

Improving first-trimester detection of major congenital heart defects: *a 12-year single-operator experience in Chile*

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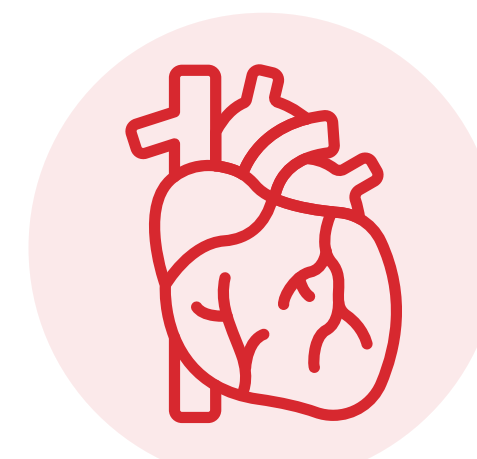
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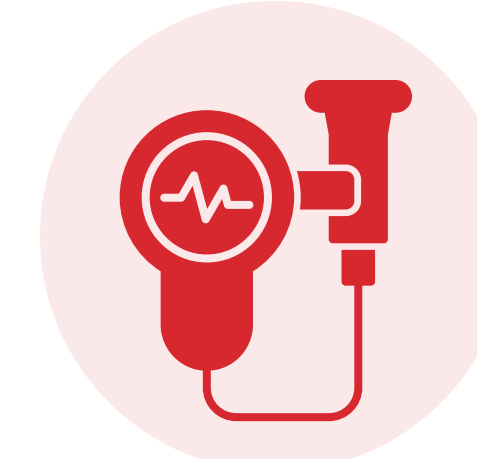
EP08.09



7,890
pregnancies



34
major CHDs



27
detected in 1st trimester



79%
overall sensitivity

Objective

To evaluate improvement in first-trimester screening for major congenital heart disease over a 12-year period in Chile, analyzing diagnostic performance in a mixed public–private clinical setting performed by a single operator.

