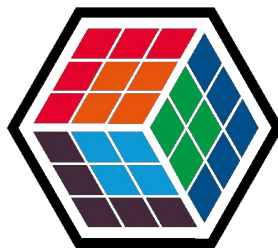




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Trilha – Saúde 4.0

Samuel Armbrust Freitas
Software Architect



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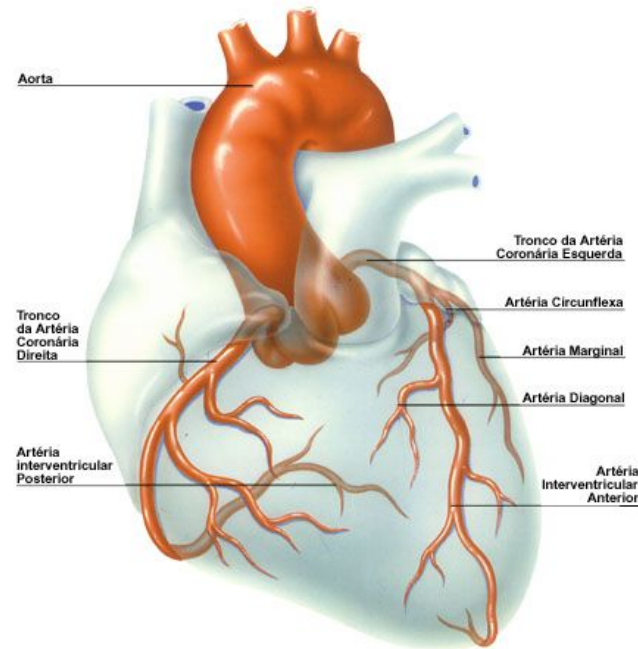
**Analizando Estreitamentos Arteriais
através de Processamento de Imagens**

O Coração

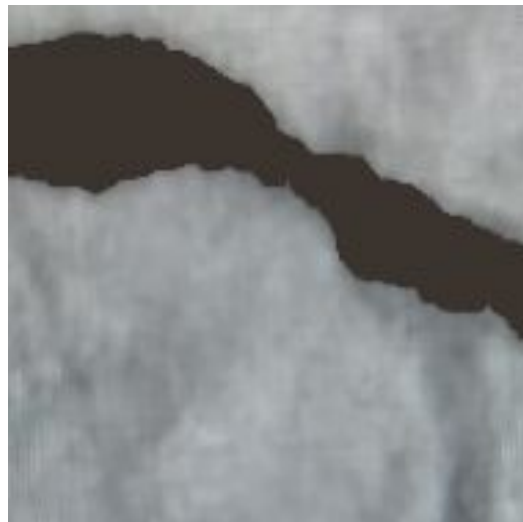
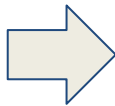
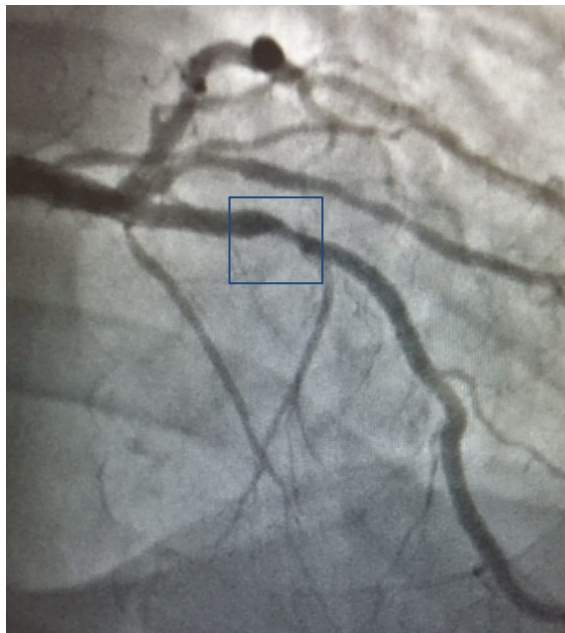
- Artérias Coronárias
 - Esquerda
 - Circunflexa
 - Descendente Anterior
 - Diagonais
 - Direita



