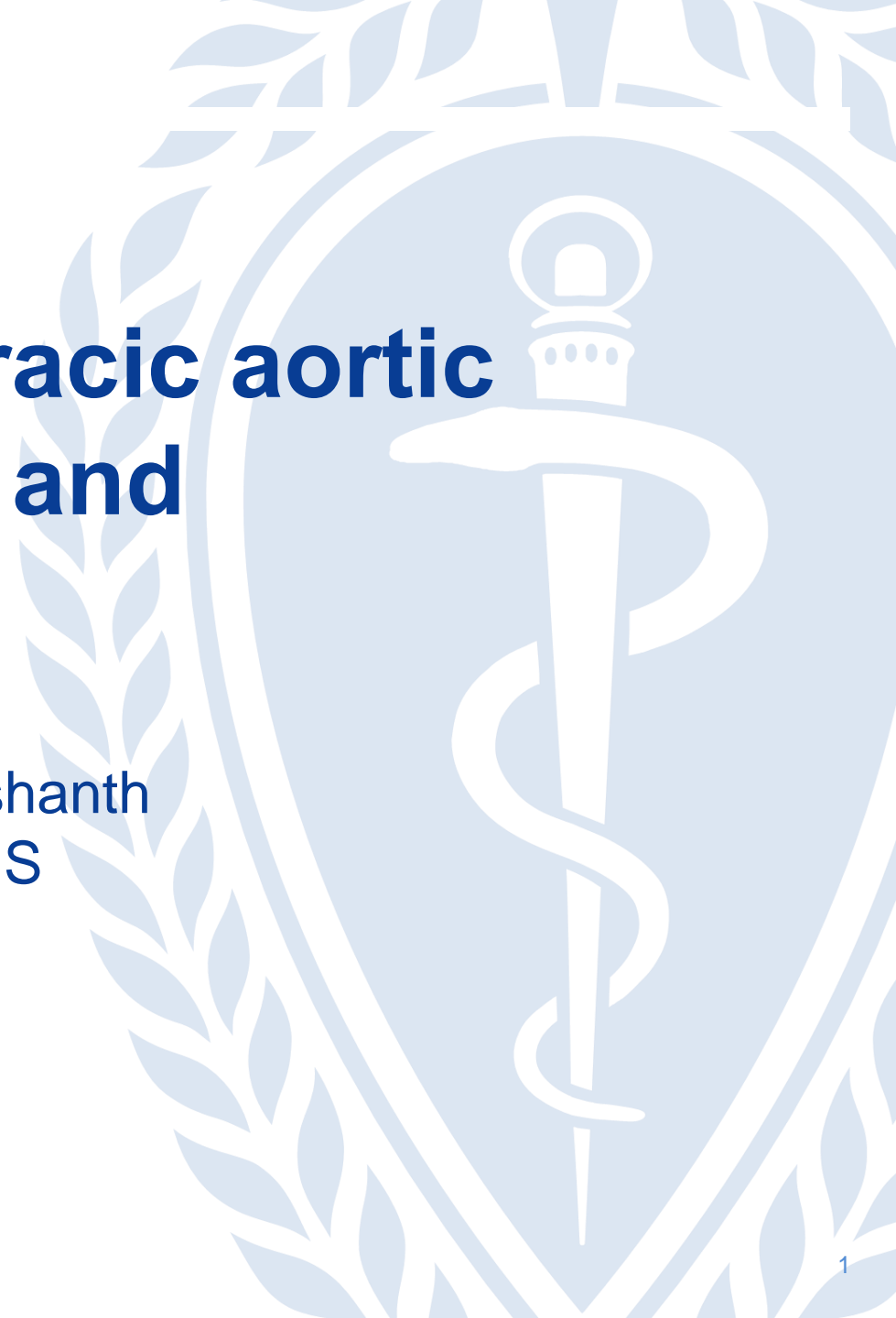


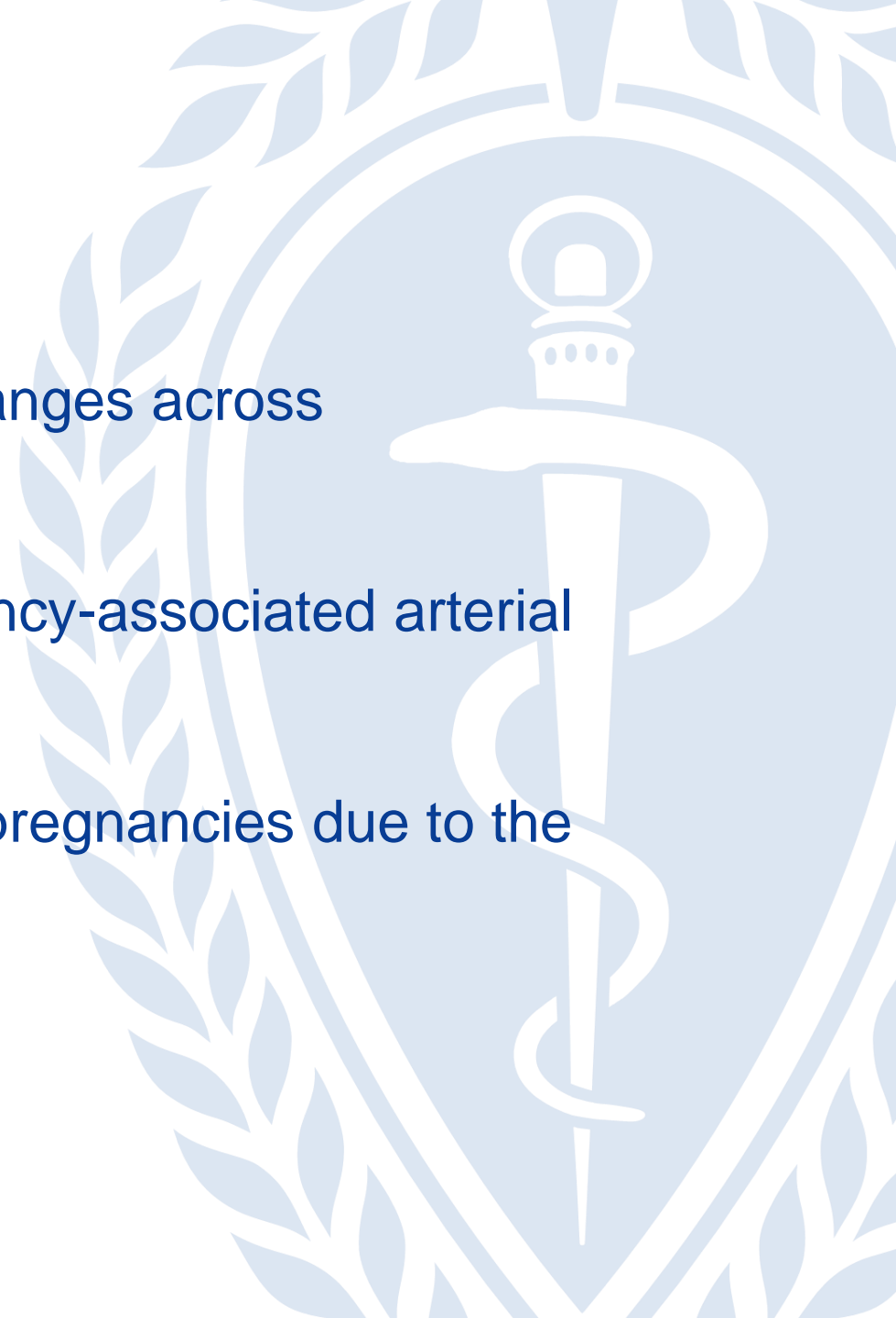
Pregnancy-associated thoracic aortic aneurysm growth patterns and complications

