Although benign, mechanical compromise risks cardiovascular and respiratory collapse. Negative physiologic implications of prematurity: High chest wall compliance and ineffective accessory muscles of inspiration predispose to atelectasis and respiratory insufficiency. ECMO rescue not well established. Significantly worse outcome open chest procedures. Prone position vs decompressive sternotomy. Pertinent for multidisciplinary discussion to address perinatal risks and appropriate delivery timing to prevent premature delivery and further associated complications. Maintenance of spontaneous ventilation crucial in preventing airway and cardiac collapse from tumor compression. Obstruction intracardiac blood flow, tamponade, SVC syndrome, cardiac arrhythmias from local tumor invasion, total airway compression or obstruction of pulmonary blood flow with loss of negative intrathoracic pressure. Decreases in SVR not well tolerated with already compromised cardiovascular state. ECMO/CPB and rigid bronchoscopy available at induction. Intubated at birth, HFOV, surfactant. Prone positioning. Emergent bedside sternotomy on day 6 of life. Tumor biopsy day 10 identified tumor as teratoma. Tumor resection at 34 weeks. Transferred to CVICU with minimal support post-operatively. Extubated on POD#5. Remarkable recovery with no need for further surgical intervention. Discharged to home, no medications POD #41 at 39 weeks 6 days. 21th % for weight (2.97 kg) and was completely transitioned to oral formula. Incidence: Rare, 0.125-0.133%, 18% of all fetal cardiac tumors. Survival rate: 85-100% for surgical resection without hydrops. Hydrops decreases survival, 14 infants reported 0-67%. Mechanical respiratory and cardiac compromise. Prematurity decreases survival.

Case Description
32 week 2.4 kg M with HIV positive mother, no prenatal care. Emergent c-section due to fetal hydrops with poor cardiac tracing. TTE: intrapericardial multicystic mass 6.3x4.4 cm, tamponade. Pleural and cardiac effusion, ascites drained. Bilateral CT for tension pneumothoraces. Head US – grade I IVH. Entire mass was resected without injury to the myocardium or aorta without use of ECMO or CPB. Chest was closed at the end of the procedure. As of six months follow, no evidence of recurrence present on TTE.

Hospital Course
Intubated at birth, HFOV, surfactant. Prone positioning. Emergent bedside sternotomy on day 6 of life. Tumor biopsy day 10 identified tumor as teratoma. Tumor resection at 34 weeks. Transferred to CVICU with minimal support post-operatively. Extubated on POD#5. Remarkable recovery with no need for further surgical intervention. Discharged to home, no medications POD #41 at 39 weeks 6 days. 21th % for weight (2.97 kg) and was completely transitioned to oral formula.

Discussion
Although benign, mechanical compromise risks cardiovascular and respiratory collapse. Negative physiologic implications of prematurity: High chest wall compliance and ineffective accessory muscles of inspiration predispose to atelectasis and respiratory insufficiency. ECMO rescue not well established. Significantly worse outcome open chest procedures. Prone position vs decompressive sternotomy.

Conclusion
Pertinent for multidisciplinary discussion to address perinatal risks and appropriate delivery timing to prevent premature delivery and further associated complications. Maintenance of spontaneous ventilation crucial in preventing airway and cardiac collapse from tumor compression. Obstruction intracardiac blood flow, tamponade, SVC syndrome, cardiac arrhythmias from local tumor invasion, total airway compression or obstruction of pulmonary blood flow with loss of negative intrathoracic pressure. Decreases in SVR not well tolerated with already compromised cardiovascular state. ECMO/CPB and rigid bronchoscopy available at induction.

References