

[National In-Hospital Outcomes of Pregnancy in Women with Single Ventricle Congenital Heart Disease.](#)

Collins RT 2nd, Chang D, Sandlin A, Goudie A, Robbins JM.

Am J Cardiol. 2017 Feb 16. pii: S0002-9149(16)32014-8. doi: 10.1016/j.amjcard.2016.12.015. [Epub ahead of print]

PMID: 28242012

[Similar articles](#)

Select item 28205344

Take Home Points:

- Pregnancy in patients with single ventricle physiology [most likely with Fontan palliation] is possible in the majority of affected individuals
- CV complications in patients with single ventricle physiology however, were significantly greater than in matched controls and occurred in 25% of patients with SV CHD.
- Arrhythmias were the most common cardiovascular complications.
- No in-hospital maternal deaths occurred.
- Three quarters of patients had successful vaginal deliveries.

Commentary from Dr Blanche Cupido (Cape Town, South Africa): With advances in surgical and medical care over the last few decades, more women with complex congenital heart disease (CHD), including single ventricle CHD (SV), are now reaching childbearing age. Previously, these patients were advised against pregnancy. This study represents the largest cohort of pregnant SV patients. The authors assess in-hospital pregnancy related complications in patients with single ventricles and compare them to matched controls. A total of 282 patients with SV and 1405 matched controls were assessed from the US National Inpatient Sample (NIS) over a 15 year period.

Cardiovascular complications occurred in 24.8% of patients with SV CHD which was markedly greater than the control group (<1%). The cardiovascular complications always occurred in conjunction with obstetric complications. Arrhythmias [atrial flutter and fibrillation, ventricular fibrillation and paroxysmal atrial tachycardia] represented the most common complications, occurring in 17.7% of cases. No in-hospital maternal deaths occurred.

Higher rates of non-cardiovascular obstetric complications [52% vs. 5%] was surprising suggesting a possible adverse interaction between SV physiology and the pregnancy. Obstetric complications included gestational diabetes, preterm labor and fetal growth restriction were seen in the group with single ventricle. Preterm delivery occurred in 18.1% of patients with SV vs. 8.5% in normal controls. Although this figure is lower than previously quoted literature, this study does not capture data related to spontaneous abortions. The average length of stay was merely 1.3 days more in the SV group (4.1 in SV and 2.8 in controls, $p=0.03$), though the cost of hospital stay was nearly double in the SV group (\$30 787 vs \$ 15 536, $p<0.0001$).

Three quarters of SV patients had successful vaginal deliveries. This supports earlier recommendations of trial of labor and vaginal delivery if, at baseline, the patient has an acceptable cardiovascular

baseline. The study limitations were that it relied on ICD coding, does not take previous surgery or residual lesions into account and only considers in-hospital data. It is therefore only possible to presume that the majority of these women had Fontan circulations. One of the major limitations of the study is the inability to predict risk factors for adverse outcomes.