Methods

1



7,890
consecutive
pregnancies

2



11–14
weeks

3



Single
FMF–
accredited
operator

4



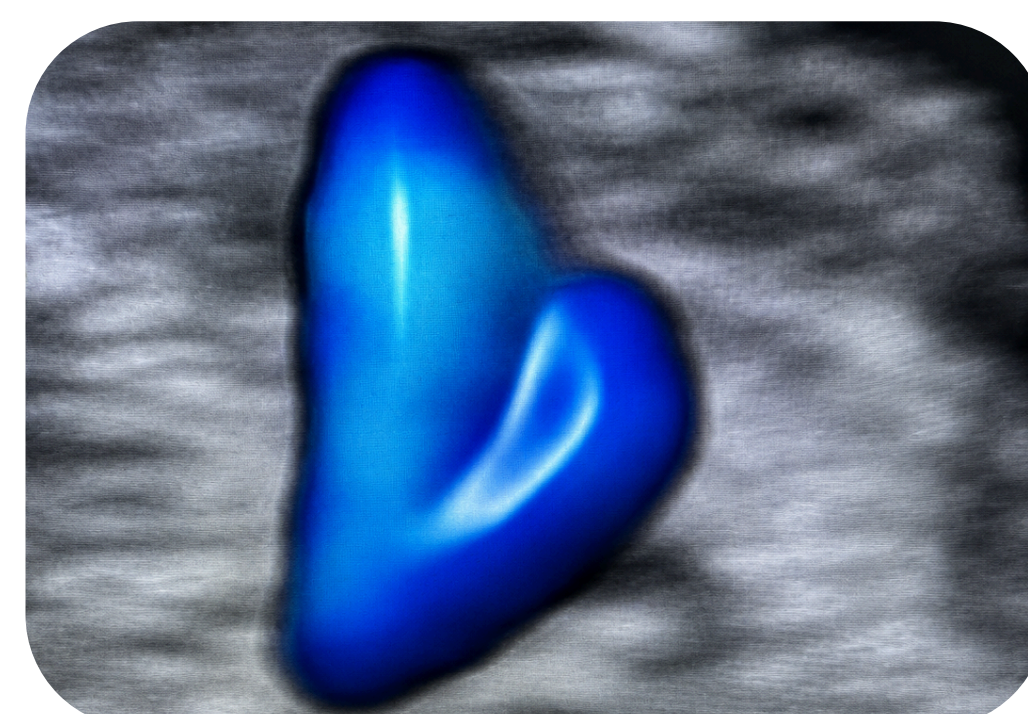
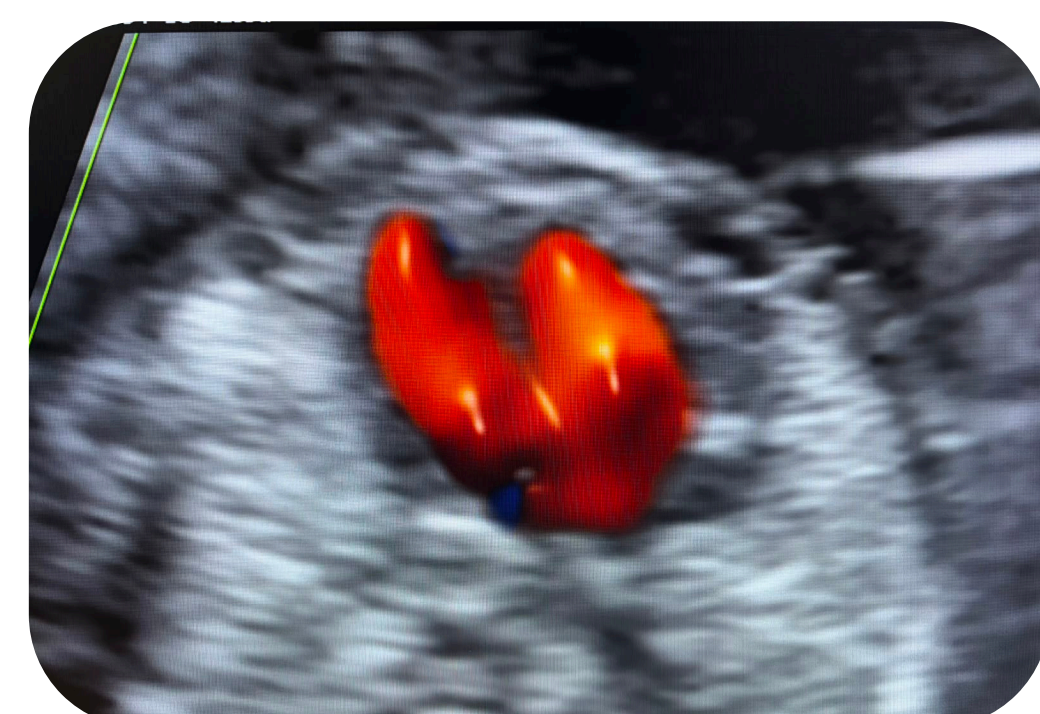
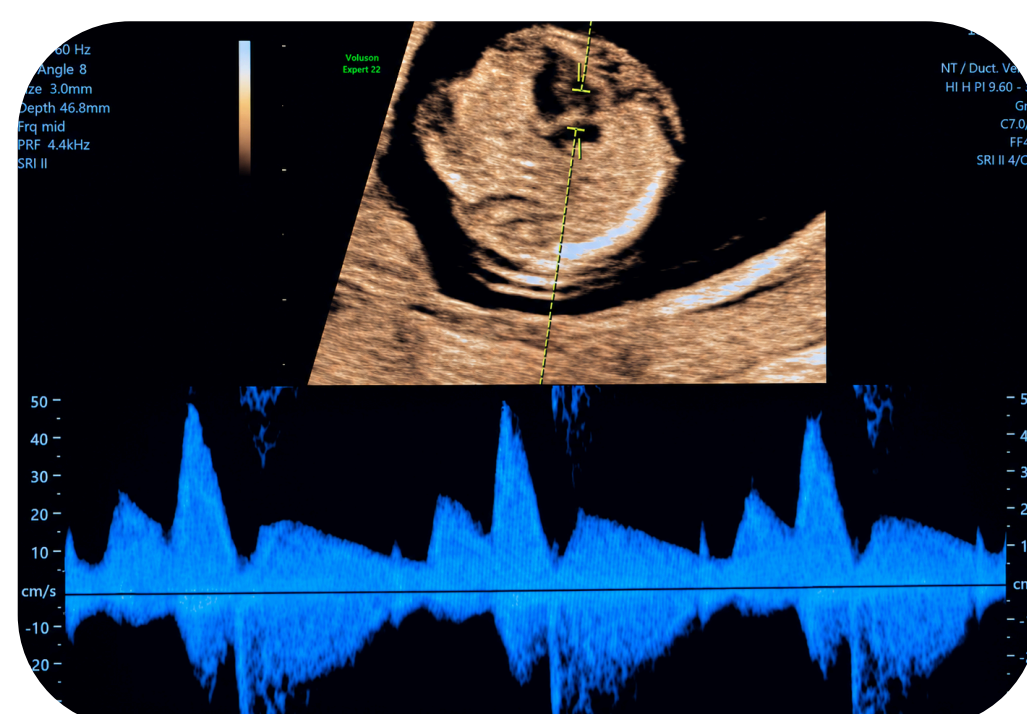
Standardized
protocol