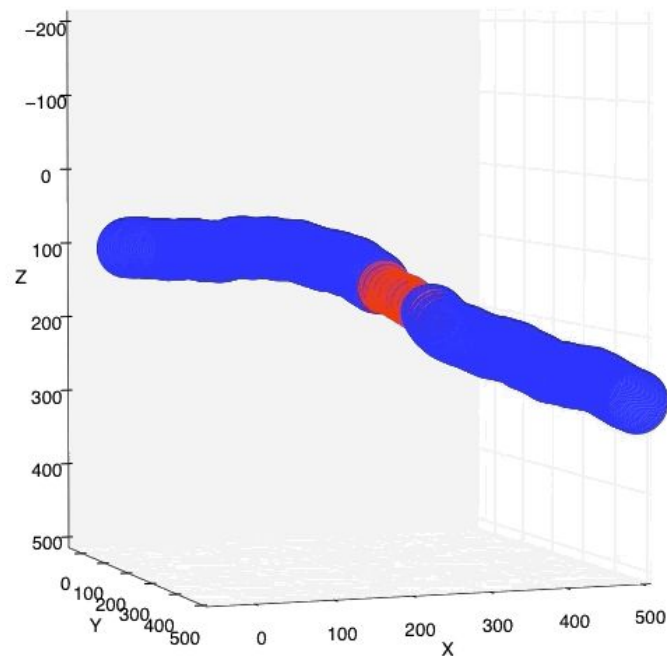
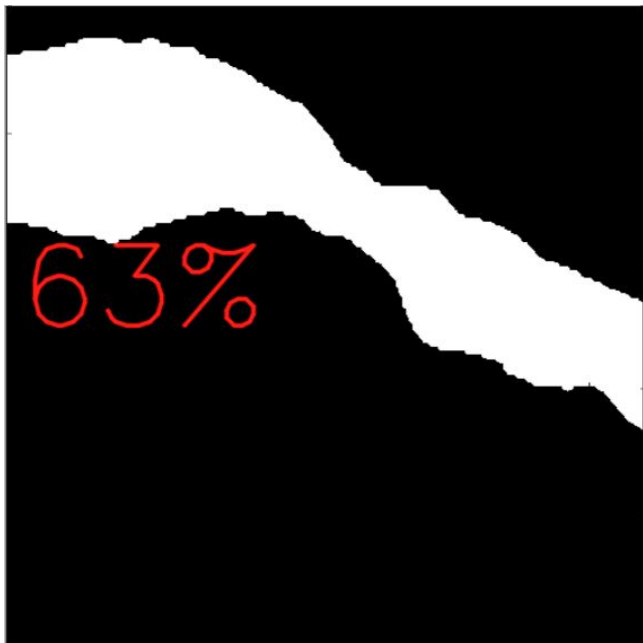
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Prova de Conceito

