False positives of an intensive postoperative follow-up for non-small cell lung cancer (NSCLC)

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ABSTRACT

In the absence of randomized data, recommendations for the follow-up after surgery of NSCLC are history and physical examination (ASCO), plus chest x-ray (IASLC)1,2. A prospective study of an intensive follow-up showed that survival of asymptomatic recurrences detected by this follow-up was significantly better than that of symptomatic recurrences3. Of these data, the ASCO guideline concluded that “a large randomized controlled trial would be necessary to answer this question”. Such a trial began in France in Jan. 2005 but more than 5 years should be awaited before results are available. Meanwhile, to further evaluate this intensive follow-up, we retrospectively analyzed false recurrences or 2nd cancers in the population of the published study with regards to: frequency of false positives, initiating procedures, sites, delays between surgery and false-positive detection, additional procedures and duration of suspicion.

INTRODUCTION – OBJECTIVES

Because there are no randomized results, the interest of follow-up after surgery for NSCLC is still debated. An intensive follow-up program including clinic visits and chest x-ray (ASCO), plus chest x-ray (IASLC)1,2. A prospective study of an intensive follow-up showed that survival of asymptomatic recurrences detected by this follow-up was significantly better than that of symptomatic recurrences3. Of these data, the ASCO guideline concluded that “a large randomized controlled trial would be necessary to answer this question”. Such a trial began in France in Jan. 2005 but more than 5 years should be awaited before results are available. Meanwhile, to further evaluate this intensive follow-up, we retrospectively analyzed false recurrences or 2nd cancers in the population of the published study with regards to: frequency of false positives, initiating procedures, sites, delays between surgery and false-positive detection, additional procedures and duration of suspicion.

METHODS

Inclusion criteria

The main eligibility criteria of the prospective study were:
- NSCLC completely resected between Jan. 1980 and Dec. 1993,
- Stage I-IIIA (+ operable IIIb/T4), and stage IV with isolated synchronous completely resected brain metastasis,
- No prior cancer in the 5 yr before the operation (except for basal cell carcinoma of the skin or cancer in situ of the uterine cervix).

Follow-up

Table 1. The intensive follow-up program

<table>
<thead>
<tr>
<th>Study Population</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>n = 192 (%)</td>
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<tr>
<td>Squamous cell / Adenocarcinoma / Large cell</td>
<td>146 (76) / 43 (22) / 4 (2)</td>
</tr>
<tr>
<td>Stage pIII / IIla</td>
<td>122 (63) / 57 (30)</td>
</tr>
<tr>
<td>Stage pIIIb / pIV</td>
<td>9 (5) / 4 (2)</td>
</tr>
<tr>
<td>Pneumonectomy</td>
<td>113 (59)</td>
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<tr>
<td>Postoperative radiotherapy</td>
<td>35 (18)</td>
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False positives

False positives were defined as a result of any procedure considered as “suspicious” of recurrence or 2nd cancer that did not result in a diagnosis of cancer within the following 2 years.

RESULTS

Frequency: 41 false positives were observed in 36 patients (18.7%).

The initiating procedure was one of the planned procedures in 26/41 cases. Patients were asymptomatic at the time of false-positive detection in 15 cases. One or two procedures detected the suspicious abnormality as follows: clinic visit (23 cases), fiberoptic bronchoscopy (8), chest x-ray (6), chest CT scan (4), and biological test (1) (Figure 1).

Sites of false positives were: thorax (23 cases), bone (8), abdomen (7), brain (6), ENT (2).

Median time between surgery and the false-positive detection was: 17 months (13 days – 13 yr).

Number of additional procedures: 0 in 1 pt, 1 in 9 pts, 2 in 10 pts, 3 to 5 in 11 pts, >5 in 5 pts.

Duration of suspicion: <3 months in 31 cases (median = 45 days; range = 1 day – 22 months). 14/41 false positives were detected after 1988.

Patient characteristics did not differ between patients with a false positive and those without.

CONCLUSIONS

Although false positives were frequent, they were in most cases of short duration and became less frequent over time, probably due to technical improvements of imaging procedures. Moreover, only the few false positives detected in asymptomatic patients can be surely attributed to the follow-up program. These results are consistent with those of a retrospective study on follow-up CT scans, which showed that suspicious abnormalities are infrequent on surveillance CT scans4. Indeed most false positives were not due to the intensive part (chest CT scan and bronchoscopy) of the follow-up, but to clinic visits. Evaluation of the psychological impact of these false positives will be integrated in the large randomized study comparing intensive follow-up to history, physical examination and chest x-ray (IFCT 0302) which began in December 2004 in France.

REFERENCES: