

# [Case aortic valve, which is prone to calcification.](https://assignbuster.com/case-aortic-valve-which-is-prone-to-calcification/)

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Case Report   Epidemiology of Aortic Stenosis  Moderate or severe valvular cardiac diseaseare common conditions, become more prevalent with age, and adversely affectoverall survival in the general population. 1 Of the valvular heart diseases, aortic stenosis is the most common cause of valvular heart disease in theUnited States. 2 It is more common in the older population and the prevalencerises as people age. Among people 50-59 years old and 60-69 years old, theprevalence of aortic stenosis is 0. 2% and 1.

3%, respectively. For olderpatients the prevalence increases even further with 3. 9% in patients 70-79 and8. 9% in patients 80-89 years old. Most of these patients with aortic stenosishave either calcific disease of the typical, trileaflet aortic valve or wereborn with bicuspid aortic valve, which is prone to calcification. 3, 4 Thisis in contrast to people in developing countries, where aortic stenosis is moreoften a result of rheumatic valve disease 2, 5. Overall, aortic stenosisaffects about 3% of people that are 75 years old or older in the United States. 6 The CaseOur patient is a 67 year male with a historyof severe intellectual disability, non-verbal and non-ambulatory at baseline, bed bound with kyphoscoliosis and severely contracted upper and lowerextremities.

He presented to the emergency department with a 3-day history ofnausea, vomiting, abdominal discomfort and diarrhea. A CT abdomen was obtainedin the emergency department which showed a cecal volvulus with a massivelydistended cecum measuring 8. 5cm in luminal width, for which the patient wasscheduled for emergency surgery.   On arrival to the preoperative area, thepatient was noted to be thin-appearing, and lying in bed with severely contractedextremities. Airway evaluation was limited by the patient’s non-interactive anduncooperative nature. The cardiac exam revealed a prominent grade IV/VIsystolic ejection murmur across the precordium. The anesthesiology team ordereda STAT bedside transthoracic echo (TTE) as further assessment of the patient’scardiac function was crucial in developing the anesthetic plan prior toproceeding to surgery. The bedside ECHO was also important in guidingintraoperative anesthetic management of the patient.

The anesthesiology team and TTE technicianreviewed the TTE at bedside and found that the patient had moderate aorticstenosis based on a peak gradient of 71\*. Therefore, the team proceeded tosurgery with the understanding that the patient had moderate aortic stenosis. Of note, a later interpretation (after the patient’s operation) of the TTE bythe cardiology team revealed that the patient had low-gradient severe aorticstenosis with preserved ejection fraction (EF of 70%) instead of moderate aorticstenosis. Since the Cardiology interpretation of the TTE was obtained at alater time, the team proceeded to surgery with the thought that the patient hadmoderate aortic stenosis.  When the patient arrived to the operatingroom, he was induced via rapid sequence induction using rocuronium, etomidate, propofol and fentanyl. Rocuronium was used instead of succinylcholine becauseof concern for hyperkalemia in this bed-bound patient. A total of 50 mg ofrocuronium was administered for induction as well as 10 mg of etomidate, 10mgof propofol and 50 mg of fentanyl.

On induction, 150 mcg of phenylephrine wasalso administered to maintain afterload and systemic perfusion in the settingof moderate aortic stenosis with use of vasodilatory IV anesthetic agents. Thepatient was then intubated with a glidescope given the limited airway exam. Anarterial line was then placed to continuously monitor blood pressure in orderto guide management in maintaining afterload.  Overall, the entire procedure, an exploratorylaparotomy with right hemicolectomy for cecal volvulus, lasted for about 2hours. For the first hour of the procedure, the patient’s blood pressure waslabile, ranging from 215/100 to 90/75 with mean arterial pressures of 99 to 148as measured by the arterial line. Phenylephrine was administered during theprocedure to maintain afterload when the patient’s blood pressure decreased. Bythe second hour, his blood pressure and mean arterial pressures had stabilized, ranging from 180/80 to 140/70 and 100 to 150, respectively.

Throughout theprocedure, the patient’s heart rate ranged from 55-90 and oxygen saturation wasmaintained at 100%. After surgery, the patient remained intubated and wasbrought to the post anesthesia care unit where he stayed for 3 hours; after whichhe was transferred to the intensive care unit where he was extubated onpost-operative day 1.   His post-operative course was complicated byacute gastrointestinal bleed on post-operative day 1.

A few hours afterextubation, the patient had 2 episodes of hematochezia as well as coffee-groundemesis in his nasogastric tube. Additionally, hematocrit decreased from 32. 7 to21. 9, and the patient was noted to have symptomatic anemia with tachycardia andhypotension. He was transfused with 4 units of packed red blood cells andbrought back to the operating room on post-operative day 1 for emergentre-exploration and revision of the ileocolic anastomosis. After the revision, he was brought back to ICU and extubated 2 days later. After extubation, he was transferred from the ICU the step-down unit, where he had a few episodesof melanotic stools that self-resolved.

After 6 days in the step-down unit, hewas then transferred to a regular medicine floor where he remained untildischarge home.