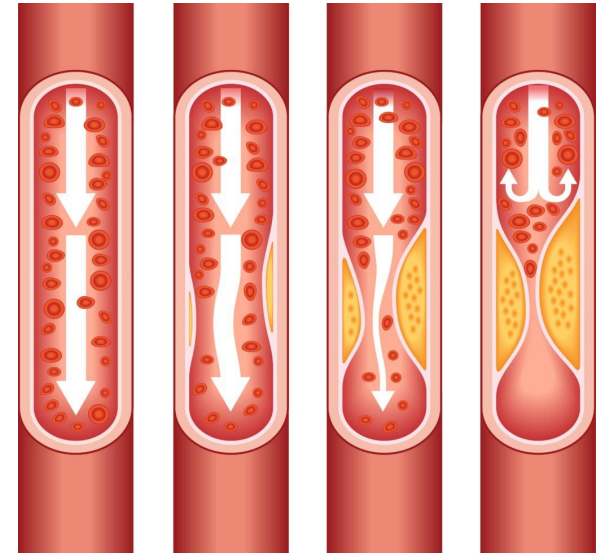


Resultado Preliminar



Estreitamentos Arteriais

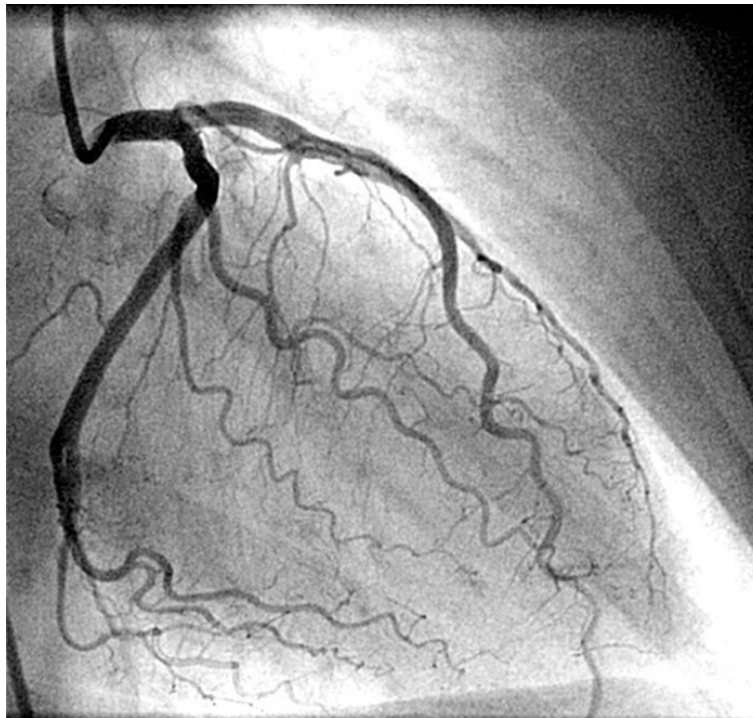
- Conceitos
 - Diâmetro de Lúmen
 - Causas
 - Poucos saudáveis
 - Altos níveis de colesterol



Fonte: AWADALLA(2017)

Métodos convencionais

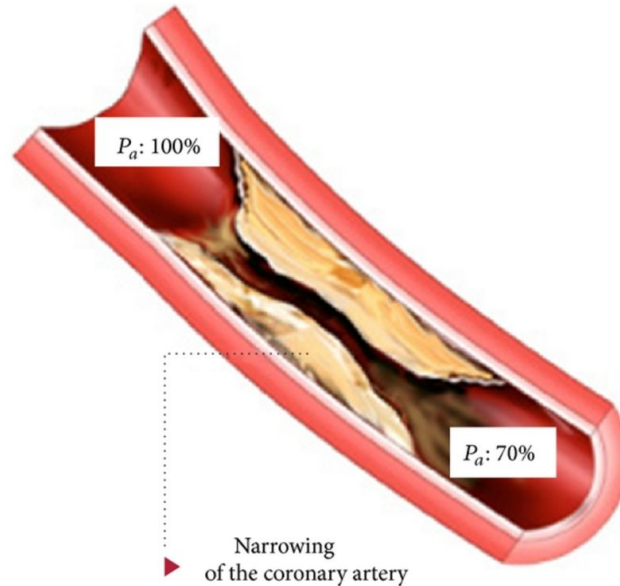
- Angiografia



Fonte: MARKER(2017)