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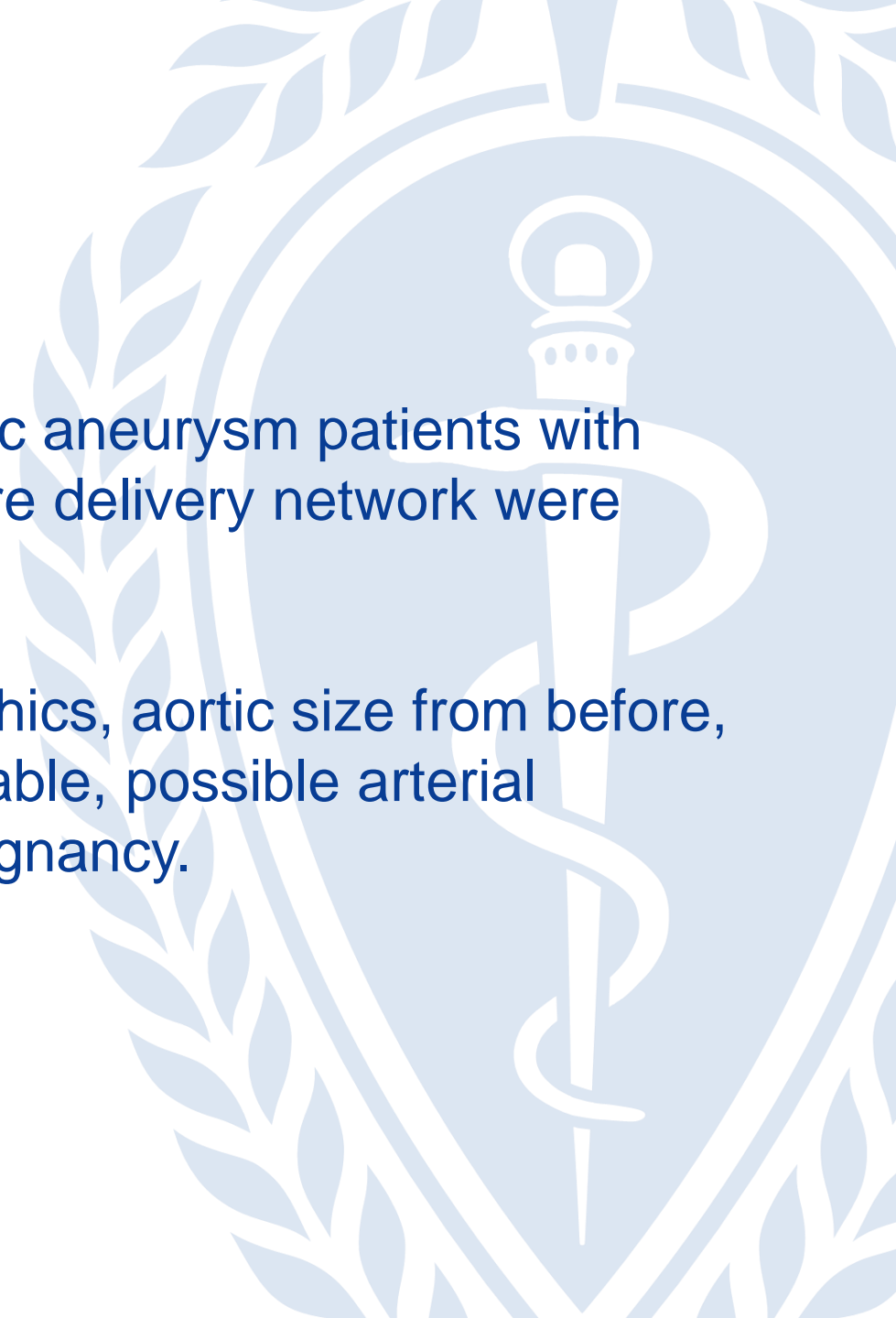
Aims

- To assess the pattern of thoracic aortic size changes across pregnancy.
- To characterize incidence and timing of pregnancy-associated arterial complications.
- To analyze trends of management of high-risk pregnancies due to the presence of thoracic aortic aneurysm.



