Classification of Patients with Cardiovascular Diseases: Data from the Ontario Best Practices Research Initiative (OBRI)

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BACKGROUND

- Cardiovascular disease (CVD) is a major comorbidity and a leading cause of death among rheumatoid arthritis (RA) patients[1-2].
- Systemic inflammation may be the main driver for increased CVD risks in RA patients[1-2].
- There are limited data on the prevalence and characteristics of RA patients with CVD in Canada.
- Ongoing research exploring CVD and its effect on RA disease outcomes has been undertaken at the Ontario Best-practices Research Initiative (OBRI); a clinical registry for RA (OBRI-RA registry).
- Within the Registry, physician-reported cardiovascular disease has a broad definition, some of which do not meet the strict definition of "cardiovascular disease".
- Precisely identify and classify patients with cardiovascular disease and its risk factors is imperative for the success of the study.

OBJECTIVE

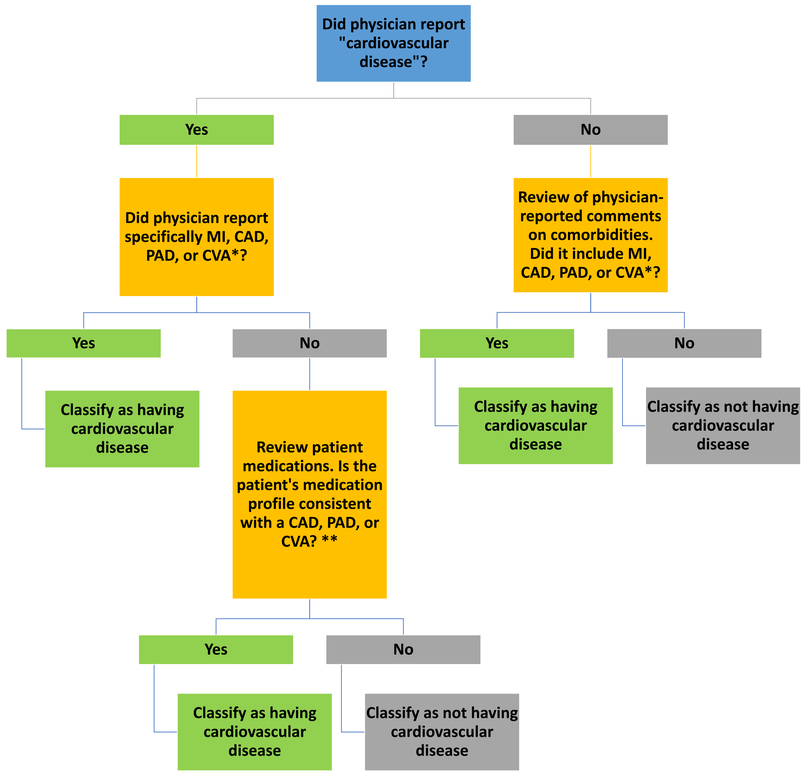
- To develop an algorithm in identifying and confirming the diagnosis of patients meeting the definition of CVD and CVD risk factors.

METHODS

- Data were collected from the OBRI, a clinical registry of early (disease duration ≤ 1year) and established adult RA patients followed in routine care in Ontario, Canada.
- CVD is defined as having one or more of the following:
  - Prior myocardial infarction (MI)
  - Interventions for coronary artery disease (CAD)
  - Transient ischemic attack (TIA)
  - Stroke
  - Peripheral arterial disease (PAD)
- CVD risk factors used in this study includes the presence of:
  - Hypertension
  - Dyslipidemia
  - Diabetes
  - Being a smoker at the OBRI enrolment
- As outlined in **Figure 1**, an algorithm is developed to classify the patients with CVD.

RESULTS

Figure 1. Algorithm for the classification of patients with cardiovascular diseases.



* MI: myocardial infarction; CAD: coronary artery disease; PAD: peripheral artery disease, CVA: cerebral vascular accident (including stroke and TIA).
** Clinical judgement is applied at this step. Information taken into account includes whether the patient is on anti-platelet agents, nitroglycerin's, in combination with beta blockers, ACE/ARB inhibitors; whether patient reported that their indication for these mediation is for their "heart disease", and whether patient reported as having "heart disease".

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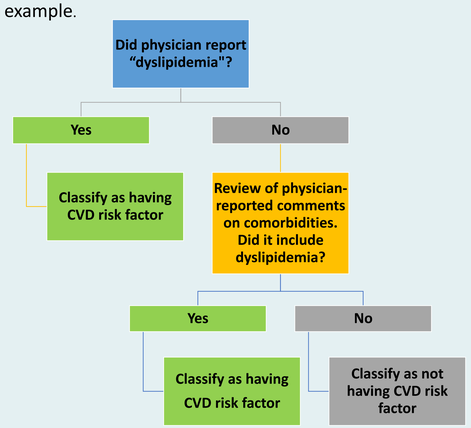
RESULTS

- The classification of CVD risk factors are outlined in **Figure 2**. Dyslipidemia was used as an example.



- **CVD prevalence:** among 91 out of 2033 (4.5%) was classified as having cardiovascular disease.
- **CVD risk factors prevalence:** 1) Dyslipidemia 100 (4.9%); 2) Hypertension 451 (22.2%); 3) Diabetes 233 (11.5%); 4) smoking 346 (17.0%).

CONCLUSIONS

- We have successfully developed an algorithm for classifying patients with cardiovascular disease.
- The algorithm is applicable for the classification of other comorbidities captured in the OBRI-RA registry.
- Further analysis will be performed to identify the effects of CVD on RA outcomes.

REFERENCES

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