Métodos convencionais

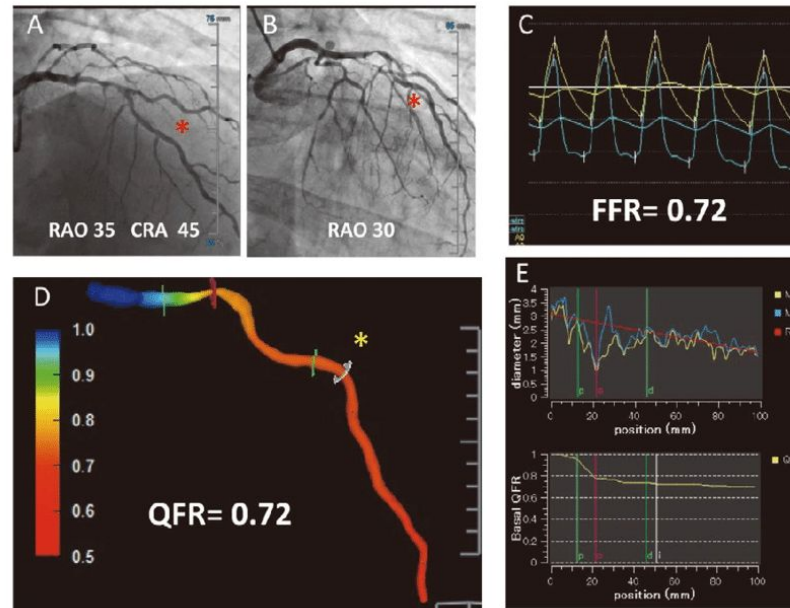
- FFR (Fractional Flow ratio)



Fonte: PONTONE(2015)

Método em teste

- QFR (Quantitative Flow ratio)

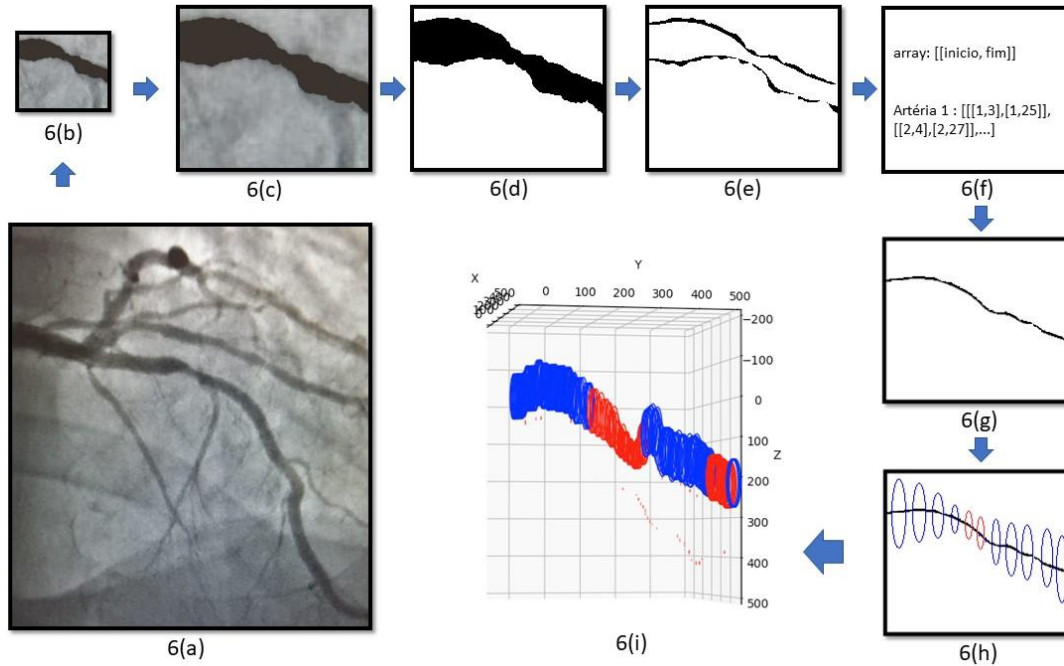


Fonte: YAZAKI(2017)

