



Cardiac Diseases in Pregnancy – A Case Series

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Background

Cardiovascular disease is one of the leading causes of maternal morbidity and mortality in the United States with an estimated 4.23 maternal deaths per 100,000 live births. Several organizations provide helpful guidelines for the field of cardio-obstetrics, but there still is a need for improving the education of anesthesiologists and a standardized approach.

Aims/Goals

The objective of this study is to provide an overview anesthetic of goals, standard of care, and guidelines for pregnant patients with cardiovascular disease.

Our analysis of our case series will address

1. the management of anesthetic cases
2. significance of multidisciplinary collaboration and coordination with other teams
3. innovative neuraxial techniques
4. the partnership between cardiovascular and anesthesiology teams.

Methods

- Retrospective case series
- Subjects selected from database of women with cardiovascular morbidities who were cared for and went into labor at Memorial Herman Hospital, Houston TX from 2021-22

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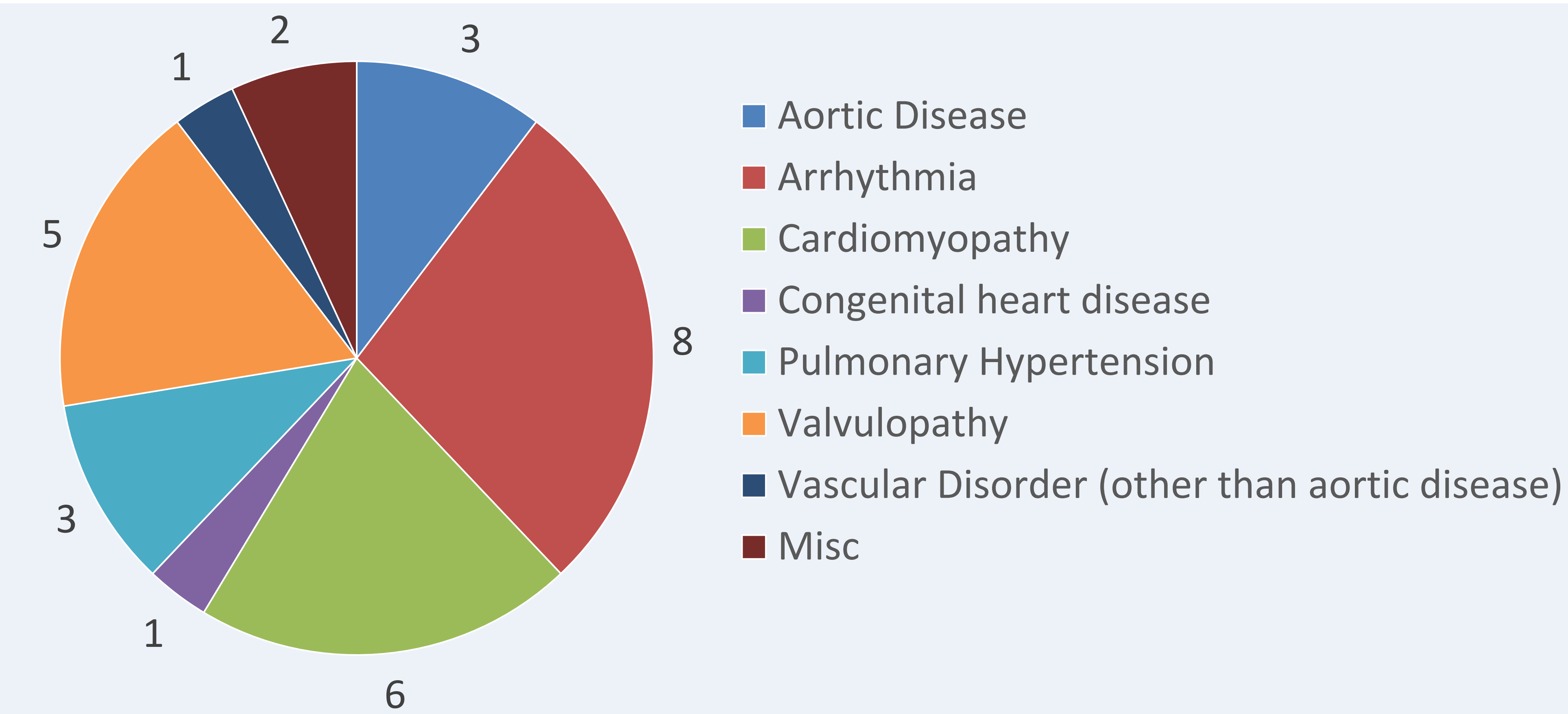


Figure 1. Classification of CV disease in our case series.

