Management of Stage I – III NSCLC

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MD Anderson Hematology/Oncology Board Review September, 2015

References

- 1. Spira A & Ettinger DS. Multidisciplinary management of lung cancer. New Engl J Med 350: 379-392, 2004.
- Shulman L & Ost D. Advances in bronchoscopic diagnosis of lung cancer. Curr Opin Pulm Med 13: 271-277, 2007.
- 3. Goldstraw P, Crowley J, Chansky K, et al. The IASLC Lung Cancer Staging Project: proposals for the revision of the TNM stage groupings in the forthcoming (seventh) edition of the TNM Classification of malignant tumors. J Thorac Oncol 2: 706-714, 2007.
- 4. Little AG, Rusch VW, Bonner JA, et al. Patterns of surgical care of lung cancer patients. Ann Thorac Oncol 80: 2051-2056, 2005.
- 5. Grills IS, Mangona VS, Welsh R, et al. Outcomes after stereotactic lung radiotherapy or wedge resection. J Clin Oncol 28: 928-935, 2009.
- 6. Chang JY, Senan S, Paul MA, et al. Stereotactic ablative radiotherapy versus lobectomy for operable stage I non-small-cell lung cancer: a pooled analysis of two randomized trials. Lancet Oncol: 16: 630-637, 2015.
- 7. International Adjuvant Lung Cancer Trial Collaborative Group. Cisplatin-based adjuvant chemotherapy in patients with completely resected non-small-cell lung cancer. N Engl J Med 350: 351-360, 2004.
- 8. Winton T, Livingston R, Johnson D, et al. Vinorelbine plus cisplatin vs. observation in resected non-small-cell lung cancer. N Engl J Med 352: 2589-2597, 2005.
- 9. Douillard JY, Rosell R, De Lena M, et al. Adjuvant vinorelbine plus cisplatin versus observation in patients with completely resected stage IB-IIIA non-small-cell lung cancer (Adjuvant Navelbine International Trialist Association [ANITA]): a randomized controlled trial. Lancet Oncol 7: 719-727, 2006.
- 10. Strauss GM, Herndon JE 2nd, Maddaus MA, et al. Adjuvant paclitaxel plus carboplatin compared with observation in stage IB non-small cell lung cancer: CALGB 9633 with the Cancer and Leukemia Group B, Radiation Therapy Oncology Group, and North Central Cancer Treatment Group study groups. J Clin Oncol 26: 5043-5051, 2008.
- 11. Butts CA, Ding K, Seymour L. et al. Randomized phase III trial of vinorelbine plus cisplatin compared with observation in completely resected stage IB and II non-small-cell lung cancer: updated survival analysis of JBR-10. J Clin Oncol 28: 29-34, 2010.
- 12. Felip E, Rosell R, Maestre JA, et al. Preoperative chemotherapy plus surgery versus surgery plus adjuvant chemotherapy versus surgery alone in early-stage non-small-cell lung cancer. J Clin Oncol 28: 3138-3145, 2010.
- 13. Scagliotti G, Pastorino U, Vansteenkiste JF, et al. Randomized phase III study of surgery alone or surgery plus preoperative cisplatin and gemcitabine in stages IB to IIIA non-small-cell lung cancer. J Clin Oncol 30: 172-178, 2012.
- Pepe C, Hasan B, Winton TL, et al. Adjuvant vinorelbine and cisplatin in elderly patients: National Cancer Institute of Canada and Intergroup Study JBR.10. J Clin Oncol 25: 1553-1561, 2007.
- 15. Olaussen KA, Dunant A, Fouret P, et al. DNA repair by ERCC1 in non-small-cell lung cancer and cisplatin-based adjuvant chemotherapy. New Engl J Med 355: 983-991, 2006.

