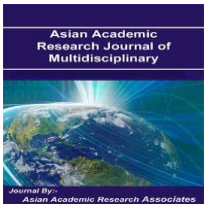
AARJMD VOLUME 3 ISSUE 3 (MARCH 2016) ISSN : 2319 - 2801

A Peer Reviewed International Journal of Asian Academic Research Associates

AARJMD

ASIAN ACADEMIC RESEARCH JOURNAL OF MULTIDISCIPLINARY



PRETREATMENT PREDICTORS OF SURVIVAL FOR MALIGNANT PLEURAL MESOTHELIOMA

HALA AZIZ SHOKRALLA[1]; RABAB M GAAFAR[2]; MOHAMED M RAHOUMA[3]

[1](corresponding author), Lecturer Of Medical Oncology, National Cancer Institute-Egypt.
[2]Professor Of Medical Oncology, National Cancer Institute-Egypt.
[3]Assistant lecturer of surgical oncology, National Cancer Institute-Egypt.

Abstract:

Introduction: Although worldwide use of asbestos has decreased, the incidence of malignant pleural mesothelioma (MPM) is expected to increase over the next few decades. Despite the advances in loco-regional and systemic treatments, the overall prognosis for MPM patients remains poor. A number of scoring systems have been proposed to assess clinic-pathological features and to predict the prognosis.

Objectives: Our study aims to evaluate pre treatment prognostic factors of MPM from a single Institution practice data. The Identification of valid prognostic factors is mandatory and can be relevant in order to select the best treatment strategy.

Materials and Methods: We retrospectively analyzed patients with locally advanced or metastatic MPM, treated at the Department of Medical Oncology –national cancer institute in Egypt. Data on age, gender, smoking history, asbestos exposure, performance status, tumor stage, histology, type of treatment (Raltitrexed-Bortezomib-Gemcitabine-Vinorelbine with platinum containing agents) and routine laboratory tests including complete blood count panel, date of death or censored status were collected. Progression free survival and overall survival were estimated using Kaplan-Meier method and Cox analysis was performed to analyze the prognostic relevance of clinical parameters.

Results: 114 patients had MPM. Sixty-six patients (57.8%) were men. The median age of patients was 45 years. Dyspnea and Chest pain were the most prevalent symptoms (91.2%, and 85.9%, respectively). Eighty-six (75.4%) patients reported asbestos exposure. The median overall survival (OS) and Progression free survival (PFS) were 17 months and 10 months, respectively. Performance status (PS), mediastinal lymph nodes, response to first line platinum containing therapy, pre-treatment Hemoglobin (HB); total leucocytic counts (TLC), neutrophils/lymphocytes ratio (NLR) and body weight loss were significant prognostic factors. Conversely, no significant correlation was found between age, histological types, reported exposure to asbestos or pre-treatment platelets counts.

Conclusions: Our results showed that anaemia ,leucocytosis, higher neutrophils/lymphocytes ratio and body weight loss might be considered a negative prognostic parameter in MPM patients and confirmed the prognostic role of performance status mediastinal lymph nodes and response to first line platinum containing chemotherapy.

References

1-Abakay A, Tanrikulu AC, Kaplan MA, Kucukoner M, Abakay O, SenH, et al. Clinical characteristics and treatment outcomes in 132 patients with malignant mesothelioma .Lung India. 2011 Oct-Dec; 28(4): 267–271.

2-Driscoll T, Nelson DI, Steenland K, Leigh J, Concha-Barrientos M, Fingerhut M, et al. The global burden of disease due to occupational carcinogens. Am J Ind Med 2005; 48(6): 419-31.

3- Park EK, Takahashi K, Hoshuyama T, Cheng TJ, Delgermaa V, Le GV, et al. Global magnitude of reported and unreported mesothelioma. Environ Health Perspect 2011(4); 119:514-8.doi:10.1289/ehp.1002845.