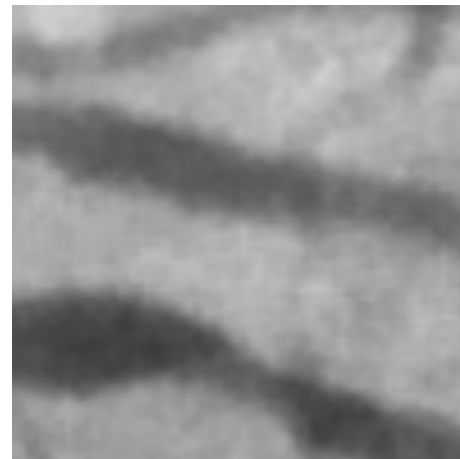
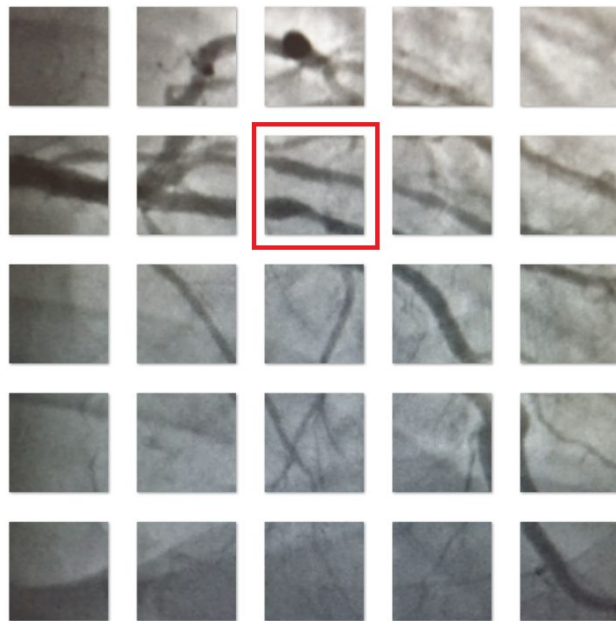
Metodologia Proposta