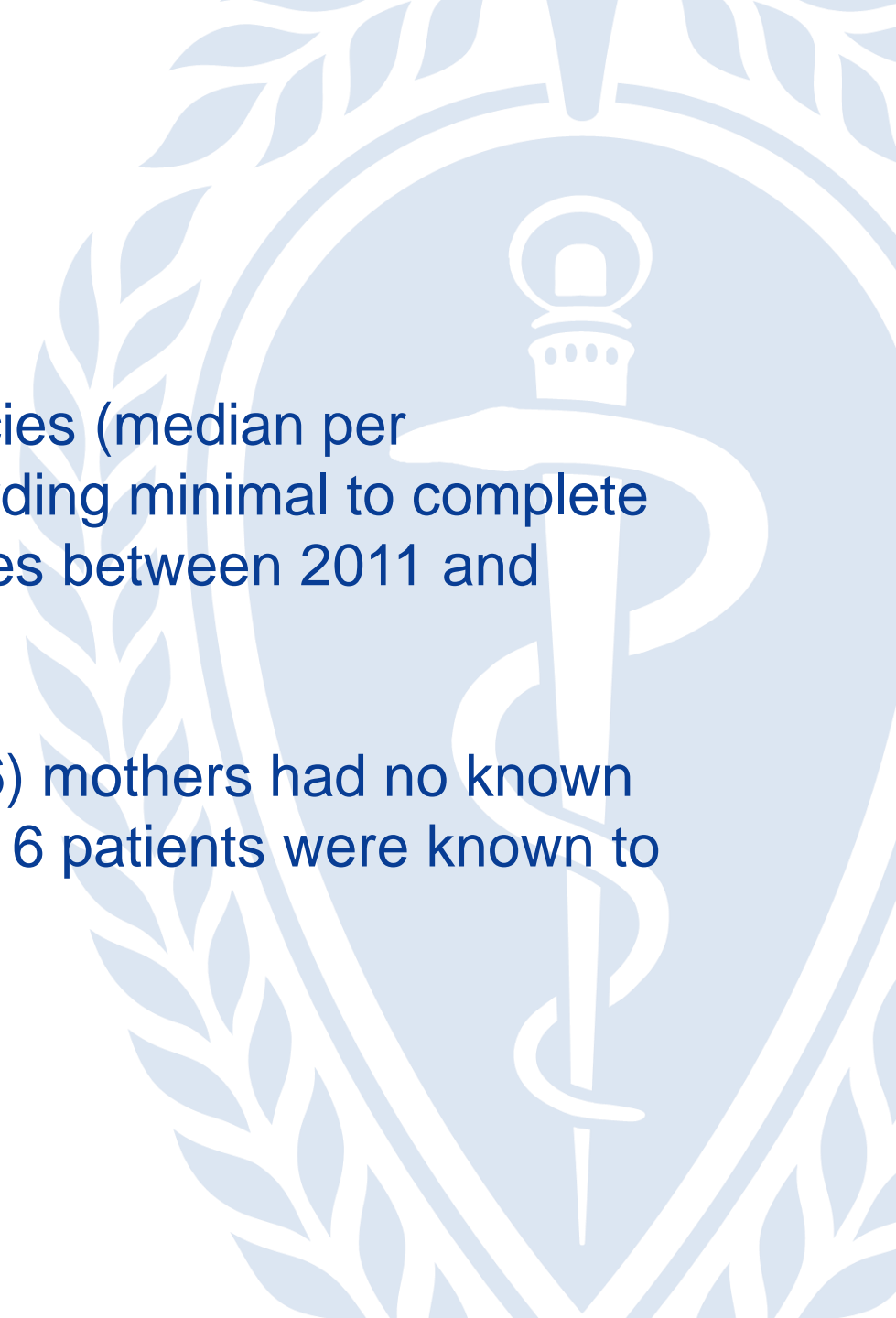
Methods

- Electronic health record charts of thoracic aortic aneurysm patients with pregnancy and/or delivery at a single healthcare delivery network were reviewed.
- Information was collected regarding demographics, aortic size from before, during and after pregnancy period where available, possible arterial complications, and clinical management of pregnancy.



