ISRCTN83586728 https://doi.org/10.1186/ISRCTN83586728

Cost-effective use of BISphosphonates in metastatic bone disease - a comparison of bone MARKer directed zoledronic acid therapy to a standard schedule

Submission date 20/05/2005	**Recruitment status** Stopped	[X] Prospectively registered [_] Protocol
Registration date 13/07/2005	**Overall study status** Stopped	[_] Statistical analysis plan [X] Results
Last Edited 19/03/2020	**Condition category** Cancer	[_] Individual participant data [_] Record updated in last year

Plain English summary of protocol
http://cancerhelp.cancerresearchuk.org/trials/a-trial-looking-at-zoledronic-acid-for-breast-cancer-that-has-spread-to-the-bones2

Contact information

Type(s)
Scientific

Contact name
Prof Robert E Coleman

ORCID ID
https://orcid.org/0000-0002-4275-1043

Contact details
Cancer Research Centre
Academic Unit of Clinical Oncology
Weston Park Hospital
Whitham Road
Sheffield
United Kingdom
S10 2SJ

Additional identifiers

Clinical Trials Information System (CTIS)
2005-001376-12

ClinicalTrials.gov (NCT)
NCT00458796

Protocol serial number
BISMARK 2005

Study information

Scientific Title
Cost-effective use of BISphosphonates in metastatic bone disease - a comparison of bone MARKer directed zoledronic acid therapy to a standard schedule

Acronym
BISMARK

Study objectives
It is the aim of this trial to determine whether a bone marker directed schedule of bisphosphonate therapy is comparable with a fixed 3-4 weekly strategy in preventing skeletal related events and maintaining quality of life.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Not provided at time of registration.

Study design
Randomised controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Advanced breast cancer

Interventions
Standard schedule of zoledronic acid (4-weekly) versus marker-directed schedule of zoledronic acid (4, 8 or 16-weekly - variable - dependent on urinary Ntx/creatinine ratio measured every 4 months)

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Zoledronic acid

Primary outcome(s)
Frequency and timing of all skeletal related events (SREs), defined as fractures, radiotherapy to bone, hypercalcaemia of malignancy, orthopaedic surgery and spinal cord compression.

Key secondary outcome(s))
1. Quality of life
2. Clinical burden of skeletal complications
3. Pain, performance status and analgesic use (PPA score)
4. The incidence of new bone metastases
5. Overall survival
6. Bisphosphonate use and expenditure on administration

Sub-studies in a sub-set of the study population will compare:
1. Health care utilisation
2. Evaluation of the clinical utility of the 'point of care' test for NTX excretion
3. Changes in serum markers of bone metabolism

Completion date
30/09/2013

Reason abandoned (if study stopped)
Participant recruitment issue

Eligibility

Key inclusion criteria
1. Patients with advanced breast cancer with radiographic confirmation of bone metastases
2. Men or women aged ≥18 years
3. World Health Organisation (WHO) (Eastern Cooperative Oncology Group [ECOG]) performance status 0-2
4. Women of child-bearing potential must be using a reliable and appropriate method of contraception
5. Ability to read and complete the European Organisation for Research and Treatment of Cancer (EORTC) and pain quality of life (QoL) questionnaires

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Bisphosphonate treatment within the 4 weeks prior to planned first study treatment
2. Abnormal renal function as evidenced by a calculated creatinine clearance <30 ml/minute
3. Poor venous access
4. Metabolic bone disease (e.g. Paget's disease of bone)
5. Unable to comply with study procedures, especially the reliable collection of urine samples for bone resorption marker measurements
6. Estimated life expectancy of <6 months
7. Treatment with systemic bone seeking radioisotopes (e.g. strontium, samarium) within the 3 months prior to study entry
8. Wide field (hemi-body) radiotherapy within the 3 months prior to study entry
9. Concomitant medication with drugs known to affect bone metabolism
10. Pregnancy or breast-feeding
11. Current active dental problems including infection of the teeth or jawbone (maxilla or mandibular), or a current or prior diagnosis of osteonecrosis of the jaw (ONJ)
12. Recent (within 4 weeks of study entry) or planned dental or jaw surgery (e.g. extractions, implants)

Date of first enrolment
01/09/2005

Date of final enrolment
30/09/2013

Locations

Countries of recruitment
United Kingdom

England

Scotland

Study participating centre
Weston Park Hospital
Sheffield
United Kingdom
S10 2SJ

Study participating centre
Clinical Trials Research Unit
University of Leeds

Leeds
United Kingdom
LS2 9JT

Study participating centre
St Lukes Cancer Centre at the Royal Surrey
Guildford
United Kingdom
GU2 7XX

Study participating centre
Shrewsbury and Telford Hospital NHS Trust
Shrewsbury
United Kingdom
SY3 8XQ

Study participating centre
Western General Hospital
Edinburgh
United Kingdom
EH4 2XU

Study participating centre
Cancer Research UK Oncology Unit
Southampton General Hospital
Southampton
United Kingdom
SO16 6YD

Sponsor information

Organisation
University of Sheffield (UK)

ROR
https://ror.org/05krs5044

Funder(s)

Funder type
Other

Funder Name
Clinical Trials Advisory and Awards Committee (CTAAC)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Abstract results	results	20/05/2012		No	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Plain English results				No	Yes