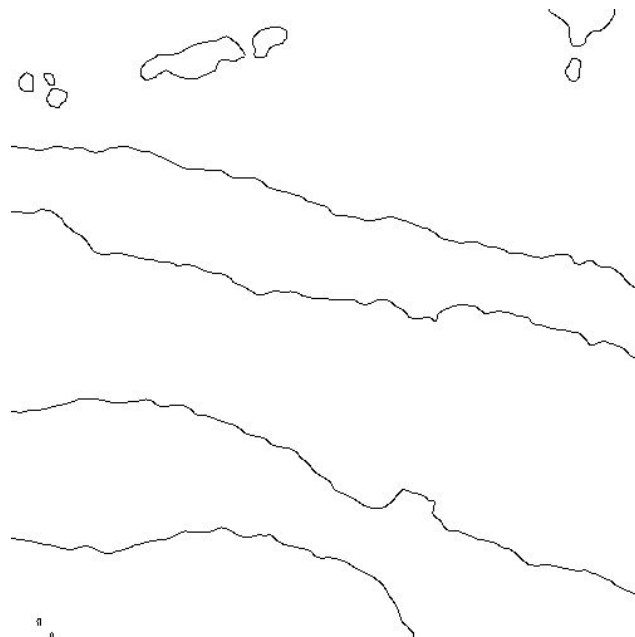
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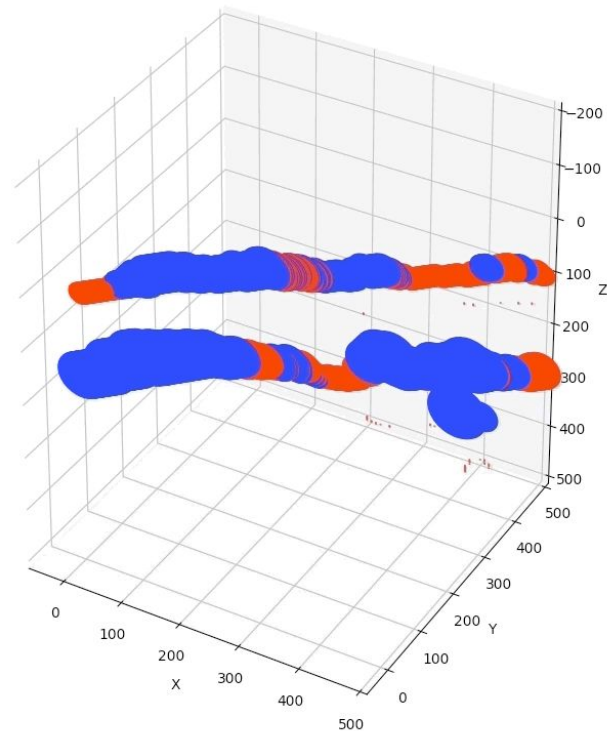
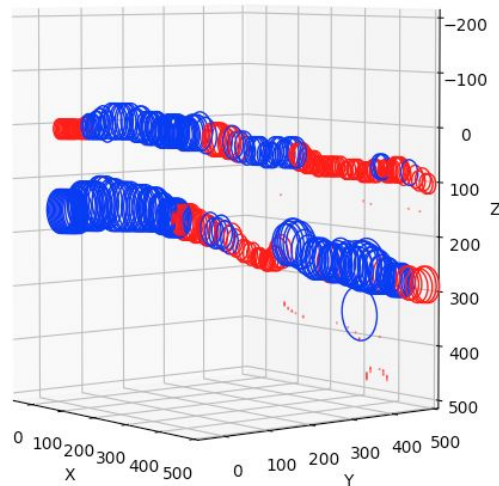
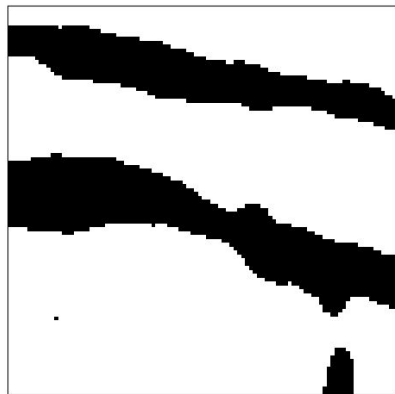
Segmentação



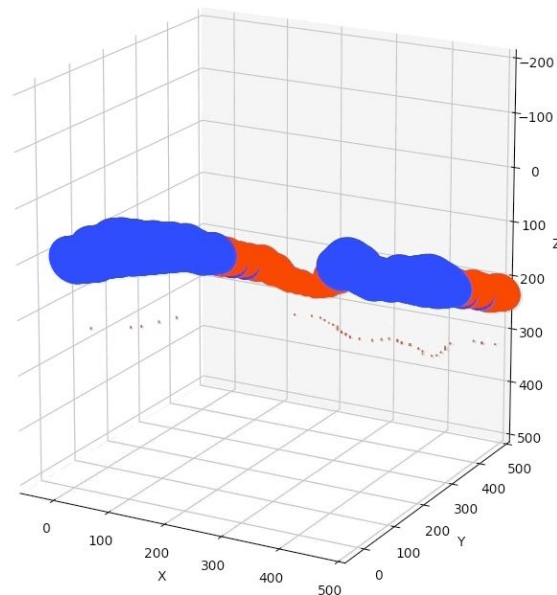
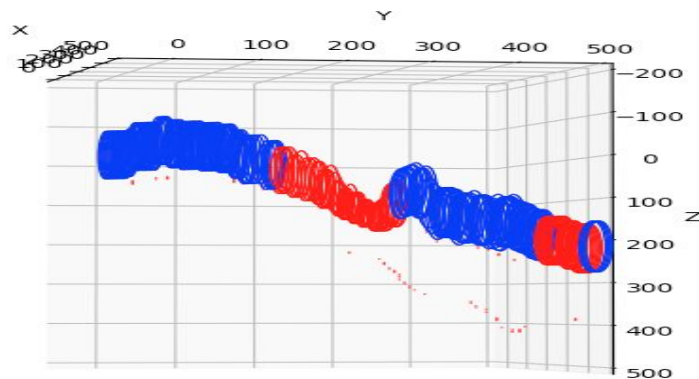
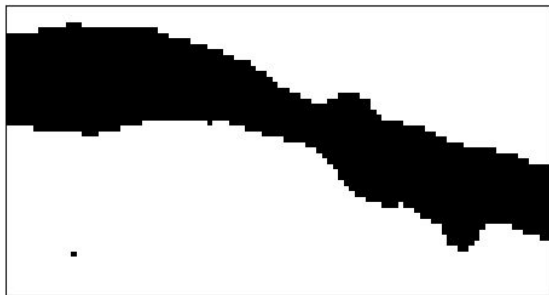
Filtros