Results

- Twenty-six patients with a total of 92 pregnancies (median per patient=3, IQR 2,4) were identified. Data regarding minimal to complete obstetric care were available for 39 pregnancies between 2011 and 2023.
- At the time of the first pregnancy, 23% (n=6/26) mothers had no known diagnosis of thoracic aortic aneurysm. 2 of the 6 patients were known to have connective tissue disease.



Results: Aneurysm Growth Pattern

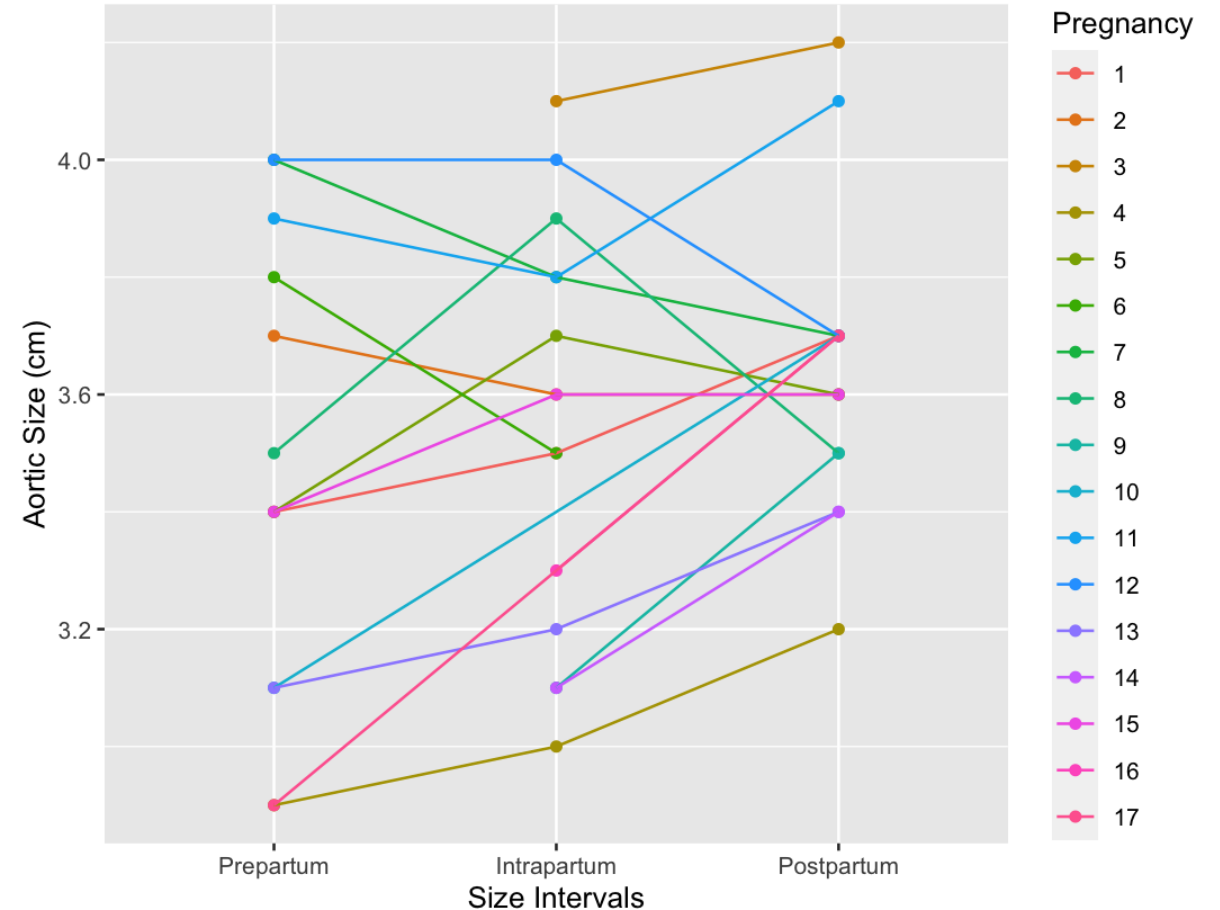
Median prepartum, intrapartum, postpartum aortic dimensions were 3.4 cm (± 0.39), 3.6 cm (± 0.40), and 3.7 cm (± 0.24)

