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Dutch National Study to the palliative effect of irradiation comparing two different treatment schemes in Non-Small-Cell-Lung-Cancer (NSCLC)

Submission date
20/12/2005

Recruitment status
No longer recruiting

Registration date
20/12/2005

Overall study status
Completed

Last Edited
23/10/2007

Condition category
Cancer

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Study information

Scientific Title

Acronym
0G98/009 LUNGTRIAL

Study objectives
The treatment of Non-Small-Cell-Lung-Cancer (NSCLC) is still a challenge for the oncologist. In the last decade combined modality treatment in stage III and chemotherapy in stage IV improved the survival and quality of life (QOL) in NSCLC patients. Unfortunately a vast majority of patients will not be fit enough to undergo these intensive treatments, and those who underwent chemotherapy as palliative treatment may eventually still suffer from loco-regional complaints.

In general, hemoptysis, chest pain, dysphagia, and dyspnoea can all be effectively palliated with acceptable toxicity with all kinds of different radiation treatment schemes. The effectiveness of these different treatment schemes however varies for each different symptom and is most effective for hemoptysis and chest pain in patients with an Eastern Cooperative Oncology Group (ECOG) grade status of 2 - 3. Which dose should be given is still controversial.

In the first Medical Research Council (MRC) trial reported in 1991 no differences in palliative effect and in survival were seen between 13 x 3 Gy and 2 x 8.5 Gy. In a second MRC study in 1992 for poor prognostic patients only, no differences in palliation or survival were seen between 10 Gy single dose and 2 x 8.5 Gy. However in a study by Bezjak et al. a difference in survival between 20 Gy in 5 fractions and a 10 Gy single dose was demonstrated in favour of the multi-fractionation treatment. In a group-analysis, however, this survival advantage was not seen in patients with an ECOG score of 2 or more. Later data suggested a survival advantage of 13 x 3 Gy over 2 x 8.5 Gy in patients with good performance status.

For patients in a bad general condition it still has to be proven whether 2 x 8.5 Gy is equally effective as 10 x 3 Gy. Based on these findings radiation oncologists in the Netherlands could not reach consensus on the appropriate fractionation schedule for palliative irradiation of bad prognosis NSCLC patients. The presented study therefore was focused on patients with bad general condition and/or significant weight loss with stage III NSCLC or stage IV patients, not suitable for chemotherapy, comparing 10 x 3 Gy with 2 x 8 Gy.

Purpose:
This multicentre randomised National Study compared the efficacy of 2 x 8 Gy versus our standard 10 x 3 Gy in patients with inoperable stage IIIA/B (with ECOG score 2 - 4 and/or substantial weight loss) and stage IV Non-Small-Cell Lung Cancer (NSCLC).

Hypothesis:
We expected both treatment arms to have an equal outcome for palliation as for prognosis, because of the above-mentioned results of the MRC studies.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics approval received from the local medical ethics committee

Study design
Multicentre, randomsied, active controlled, parallel group trial.

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Non Small Cell Lung Cancer (NSCLC)

Interventions
Patients were randomised, without stratification, either to the multiple fractionation scheme of 10 x 3 Gy, 4 - 5 times a week, or the hypo fractionation scheme of 2 x 8 Gy, given at day 1 and day 8.

Irradiation was given with two opposing anterior-posterior fields with 6 - 18 MV photon beams. The treatment portals encompassed the tumour with a margin of 1.5 - 2 cm including adjacent pathological lymph nodes. No limitations were set for the Target Volume. Dose calculation was not corrected for tissue inhomogeneities. Co-medication, including corticosteroids and analgetics, and extra oxygen supply were allowed and registered.

Intervention Type
Other

Phase
Not Specified

Primary outcome(s)
Palliation of thoracic symptoms measured over 52 weeks after randomisation. A maximum of 33 questionnaires per patient would be sent in case follow-up could be completed. The first questionnaire was given before randomisation, the last questionnaire in the 52nd week after randomisation. Data about effectiveness of the treatment and QOL were based on the Rotterdam Symptom Checklist. Seven symptoms could be scored each on a four point validated scale from 1 (no complaints) to 4 (severe complaints). The baseline total symptom score had to be 8 indicating that the patient had at least one tumour related complaint. The maximum total symptom score could be 28 indicating the patient had all seven complaints in the worst degree. After response the lowest total symptom score could be 7, having no complaints at all. Palliation was defined as a average total score below the baseline score.

Key secondary outcome(s))
1. Toxicity, Quality of Life (QOL), and survival
2. Quality of life was measured using the EuroQol classification system (EQ-5D), consisting of five questions on mobility, self-care, usual activities, pain/discomfort, and anxiety/depression
3. In addition, information about acute toxicity as nausea, vomiting, and radiation oesophagitis induced dysphagia was collected, based on the of the National Cancer Institute of Canada Expanded Clinical Trials Group (NCIC CTG) Common Toxicity Criteria
4. Patients were also asked to provide information about costs. Together with quality of life data, these data will be published separately in a cost-utility analysis
5. Follow up after 52 weeks was continued by the data manager, who made 3-monthly inquiries after survival of the patient

Completion date
31/05/2002

Eligibility

Key inclusion criteria
1. Diagnosis of NSCLC had to be cytologically or histologically confirmed
2. Tumour stage was IIIA or IIIB in combination with performance status 3 4 and/or a weight loss of more than 5% in 3 months or greater than 10% in 6 months prior to diagnosis
3. Stage IV NSCLC, not suitable for chemotherapeutic treatment
4. A minimum total symptom score of 8, indicating a score greater than 1 for at least one of the following complaints caused by the tumour itself:
4.1. Loss of appetite
4.2. Dyspnoea
4.3. Chest pain
4.4. Coughing
4.5. Hemoptysis
4.6. Hoarseness and/or dysphagia
5. Physically and mentally fit enough to participate in the study

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Not Specified

Sex
Not Specified

Key exclusion criteria
1. Superior Vena Cava Syndrome (SVCS) at presentation
2. Prior radiotherapy to the chest and/or other malignant diseases in the past
3. Concurrent chemotherapy

Date of first enrolment
01/01/1999

Date of final enrolment
31/05/2002

Locations

Countries of recruitment
Netherlands

Study participating centre
Arnhems Radiotherapeutisch Instituut,
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Sponsor information

Organisation
Arnhems Radiotherapeutic Institute (ARTI) (The Netherlands)

ROR
https://ror.org/048338z54

Funder(s)

Funder type
Industry

Funder Name
The Dutch Health Care Insurance Board (CVZ) (The Netherlands)

Results and Publications

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	01/05/2005		Yes	No