Resultados parciais

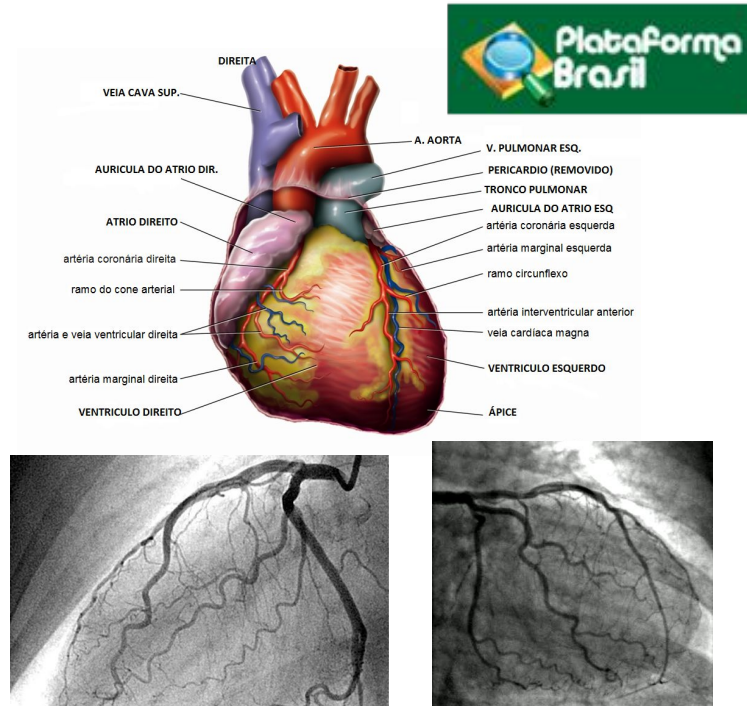


Ajuste na identificação



Desafios

- Área da Saúde
 - Imagens públicas;
 - Embasamento teórico;
 - Código de ética;
 - Plataforma Brasil.



Desafios

- Técnicos
 - Escala de cinza;
 - Qualidade das imagens;



Possibilidades



- Estudos
 - Pesquisas com exames reais;
 - Comparação com outros métodos;
- Outras aplicações na saúde
 - Vaso constrição
 - Pressão ocular



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 [armbrustsamuel](https://www.linkedin.com/in/armbrustsamuel)

 [armbrustsamuel](https://github.com/armbrustsamuel)



AVALIAÇÃO DE PALESTRAS



<https://thedevconf.com/tdc/2019/avaliacao>

Referências



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MARKER, Kara. Predicting Heart Attacks with New, Noninvasive Imaging. labroots. 2017.

AWADALLA, H.; ELKASHLAN, Y.; EL-ETRIBI, A. Correlation of Pericoronary Epicardial Adipose Tissue with Coronary Artery Calcification, and Coronary Atherosclerosis in Egyptian Post-Menopausal Women. 2017.



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