*For pulmonary hypertension and valvulopathy: one patient fell into both categories.
**Cases classified as Misc were patients with (1) intraoperative cardiac arrest and (2) s/p ECMO

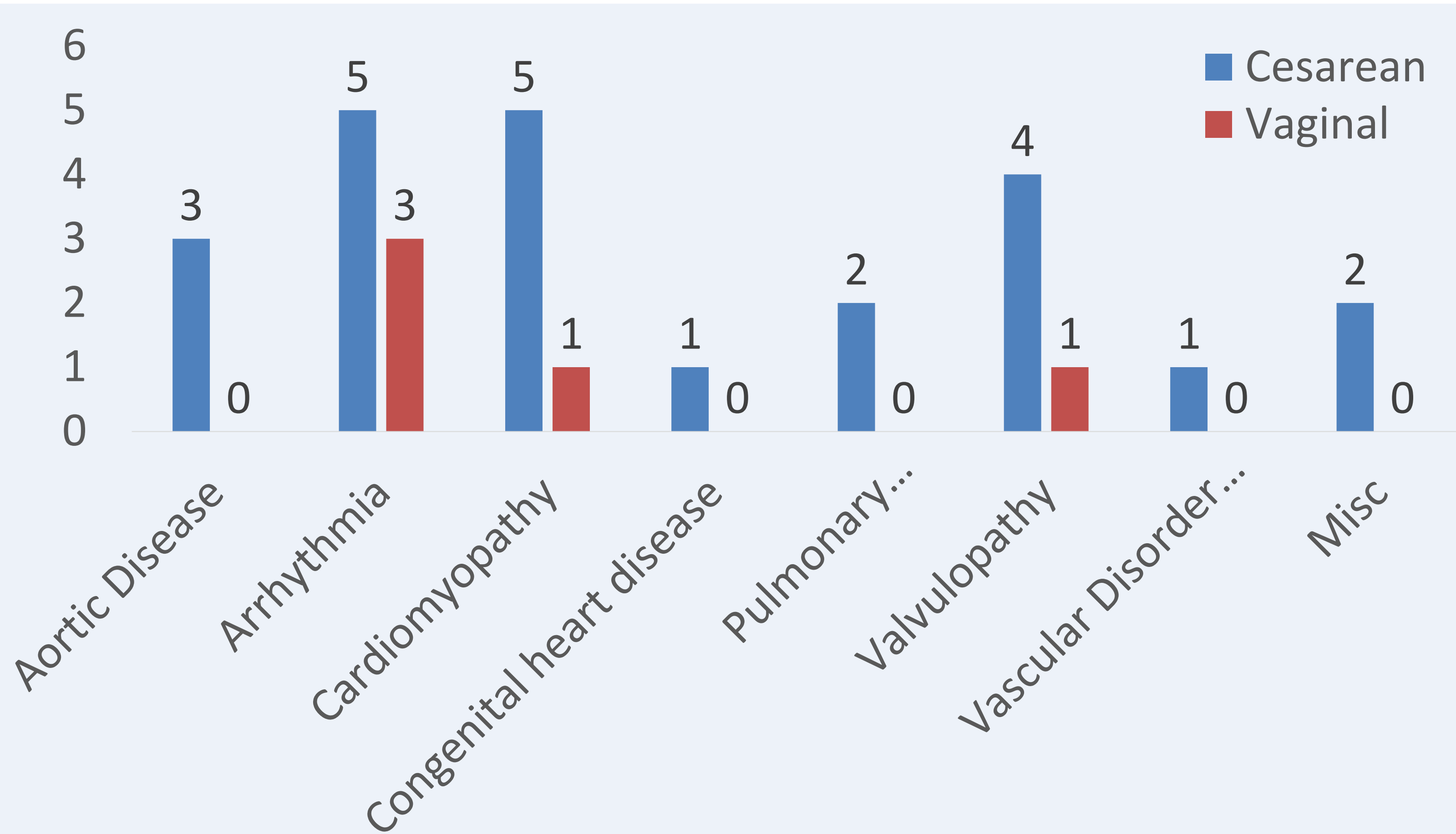


Figure 2. Mode of delivery with each classification of CV disease

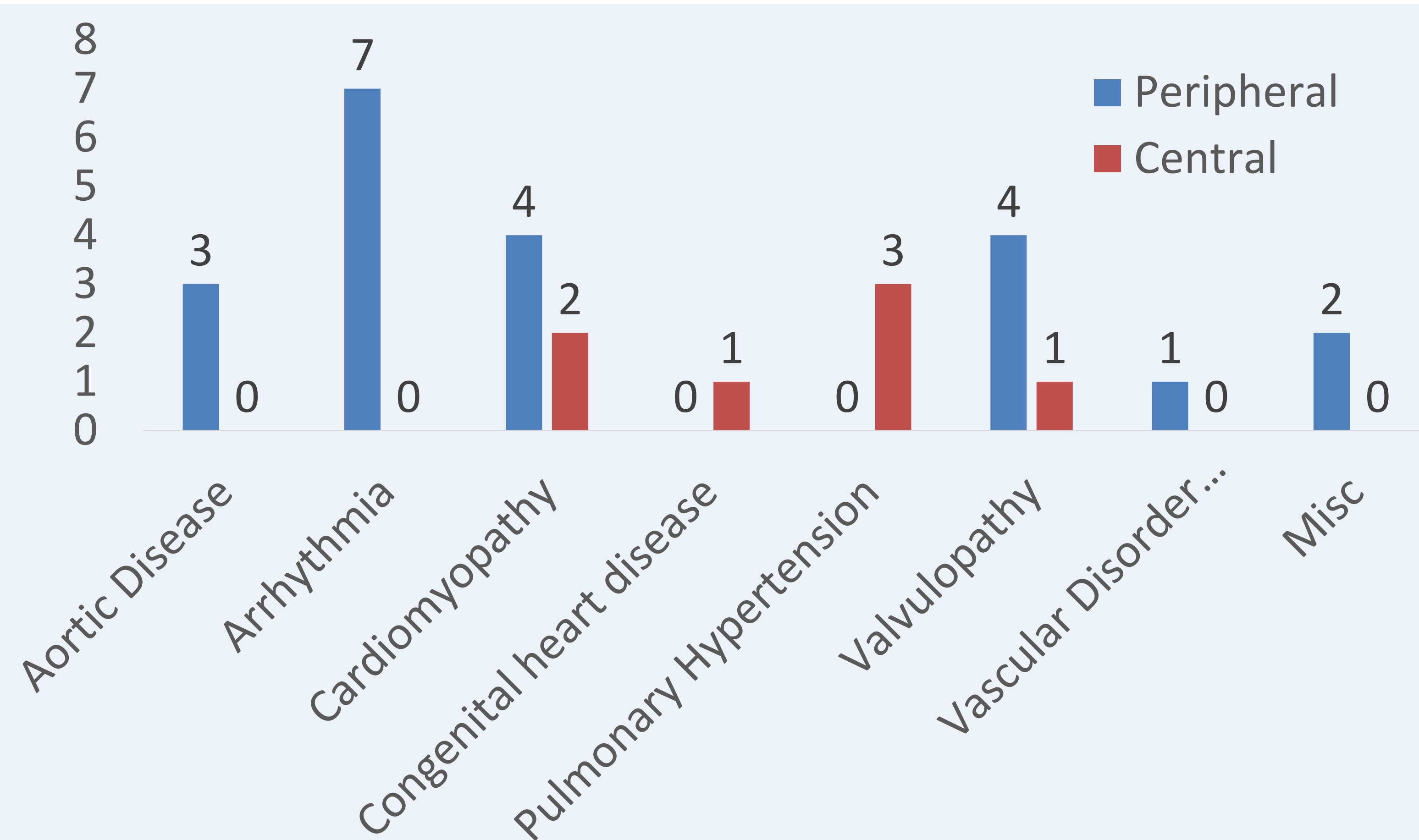


Figure 3. Venous access with each classification of CV disease

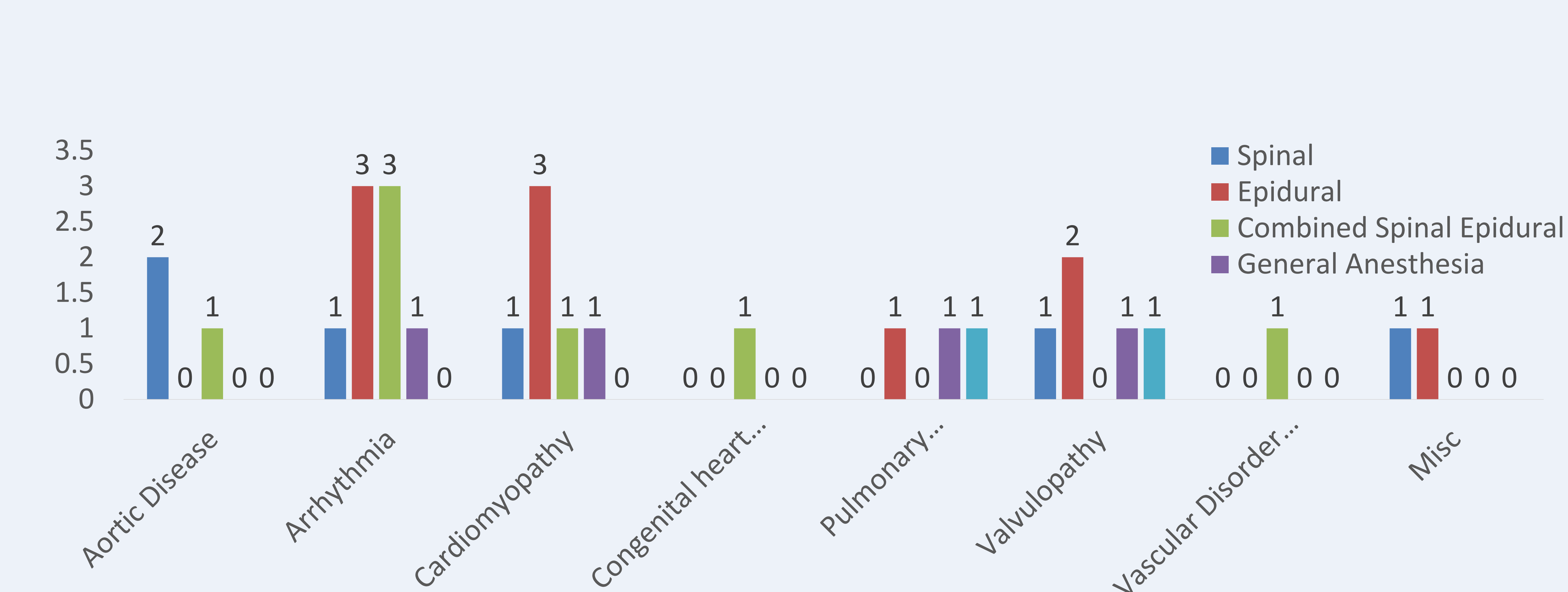