Aortic dimensions went from 3.6 (± 0.4) prepartum to 3.7 (± 0.24) postpartum in patients with sporadic aneurysm, and 3.4 (± 0.42) to 3.6 (± 0.18) in patients with heritable aneurysm



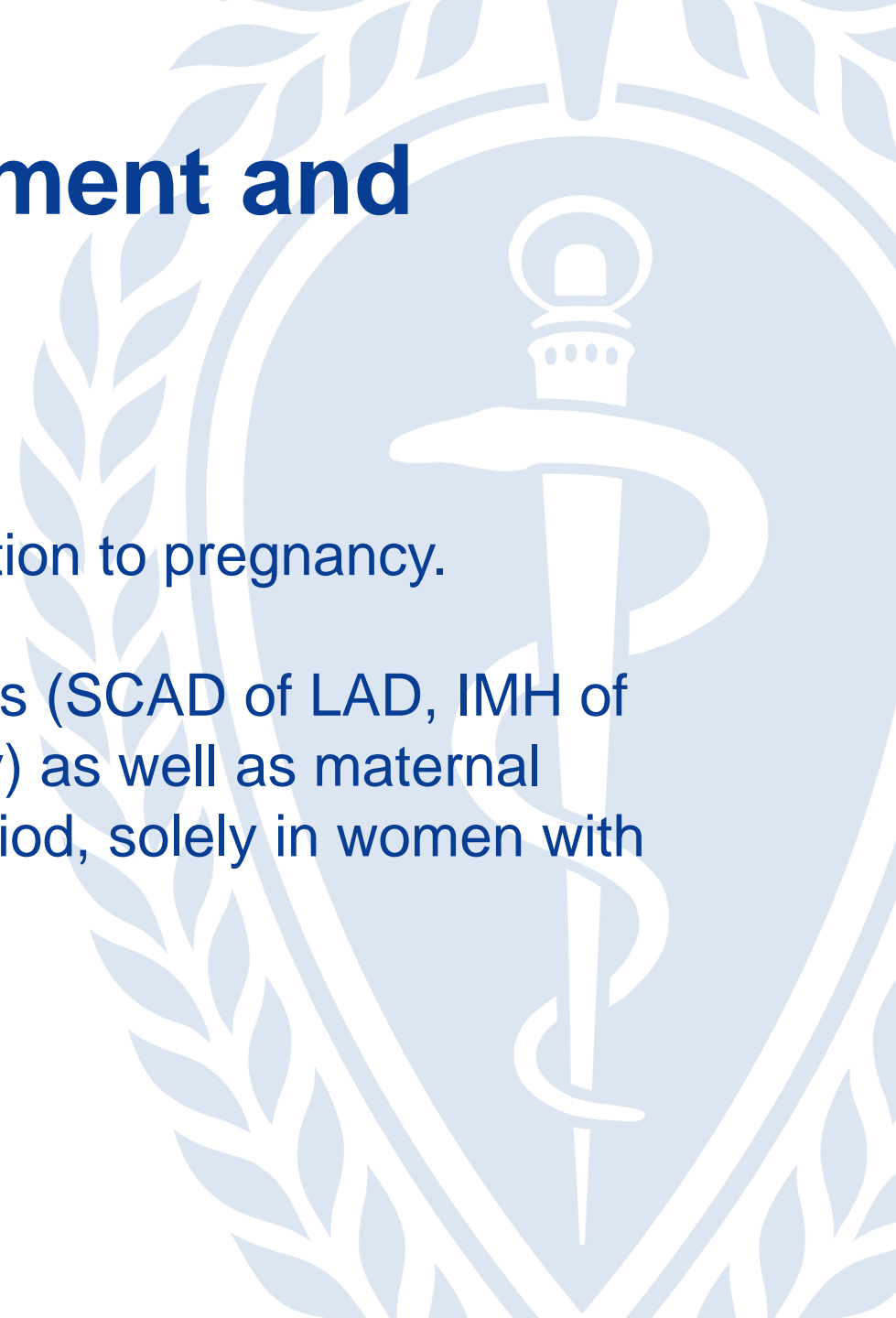
Increased rate of growth in patients with a heritable cause of aortic root or ascending aneurysm

