubated and pericardiocentesis started after inserting pericardial drain through the xiphisternum. After pericardiocentesis, the heart started beating and blood pressure started picking up. The internal jugular vein was cannulated to start inotropic support and transfusion.

There was rapid re-accumulation of blood in the pericardium with unstable haemodynamics, in spite of pericardial drain being in situ. Due to unavailability of cross-matched blood as well as un-cross-matched O-negative blood, we decided to autotransfuse the pericardial blood under sterile aseptic conditions, till the patient was shifted to the operation theatre. Approximately 2–3 L of blood was autotransfused during this period.

After sternotomy, blood was seen popping out of the right ventricle [Online Video 1] with each heartbeat and clots all around [Figure 2]. Teflon pledgetted 3-0 polypropylene suture was used and the rent in the right ventricle was closed [Online Video 2] [Figure 3]. After transfusing 4 units of packed red blood cells (PRBC), 2 fresh frozen plasma (FFP) and 2 platelets, blood pressure stabilised. 100 mg hydrocortisone and 1 g of thiopentone sodium were given for prophylactic neuroprotection on cardiopulmonary bypass (CPB) and nasopharyngeal temperature was maintained just above 34°C on CPB. Intraoperative transoesophageal echocardiography was also done to rule out any structural injuries such as atrial or ventricular septal defects and aorto-right ventricular fistulas. The patient was shifted to ICU and was extubated the next day without any neurological sequelae. Cefoperazone was given till 5th postoperative days.

Most surgeons agree that patients with penetrating cardiac wounds need immediate intervention. Hypotension may be temporarily corrected by aggressive fluid resuscitation. Stable patients may indeed have a cardiac laceration that may remain undiagnosed – until...