USE OF REAL WORLD DATA TO ASSESS CV SAFETY – CAN WE IMPROVE EFFICIENCIES IN DEVELOPMENT?

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Cardiac Safety Research Consortium Think Tank

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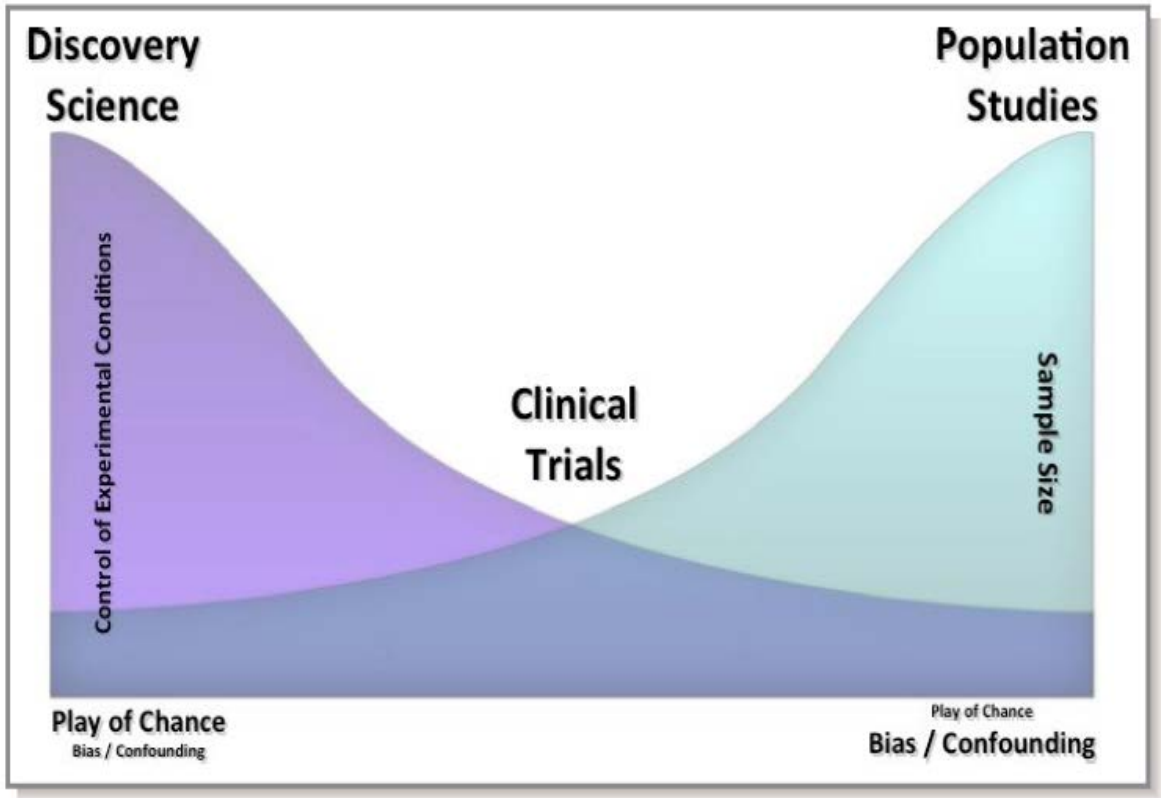
WHY USE REAL WORLD DATA TO ASSESS CV SAFETY?

- RCTs differ from clinical practice
  - Well controlled vs SOC practice algorithms
  - Placebo control vs use of multiple comparators
  - Regular follow-up vs follow-up according to local practice standard
  - Study populations are not representative of the entire population intended to receive the medication of interest
- There is interest in real world evidence and how it fits with the results from RCTs



Antman E. et al. JAHA 2016

BIG DATA UNEARTHS NEW QT-EXTENDING DRUG INTERACTION

HEALTH RECORDS, LAB TESTS TURN UP ANTIBIOTIC/PPI COMBO THAT PROLONGS QT INTERVAL

MEDPAGE TODAY 12 OCTOBER 2016

Data mining millions of electronic health records led to the discovery …..the antibiotic ceftriaxone (Rocephin) and proton-pump inhibitor lansoprazole (Prevacid) together were associated with a prolonged QT interval by up to 12 ms in white men.