5



Prenatal
and/or
postnatal
confirmation

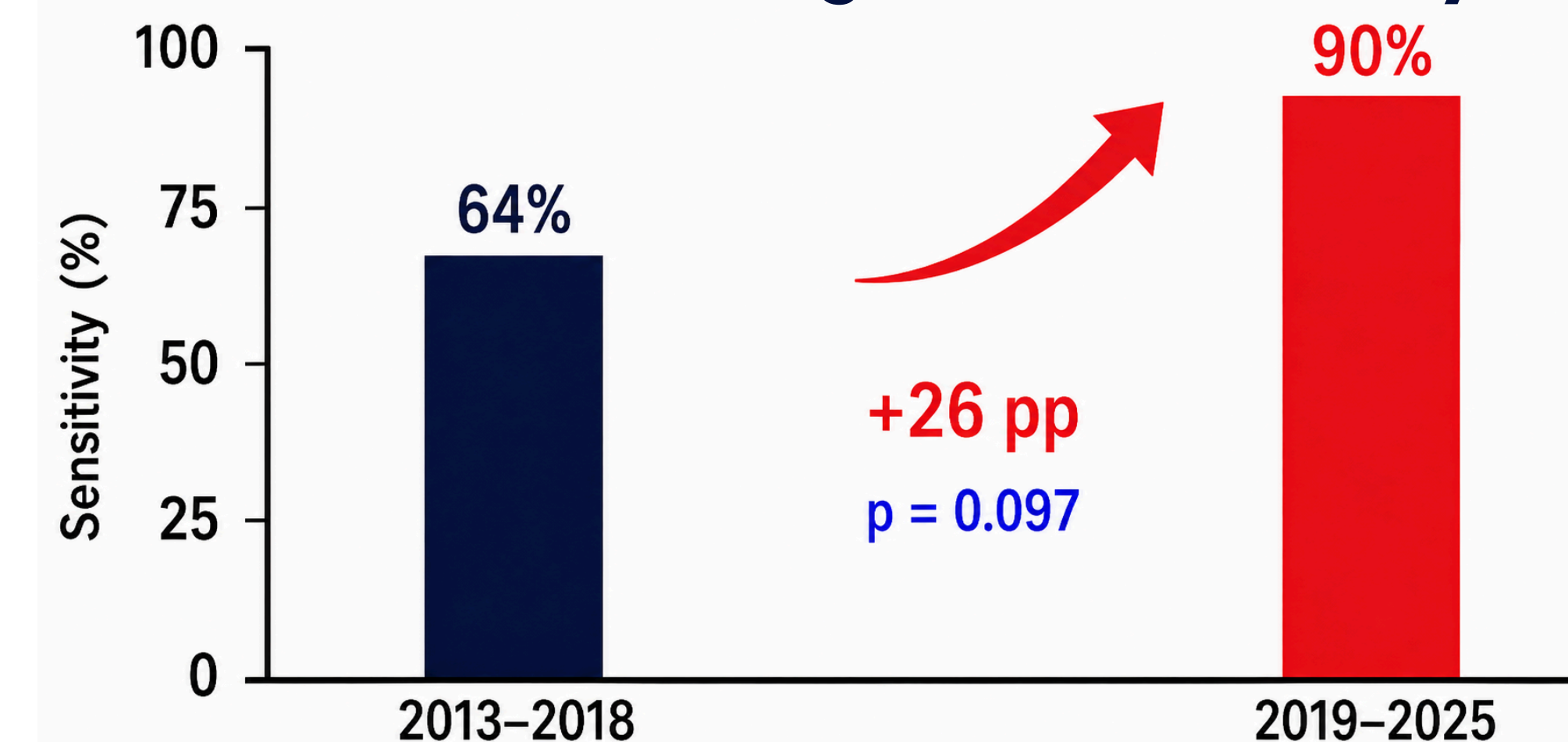
Protocol



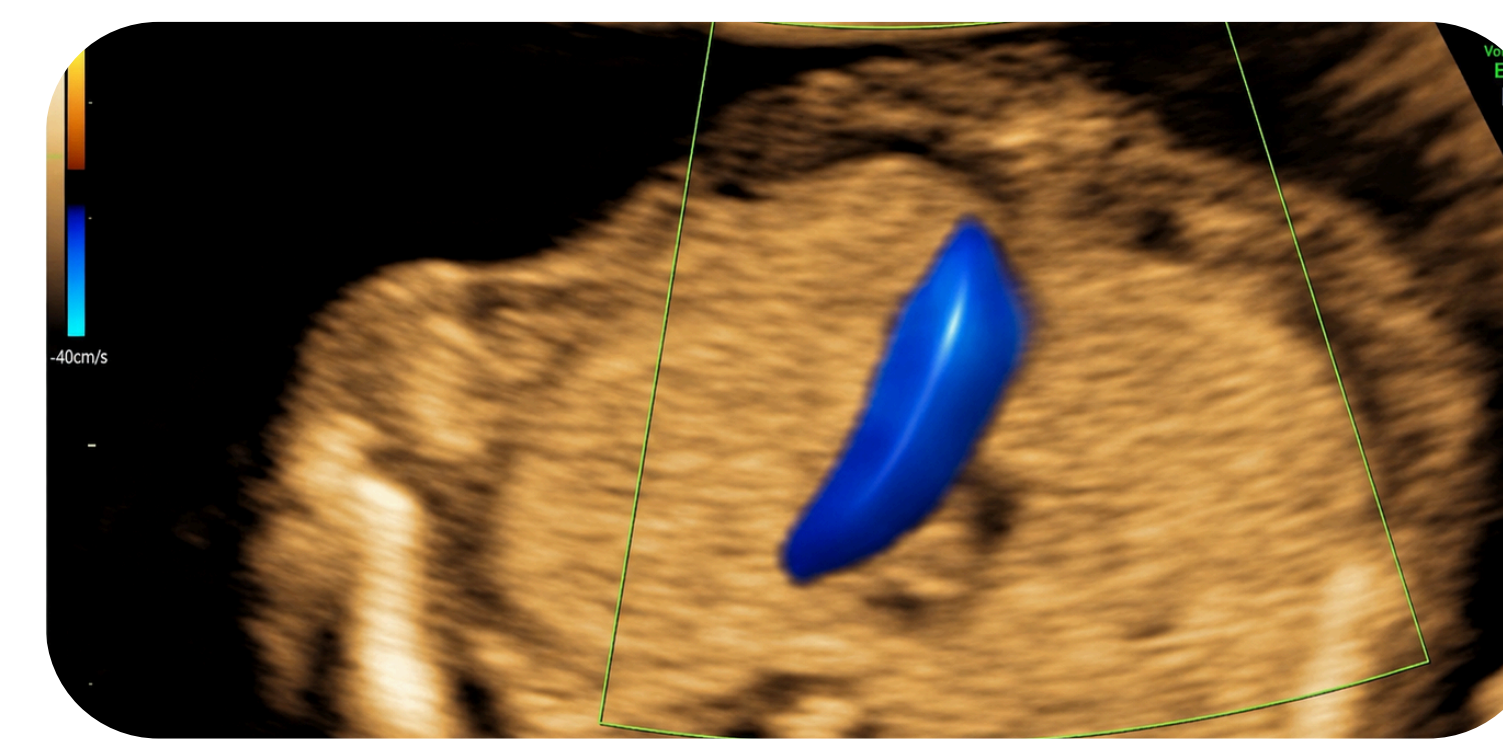