- Kratz JR, He J, Van Den Eeden SK, et al. A practical molecular assay to predict survival in resected non-squamous, non-small-cell lung cancer: development and international validation studies. Lancet 379: 823-832, 2012.
- Goss GD, O'Callaghan C, Lorimer I, et al. Gefitinib versus placebo in completely resected non-small-cell lung cancer: results of the NCIC CTG BR19 study. J Clin Oncol 31: 3320-3326, 2013.
- 18. Kelly K, Altorki NK, Eberhardt WEE, et al. A randomized, double-blind phase 3 trial of adjuvant erlotinib (E) versus placebo following complete tumor resection with or without adjuvant chemotherapy in patients (pts) with stage IB-IIIA EGFR positive (IHC/FISH) nonsmall cell lung cancer (NSCLC): RADIANT results. J Clin Oncol 32: suppl, A#7501, 2014.
- 19. O'Brien MER, Kelly K, Altorki NK, et al. Final follow-up (f/u) results from RADIANT: A randomized double blind phase 3 trial of adjuvant erlotinib (E) versus placebo (P) following complete tumor resection in patients (pts) with stage IB-IIIA EGFR positive (IHC/FISH) non-small cell lung cancer (NSCLC). J Clin Oncol 33: suppl, A#7540, 2015.
- 20. https://clinicaltrials.gov/ct2/show/NCT00324805, accessed 8/13/15
- 21. https://clinicaltrials.gov/ct2/show/NCT02194738, accessed 8/13/15
- 22. PORT Meta-analysis Trialists Group. Postoperative radiotherapy in non-small-cell lung cancer: Systematic review and meta-analysis of individual patient data from nine randomized controlled trials. Lancet 352: 257-263, 1998.
- 23. Lally BE, Zelterman D, Colasanto JM, et al. Postoperative radiotherapy for stage II or III non-small-cell lung cancer using the surveillance, epidemiology, and end results database. J Clin Oncol 24: 2998-3006, 2006.
- 24. Andre F, Grunenwald D, Pignon J-P, et al. Survival of patients with resected N2 non-small-cell lung cancer (NSCLC): Evidence for a subclassification and implications. J Clin Oncol 18: 2981-2989, 2000.
- 25. Rosell R, Gomez-Codina J, Camps C, et al. A randomized trial comparing preoperative chemotherapy plus surgery with surgery alone in patients with non-small-cell lung cancer. New Engl J Med 330: 153-158, 1994.
- 26. Roth JA, Fossella F, Komaki R, et al. A randomized trial comparing perioperative chemotherapy and surgery with surgery alone in resectable stage IIIA non-small-cell lung cancer. J Natl Cancer Inst 86: 673-680, 1994.
- Albain KS, Rusch VW, Crowley JJ, et al. Concurrent cisplatin/etoposide plus chest radiotherapy followed by surgery for stages IIIA (N2) and IIIB non-small-cell lung cancer: mature results of Southwest Oncology Group phase II study 8805. J Clin Oncol 13: 1880-1892, 1995.
- Betticher DC, Schmitz H, Totsch M, et al. Mediastinal lymph node clearance after docetaxelcisplatin neoadjuvant chemotherapy is prognostic of survival in patients with stage IIIA pN2 non-small cell lung cancer: a multicenter phase II trial. J Clin Oncol 21: 1752-1759, 2003.
- 29. Albain KS, Swann RS, Rusch VW, et al. Radiotherapy plus chemotherapy with or without surgical resection for stage III non-small-cell lung cancer: a phase III randomised controlled trial. Lancet 374: 379-386, 2009.
- 30. Furuse K, Fukuoka M, Kawahara M, et al. Phase III study of concurrent versus sequential thoracic radiotherapy in combination with mitomycin, vindesine, and cisplatin in unresectable stage III non-small-cell lung cancer. J Clin Oncol 17: 2692-2699, 1999.
- 31. Curran WJ Jr, Paulus R, Langer CJ, et al. Sequential vs. concurrent chemoradiation for stage III non-small cell lung cancer: randomized phase III trial RTOG 9410. J Natl Cancer Inst 103: 1452-1460. 2011.
- 32. Vokes EE, Herndon JE 2nd, Kelley MJ, et al. Induction chemotherapy followed by chemoradiotherapy compared with chemoradiotherapy alone for regionally advanced unresectable stage III non-small-cell lung cancer: Cancer and Leukemia Group B. J Clin Oncol 25: 1698-1704, 2007.
- 33. Gandara DR, Chansky K, Albain KS, et al. Consolidation docetaxel after concurrent chemoradiotherapy in stage IIIB non-small-cell lung cancer: phase II Southwest Oncology Group Study S9504. J Clin Oncol 21: 2004-2010, 2003.

- 34. Hanna N, Neubauer M, Yiannoutsos C, et al. Phase III study of cisplatin, etoposide, and concurrent chest radiation with or without consolidation docetaxel in patients with inoperable stage III non-small-cell lung cancer: the Hoosier Oncology Group and U.S. Oncology. J Clin Oncol 26: 5755-5760, 2008.
- 35. Kelly K, Chansky K, Gaspar LE, et al. Phase III trial of maintenance gefitinib or placebo after concurrent chemoradiotherapy and docetaxel consolidation in inoperable stage III non-small-cell lung cancer: SWOG S0023. J Clin Oncol 26: 2450-2456, 2008.
- 36. Santana-Davila R, Devisetty K, Szabo A, et al. Cisplatin and etoposide versus carboplatin and paclitaxel with concurrent radiotherapy for stage III non-small-cell lung cancer: an analysis of Veterans Health Administration data. J Clin Oncol 33: 567-574, 2015
- 37. Senan S, Brade AM, Wang L, et al. Final overall survival (OS) results of the phase III PROCLAIM trial: pemetrexed (Pem), cisplatin (Cis) or etoposide (Eto), Cis plus radiation therapy (TRT) followed by consolidation cytotoxic chemotherapy (CTX) in locally advanced nonsquamous non-small cell lung cancer (nsNSCLC). J Clin Oncol 33: suppl, A#7506, 2015.
- 38. Spigel DR, Hainsworth JD, Yardley DA, et al. Tracheoesophageal fistula formation in patients with lung cancer treated with chemoradiation and bevacizumab. J Clin Oncol 28: 43-48, 2010.
- 39. Bradley JD, Paulus R, Komaki R, et al. Standard-dose versus high-dose conformal radiotherapy with concurrent and consolidation carboplatin plus paclitaxel with or without cetuximab for patients with stage IIIA or IIIB non-small-cell lung cancer (RTOG 0617): a randomized, two-by-two factorial phase 3 study. Lancet Oncol 16: 187-199, 2015.
- 40. Li N, Zeng Z-F, Wang S-Y, et al. Randomized phase III trial of prophylactic cranial irradiation versus observation in patients with fully resected stage IIIA-N2 nonsmall-cell lung cancer and high risk of cerebral metastases after adjuvant chemotherapy. Ann of Oncol 26: 504-509, 2015.
- 41. Wang S-Y, Li N, Ou W, et al. A randomized trial of prophylactic cranial irradiation versus observation in patients with resected stage IIIA N2 non-small cell lung cancer and high risk of cerebral metastases after adjuvant chemotherapy. J Clin Oncol 32: suppl, A#7508, 2014.