"How … can a community ever derive confidence that a given result generated across few subjects is real?" they wrote. "The present study provides one answer: by considering multiple layers of evidence from different ('orthogonal') datasets, investigators (and readers of JACC) can derive increased confidence that a given result is, in fact, 'real,' as seems to be the case here."

"A major ongoing challenge to the approach of combining diverse datasets is to develop appropriate statistical methods to critically evaluate, beyond a 'gut feeling,' that a given orthogonal set of findings is real."
"Solving the methodological challenges of developing approaches to systematically leverage these data sources will be the next frontier in identifying and preventing adverse drug reactions," the editorialists concluded.

Schnell *et al. Cardiovasc Diabetol (2016) 15:33*
DOI 10.1186/s12933-016-0357-x

Cardiovascular Diabetology

COMMENTARY

Open Access

Report from the 1st Cardiovascular Outcome Trial (CVOT) Summit of the Diabetes & Cardiovascular Disease (D&CVD) EASD Study Group

Oliver Schnell[1*], Eberhard Standl[1], Doina Catrinoiu[2], Stefano Genovese[3], Nebojsa Lalic[4], Jan Skra[5], Paul Valensi[6] and Antonio Ceriello[7]

The scientific community may also be interested in studies closer to the real-world setting. Real-world data analyses from adequately characterized data sources, and/or simple pragmatic interventional trials could be helpful in this regard.

CVOTs should focus more on the standard health care system and real-world settings and not be performed in a rather artificial setting.

Original Investigation

Comparison of Clinical Outcomes and Adverse Events Associated With Glucose-Lowering Drugs in Patients With Type 2 Diabetes

A Meta-analysis

Suetonia C. Palmer, PhD; Dimitris Mavridis, PhD; Antonio Nicolucci, MD; David W. Johnson, PhD; Marcello Tonelli, MD; Jonathan C. Craig, PhD; Jasjot Maggo, MMed; Vanessa Gray, MSc; Giorgia De Berardis, MSc; Marinella Ruospo, MSc; Patrizia Natale, MSc; Valeria Saglimbene, MSc; Sunil V. Badve, MD; Yeoungjee Cho, PhD; Annie-Claire Nadeau-Fredette, MD; Michael Burke, MD; Labib Faruque, MSc; Anita Lloyd, MSc; Nasreen Ahmad, BSc; Yuanchen Liu; Sophanny Tiv, BSc; Natasha Wiebe, MMath; Giovanni F. M. Strippoli, PhD

JAMA 2016; 316(3):313-324

In the network analysis for cardiovascular mortality with monotherapy, the mortality rate was considerably lower than that in a recent pragmatic trial among adults with previously undetected diabetes,[33] suggesting that investigators in future trials need to consider drug evaluations in real-world settings in individuals with higher morbidity and mortality risks.

THINK TANK OBJECTIVES

1. To determine if/when "real-world" can data provide sufficient and credible evidence regarding CV safety of drugs

2. To define when a real world study is warranted to assess CV safety

3. To discuss the level of evidence that is acceptable and credible to enable informed decision making

AGENDA

- Session 1: Evaluation of Available Data Types
- Session 2: Assigning Causality
- Session 3: Study Designs and Methodologies, CV Event Definitions, & Reliability of Data Sources
- Session 4: Reducing Bias and Estimating Effect Size

MEETING OVERVIEW

Round Table Format

- Short provocative presentations
- Robust discussion time
  - Discussion is key
  - Multiple viewpoints
  - Taken in the order self-identified
  - Use Microphones

Presenters have promised to stay within their allotted time limit ☺

Hope for a meaningful impact and outcome

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