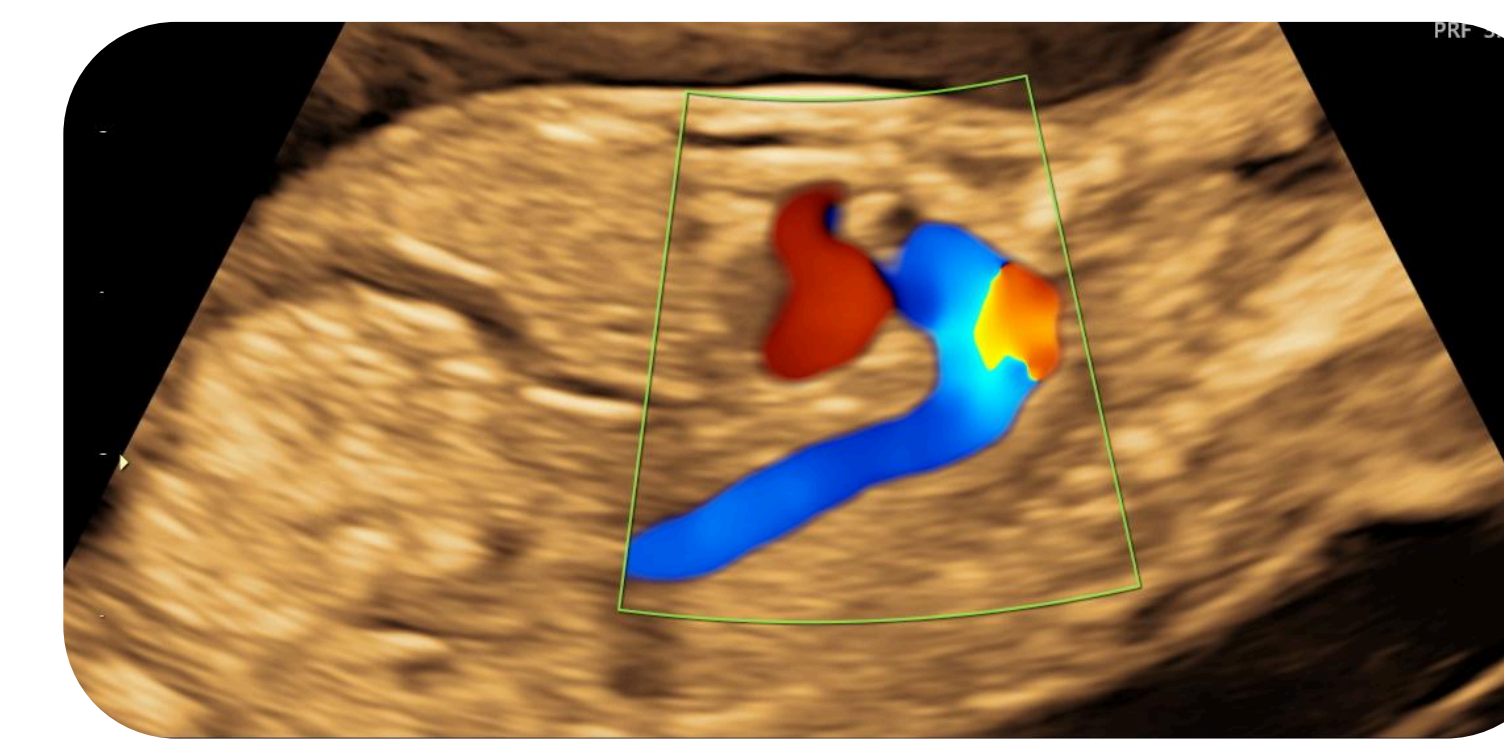
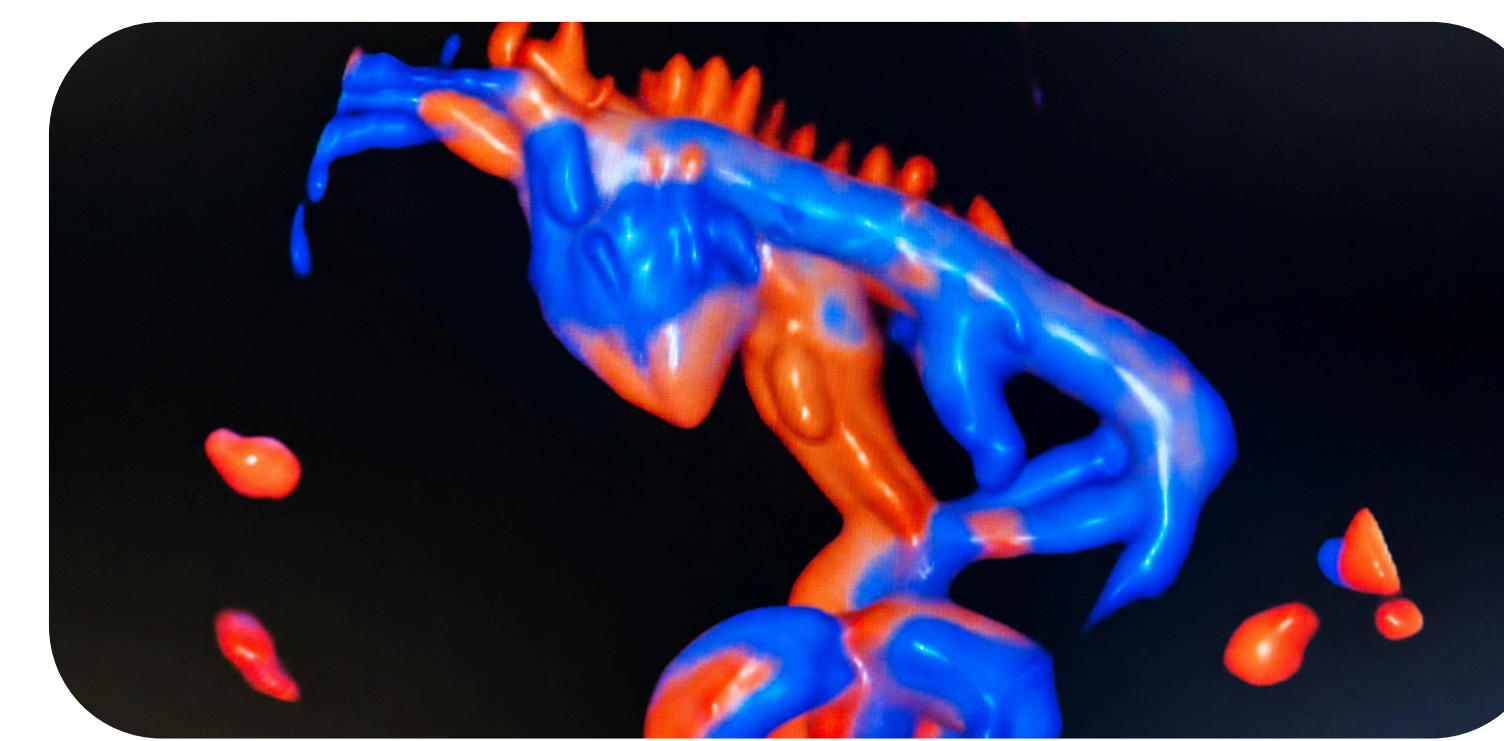
- Four-chamber view
- Three-vessel and trachea view (3VT)
- with color Doppler
- Ductus venosus
- Tricuspid regurgitation
- Aortic and ductal arches