Aortic Diameters across Pregnancy



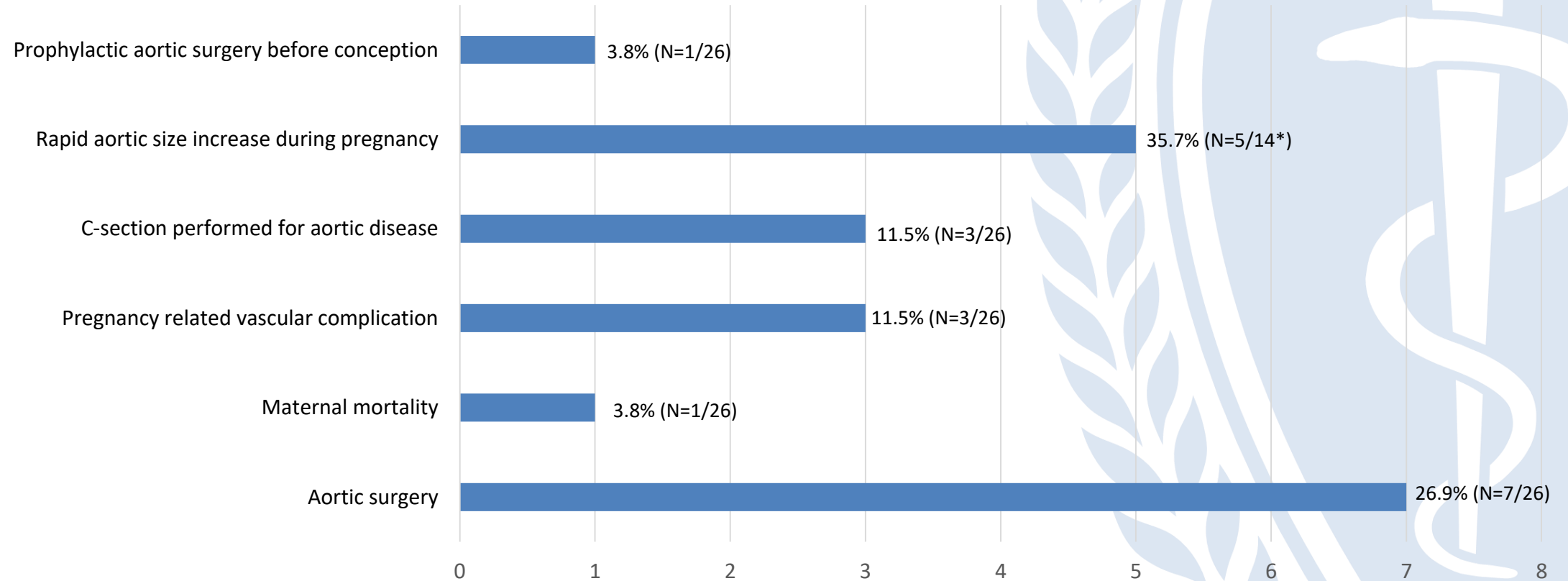
Results: Maternal Management and Outcomes

