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Extracting primary care records for prostate cancer patients in the CHHiP multicentre randomised control trial: A healthcare data linkage study

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Introduction

The aim is to investigate the effect of cardiovascular and diabetes comorbidities on radiotherapy-related side-effects in prostate cancer. Previous research suggests that comorbidities increase the risk of side-effects, but some cardiovascular medications may reduce symptoms by protecting against radiation damage. The evidence is inconclusive and mechanisms are not fully understood.

Objective

To explore whether routine primary care data can supplement clinical trial data in evaluating the impact of comorbidities and prescription medications on patient outcomes.

Approach

The CHHiP radiotherapy trial (CRUK/06/16) recruited 3,216 prostate cancer patients from 71 centres in UK, Ireland, Switzerland, and New Zealand between 2002 and 2011. Baseline comorbidity and radiotherapy-related side-effects over time were recorded. This was linked to computerised medical records (CMRs) from the Royal College of General Practitioners (RCGP) Research and Surveillance Centre (RSC) database. RCGP RSC is a network of 192 English general practices with over 2 million patients (2.8% of the population).

Results

The English population of CHHiP patients (N=2811) was used. 120 CMRs were linked, which exceeded the estimation of 79 linked records. However, six CMRs showed no evidence of regular GP care and a further eight patients were not recruited into the CHHiP trial until after they had de-registered from an RCGP RSC practice.

Information on cardiovascular and diabetes comorbidities was extracted for 106 patients. The mean age was 69±7 years, representative of the CHHiP population. From the CMRs, 23

(22%) patients had diabetes and 47 (44%) had hypertension including 37 (35%) who took angiotensin converting enzyme (ACE) inhibitors (medications lowering blood pressure). In addition, 44 (41%) patients took aspirin, 65 (61%) statins (lowering blood lipids) and 14 (13%) took metformin (lowering blood sugar levels).

Conclusion/Implications

The small sample limits statistical analysis. However, a clinical trial was successfully linked to GP data to determine comorbidities and medications of patients. This will serve as a pilot for further research. The advantage of data linkage is that it may provide a mechanism for long-term follow-up of radiotherapy-related side-effects.