Results

Evolution of diagnostic sensitivity



Diagnostic sensitivity increased from 64% to 90% over time.
Explain the trend observed in our study.

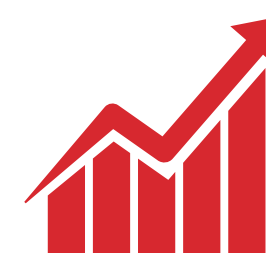


False negatives: mainly conotruncal or progressive lesions diagnosed at more advanced gestational ages.

Conclusions



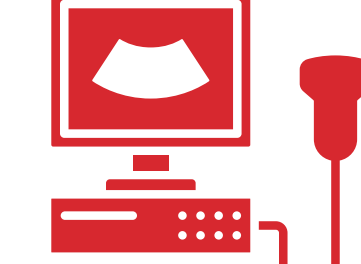
In our experience, first-trimester screening for major congenital heart disease achieved detection rates comparable to those reported in large international series.



Diagnostic sensitivity improved from 64% to 90% over time.



Structured protocols and greater operator experience explain the observed improvement.



Most cases not initially detected were subsequently identified during prenatal follow-up.



First-trimester cardiac screening is an effective tool in clinical practice.

Improvement

Systematic use of a structured protocol substantially improved early prenatal detection of major congenital heart disease.