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Tumour necrosis factor-alpha (TNF-alpha) antagonists for acute exacerbations of chronic obstructive pulmonary disease (COPD)

Submission date 13/01/2010	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 19/01/2010	**Overall study status** Completed	
Last Edited 20/02/2019	**Condition category** Respiratory	

Plain English Summary
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number
NCT00789997

Secondary identifying numbers

2007791-01H; MCT-90167

Study information

Scientific Title
Tumour necrosis factor-alpha (TNF-alpha) antagonists for acute exacerbations of chronic obstructive pulmonary disease (COPD): a randomised, double-blind, placebo-controlled pilot trial

Study hypothesis
The purpose of this study is to determine whether treatment with antibiotics plus a tumour necrosis factor-alpha (TNF-alpha) antagonist will provide more effective treatment for acute chronic obstructive pulmonary disease (COPD) exacerbation compared to the current standard treatment of antibiotics plus prednisone.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ottawa Hospital Research Ethics Board, 08/05/2008, ref: 2007791-01H. All other centres will seek ethics approval before recruiting participants.

Study design
Multicentre placebo-controlled randomised trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

Condition
Chronic obstructive pulmonary disease (COPD)

Interventions
Arm: Etanercept
Drug: Etanercept and levofloxacin
Levofloxacin 750 mg daily for 10 days and etanercept 50 mg subcutaneous given on the day of randomisation and one week later and placebo prednisone capsule, 1 daily for 10 days.

Arm: Prednisone
Drug: Prednisone and levofloxacin
Levofloxacin 750 mg daily for 10 days and prednisone 40 mg daily for 10 days and placebo subcutaneous injections given on day of randomisation and one week later.

Total duration of treatment: 10 days
Total duration of follow-up: 90 days

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Etanercept, levofloxacin, prednisone

Primary outcome measure
Change in lung function (FEV1) from day 0 to day 14

Secondary outcome measures
1. Time to treatment failure assessed within a 90 day period
2. Disease specific quality of life, measured at day 0, day 14, day 90
3. Improvement in subjective dyspnoea score, measured at day 0, day 14, day 90
4. Safety: incidence of short- and long-term adverse events from day 0 to day 90

Overall study start date
01/11/2008

Overall study end date
01/01/2011

Eligibility

Participant inclusion criteria
Both inpatients and outpatients with acute COPD exacerbation will be selected for randomisation. Patients will be considered to fulfill the diagnosis of AECOPD if they meet the following five criteria:
1. Patients must have had a previous diagnosis of chronic bronchitis, emphysema or COPD established by a physician
2. Patients must have evidence of airflow obstruction on presentation, defined as a forced expiratory volume in one second (FEV1) equal to or less than 70% of predicted and a FEV1 /forced vital capacity (FVC) ratio less 70%
3. Patients must be greater than 35 years old, either sex
4. Patients must have a minimum history of 10 pack years smoking
5. Patients must be experiencing an acute exacerbation of COPD and must meet at least two of the following three clinical criteria for acute COPD exacerbation as defined by Anthonisen:
5.1. Increased chronic baseline dyspnoea

5.2. Increased sputum volume
5.3. Increased sputum purulence
The above complaints had to have necessitated the emergency department or physician visit.

Participant type(s)
Patient

Age group
Adult

Sex
Both

Target number of participants
80

Participant exclusion criteria
1. Respiratory failure necessitating admission to an intensive care unit or necessitating use of mechanical invasive or non-invasive (bilevel positive airway pressure [BIPAP]) mechanical ventilation
2. Physician diagnosed asthma
3. Any patient who has used oral or injectable corticosteroids during the month preceding trial entry will be excluded, except for patients who have received a single dose of oral or injectable steroids (up to the equivalent of 125 mg of methylprednisolone) in the emergency department prior to randomisation. (Note that standard clinical practice in emergency departments is to treat these patients with oral or intravenous steroids on presentation to the ED. Since it will be functionally impossible to randomise patients prior to initial ED treatment we will allow randomisation of patients who have been given a single dose of steroid in the ED.)
4. History of chronic lung disease other than COPD. Patients with a history of bronchiectasis, cystic fibrosis, lung cancer and interstitial lung disease.
5. Pneumonia or congestive heart failure or suspected malignancy on chest x-ray (CXR) prior to randomisation
6. Patients with a history of infection, or suspected current infection, with mycobacteria tuberculosis, non-tuberculous mycobacteria, or fungal infection
7. Patients not able to perform an FEV1 assessment
8. Patients with known adverse reaction or intolerance to systemic steroids or TNF-alpha antagonists
9. Patients with a history of multiple sclerosis or demyelinating disease (etanercept is contraindicated in these patients)
10. Inability to provide informed consent or comply with the study protocol due to cognitive impairment, language barrier, or distance greater than 100 kilometres from the study centre
11. Patients with a history of human immunodeficiency virus (HIV) or other immuno-compromising diseases
12. Patients with a known malignancy within the past 5 years (except for squamous or basal cell carcinoma of the skin that was treated with no evidence of recurrence)
13. Patients who have serum white blood cell (WBC) count less than 3,000 or platelet count less than 100,000 at time of randomisation
14. Patients who are pregnant or nursing will be excluded. Females of child-bearing age will be required to have a negative serum or urine pregnancy test before randomisation.

15. Patients with suspected sepsis, i.e., those with temperature greater than 38.5°C or serum WBC greater than 20,000 will be excluded
16. Patients who have a history or active infection with viral hepatitis B or hepatitis C

Recruitment start date
01/11/2008

Recruitment end date
01/01/2011

Locations

Countries of recruitment
Canada

Study participating centre
Ottawa Hospital
Ottawa
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Sponsor information

Organisation
Ottawa Hospital Research Institute (OHRI) (Canada)

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Sponsor type
Hospital/treatment centre

Website
http://www.ohri.ca/

ROR
https://ror.org/03c62dg59

Funder(s)

Funder type
Research organisation

Funder Name
Canadian Institutes of Health Research (CIHR) (Canada) - http://www.cihr-irsc.gc.ca (ref: MCT-90167)

Alternative Name(s)
Instituts de Recherche en Santé du Canada, Canadian Institutes of Health Research (CIHR), CIHR_IRSC, Canadian Institutes of Health Research | Ottawa ON, CIHR, IRSC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Canada

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/02/2013	20/02/2019	Yes	No