Figure 4. Type of anesthetic with each classification of CV disease

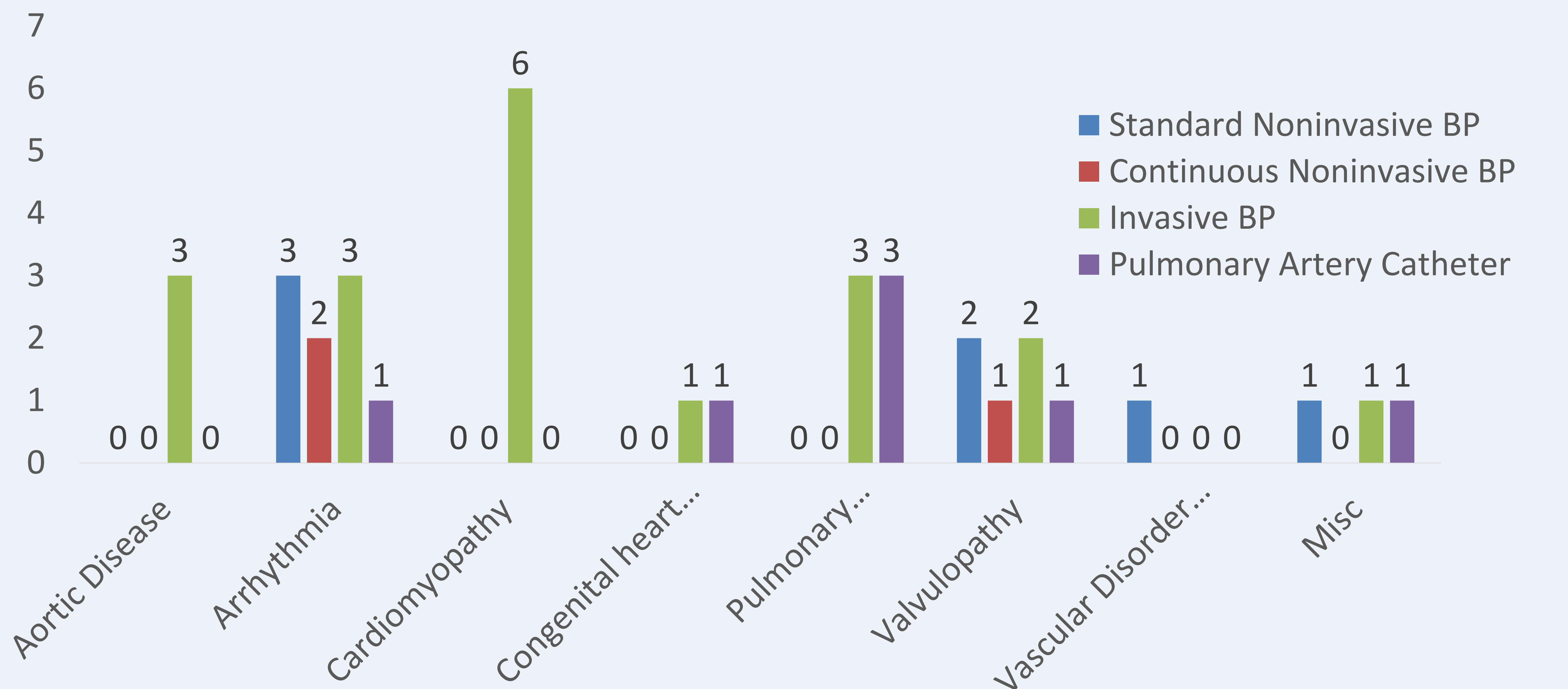


Figure 5. Type of monitoring with each classification of CV disease

Discussion

- Majority of our patients delivered via Cesarean Delivery
- Peripheral access is usually sufficient, depending on the classification of cardiovascular disease. Patients with pulmonary hypertension and severe cardiomyopathy tend to require central access.
- Neuraxial anesthesia was well-tolerated in most patients.
- Most patients received invasive blood pressure monitoring.
- Management of anticoagulation required in some of those patients

Conclusion

The management of this population requires a multidisciplinary approach that involves collaboration between the obstetricians, cardiologists, cardiothoracic surgeons, obstetric and cardiac anesthesiologists. At our institution, parturients with cardiac comorbidities are either admitted to the Heart and Vascular Institute (HVI) to labor or undergo Cesarean delivery in the cardiac ORs. Limitations: data is limited to the number of cases we get per year – we hope to analyze and collect more data throughout the years to increase the data points, specifically, gathering more information on the different subtypes of cardiac comorbidities.

References

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