# Caas vFFR

The novel angio-based functional lesion assessment: wire and adenosine free

Introduction

CAAS vFFR calculates the pressure drop in coronary vessels without the need of a pressure wire. The vFFR module builds a 3D reconstruction of two angiograms and assesses pressure-drop, resulting in a vFFR value. Furthermore, the 3D reconstruction will enable assessment of severity and percentage of stenosis.
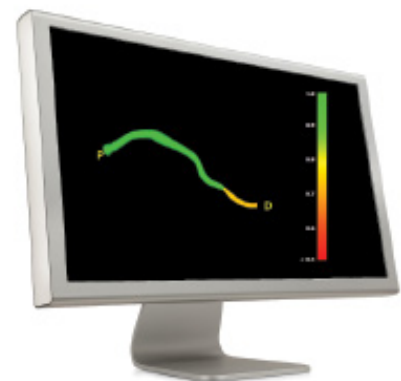
Why?

- Non-invasive analysis
- No pressure wire needed
- No hyperemic agent needed
- Fast and easy to use tool
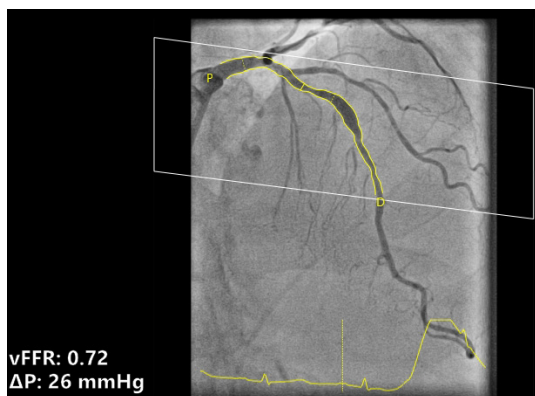
Strengths

- Simple and fast workflow
- Only 2 angiograms needed
- X-Ray system independent
- Additional stenosis measurements
- 510(k) Cleared and CE Marked

vFFR: 0.72
ΔP: 26 mmHg

Joost Daemen MD, PhD, Principal investigator FAST-study

"In the FAST study we demonstrated that the calculated vFFR value has a high linear correlation to the invasively measured FFR and high diagnostic accuracy to detect FFR ≤ 0.80. vFFR is a promising, fast and easy to use tool to assess coronary physiology without the need for a costly pressure wire or hyperemic agent.''

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Caas vFFR

Results FAST studies

Results FAST I Pre study[1] and FAST I Extend[2]

Number of patients	100	303
Mean FFR	0.82 ± 0.08	0.84 ± 0.07
Mean vFFR	0.84 ± 0.07	0.85 ± 0.07
Linear correlation	r = 0.89; p<0.001	r = 0.89; p<0.001
Interobserver variabilty	r = 0.95; p<0.001	-

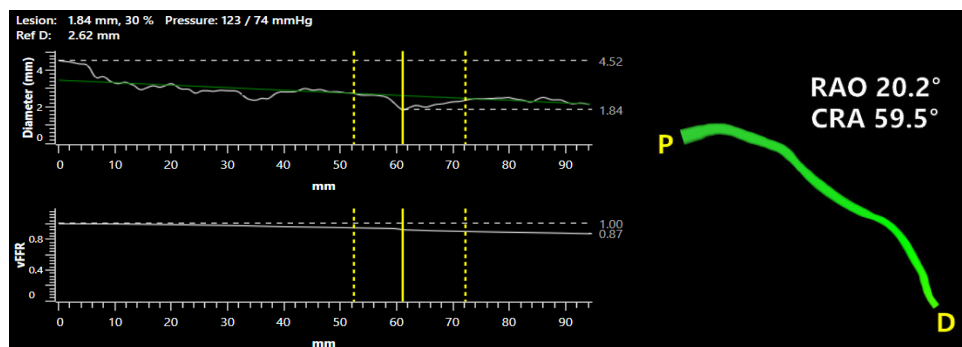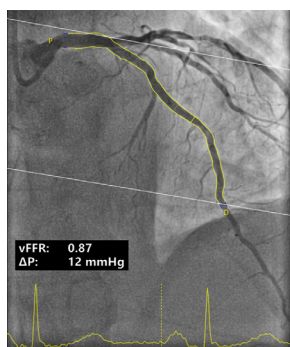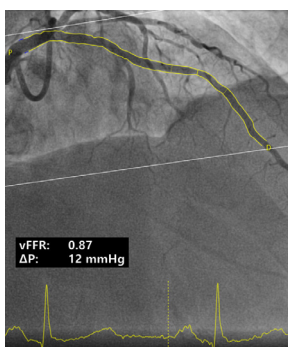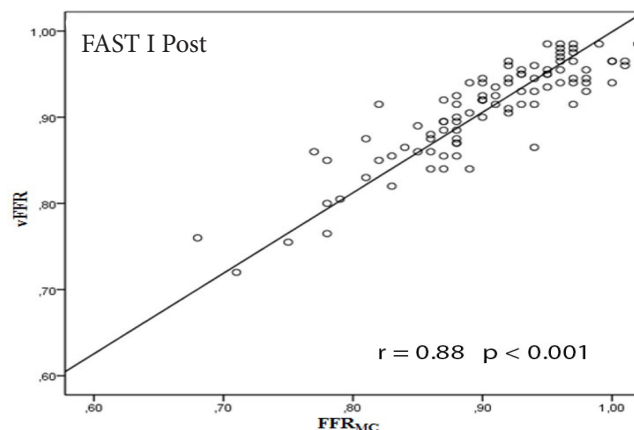[1] Published in EuroIntervention (2019; doi: 10.4244/EIJ-D-19-00466)
[2] Presented at EuroPCR 2019

FAST I Extend — r = 0.89 p < 0.001
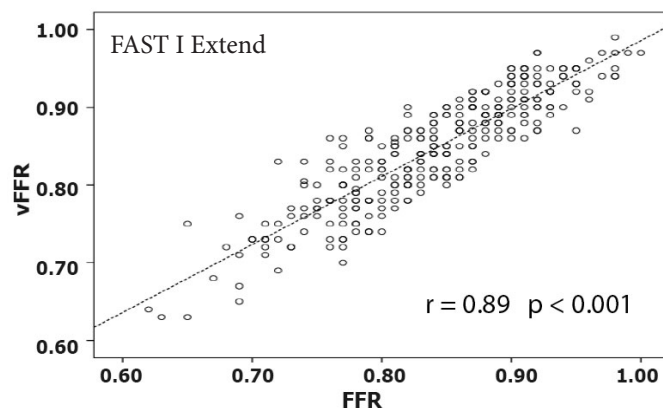
Results FAST I Post study[3]

Number of patients	100
Mean FFR	0.91 ± 0.07
Mean vFFR	0.91 ± 0.06
Linear correlation	r = 0.88; p<0.001
Interobserver variabilty	r = 0.95; p<0.001

[3] Presented at TCT 2018

FAST I Post — r = 0.88 p < 0.001

Lesion: 1.84 mm, 30 %   Pressure: 123 / 74 mmHg
Ref D: 2.62 mm

vFFR: 0.87
ΔP: 12 mmHg

RAO 20.2°
CRA 59.5°

Conclusion

The 3D-QCA derived vFFR has a high linear correlation to invasively measured FFR, a high diagnostic accuracy to detect lesions with an FFR ≤ 0.80 and a low interobserver variability.