- No type A aortic dissection was noted in relation to pregnancy.
- Pregnancy-associated vascular complications (SCAD of LAD, IMH of descending aorta, rupture of the celiac artery) as well as maternal mortality was observed in the peripartum period, solely in women with heritable thoracic aortic disease



Results: Maternal Management and Outcomes

Maternal Management and Outcomes

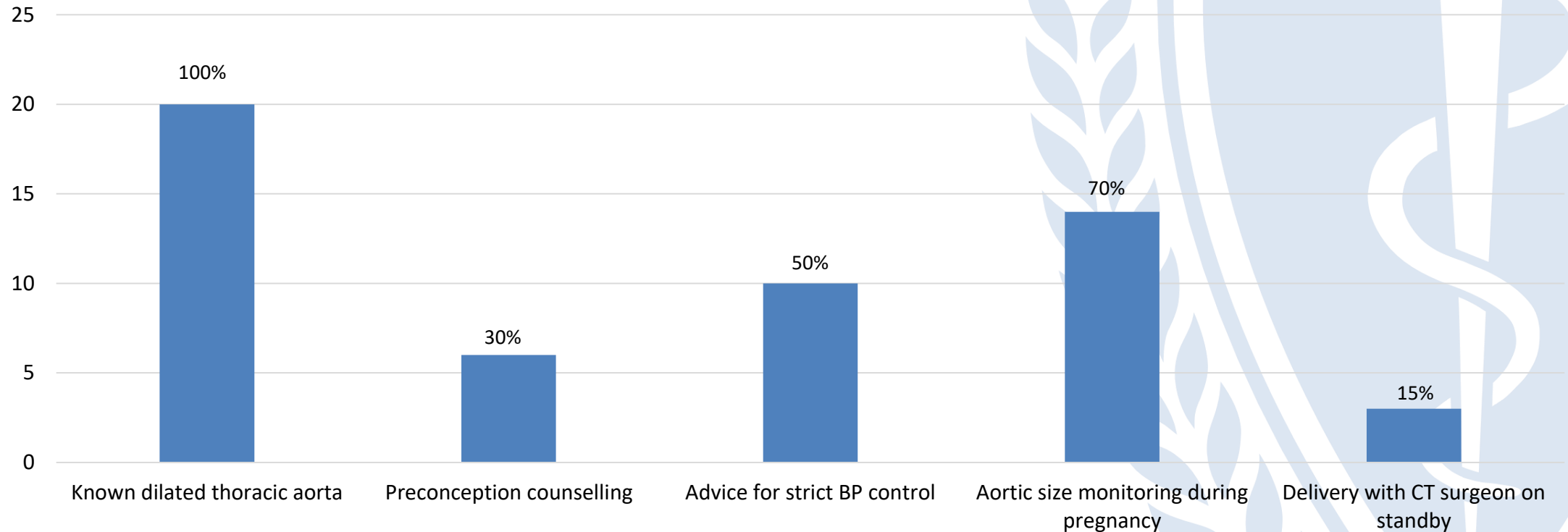


*prepartum, intrapartum and/or postpartum sizes were available for 17 pregnancies of 14 patients

Results: Management Patterns

- Twenty patients carried the diagnosis of thoracic aortic aneurysm prior to or during a total of 32 pregnancies.

Trends of Pregnancy Management in the context of known Thoracic Aortic Aneurysm



Conclusions

- Pregnancy appears to impact growth rate of aortic aneurysm, particularly in heritable thoracic aortic disease.
- No acute aortic events were observed during pregnancy.
- Risk of pregnancy-related vascular complications is higher during peripartum period vs non-pregnancy period.
- Aortic surveillance during pregnancy is variable.

