Introduction: Combining acute, severe AI with the physiologic changes of pregnancy in an undernourished, bacteremic woman at 35 weeks gestation creates a situation where every decision must be carefully considered.

Case Presentation: A 37 year old G7P5 woman presented at 35 weeks with acute onset of shortness of breath and fatigue. Her pregnancy was complicated with gestational diabetes, hyperemesis gravidarum with inability to gain weight requiring a PICC line for TPN, and a TIA with transient dysarthria. TTE revealed large vegetations on the aortic valve, with wide-open AI. The presumed etiology was PICC line infection. Other past medical history included factor V Leiden deficiency, and her only previous surgery was jaw surgery. Antibiotics were started, and she was to undergo a cesarean section followed by aortic valve replacement. Initial hgb was 8.3, plt 273. An arterial line, PA catheter, and double lumen CVL were placed without sedation prior to entering the OR. She was positioned with a bump under her right hip, but was unable to lay supine due to significant orthopnea. Anesthesia was induced using ketamine and succinylcholine with cricoid pressure. Induction to delivery of the baby occurred within 2 minutes. Apgars were 8 and 9. Following delivery, pitocin was initiated, and an echo probe was placed as the incision was closed. A blake drain was left in place to monitor for bleeding while heparinized on CPB. After repositioning, an AVR and root enlargement started approximately 1 hour after delivery. Throughout the surgery, she received many units of blood and other blood products. At the conclusion of surgery, she was taken to the ICU and extubated later that day. On post-op day 1 she was transferred to the floor and experienced an uneventful recovery.

Discussion: The incidence of infective endocarditis during pregnancy has been reported to be exceedingly low (0.006%); however, the maternal mortality rate can reach 33%. Previous studies have indicated that poor NYHA class, cyanosis, myocardial dysfunction, arrhythmia, and stroke or embolic event have been identified as risk factors for not only maternal cardiac events but also for adverse neonatal outcomes. Because she had several risk factors, we felt it was necessary to have all monitors in place prior to anesthesia.

During cesarean section, volatiles may want to be avoided, and the use of oxytocin and methergine need to be evaluated carefully as oxytocin can exacerbate hypotension already caused by hypovolemia. Furthermore, methergine can increase the SVR such that forward flow can be compromised in the setting of severe AI. However, it is also prudent to avoid uterine atony when administering full dose heparin for CPB. The correct decision for one problem can exacerbate the other posing threat to not only the mother, but the fetus as well.