4- Murayama T, Takahashi K, Natori Y, Kurumatani N. Estimation of future mortality from pleural malignant mesothelioma in Japan based on an age-cohort model. Am J Ind Med 2006; 49: 1-7.

5-Montanaro F, Bray F, Gennaro V, Merler E, Tyczynski JE, Parkin DM, et al. Pleural mesothelioma incidence in Europe: evidence of some deceleration in the increasing trends. Cancer Causes Control 2003; 14(8): 791-803.

6-Tse LA, Yu IT, Goggins W, Clements M, Wang XR, Au JS, et al. Are current or future mesothelioma epidemics in Hong Kong the tragic legacy of uncontrolled use of asbestos in the past? Environ Health Perspect 2010; 118(3):382-6.

7- Hodgson JT, McElvenny DM, Darnton AJ, Price MJ and Peto J. The expected burden of mesothelioma mortality in Great Britain from 2002 to 2050. Br J Cancer
2005; 92(3):587–593.

8- Robinson BW, Musk AW, Lake RA. Malignant mesothelioma. Lancet 2005;366: 397-408.

9- Van Meerbeeck JP, Scherpereel A, Surmont VF and Baas P. Malignant pleural mesothelioma: the standard of care and challenges for future management. Crit Rev Oncol Hematol 2011;78(2):92-111.doi: 10.1016/j.critrevonc.2010.04.004. Epub 2010 May 13.

10-Vogelzang NJ, Rusthoven JJ, Symanowski J et al. Phase III study of pemetrexed incombination with cisplatin versus cisplatin alone in patients with malignant pleural mesothelioma. J Clin Oncol. 2003;21(14): 2636-44.

11-Montanaro F, Rosato R, Gangemi M, Roberti S, Ricceri F, Merler E, et al. Survival of pleural malignant mesothelioma in Italy: a population-based study. Int J Cancer. 2009;124(1):201-7.

12- Edwards JG, Abrams KR, Leverment JN, Spyt TJ, Waller DA and O'Byrne KJ. Prognostic factors for malignant mesothelioma in 142 patients: validation of CALGB and EORTC prognostic scoring systems. Thorax 2000; 55(9):731-5.

13- Steele JP, Rudd RM. Malignant mesothelioma: predictors of prognosis and clinical trials.Thorax 2000; 55:725-6.

14- Pass HI. Biomarkers and prognostic factors for mesothelioma. Ann Cardiothorac Surg. 2012;1(4):449-56.

15-van Meerbeeck JP, Gaafar R, Manegold C, Van Klaveren RJ, Van Marck EA, Vincent M,et al. Randomized phase III study of cisplatin with or without raltitrexed in patients with malignant pleural mesothelioma: an intergroup study of the European Organisation for Research and Treatment of Cancer Lung Cancer Group and the National Cancer Institute of Canada. J Clin Oncol. 2005 Oct 1;23(28):6881-9.

16-O'Brien ME, Gaafar RM, Popat S, Grossi F, Price A, Talbot DC,et al. Phase II study of first-line bortezomib and cisplatin in malignant pleural mesothelioma and prospective validation of progression free survival rate as a primary end-point for mesothelioma clinical trials (European Organisation for Research and Treatment of Cancer 08052). Eur J Cancer. 2013 Sep;49(13):2815-22.

17-Rusch VW. A proposed new international TNM staging system for malignant pleural mesothelioma. From the International Mesothelioma Interest Group. Chest. 1995;108(4):1122-8.

18-Byrne MJ and Nowak AK. Modified RECIST criteria for assessment of response in malignant pleural mesothelioma. Ann Oncol. 2004;15(2):257-60.
19-Najmi k, Khosravi A , Seifi S, Emami H , Chaibakhsh S , RadmandG,et al. Clinicopathologic and Survival Characteristics of Malignant Pleural
Mesothelioma Registered in Hospital Cancer Registry .Tanaffos 2014; 13(2): 6-12.
20-Mensi C, Sieno C, De Matteis S, Consonni D, Riboldi L, BertazziPA.Incidence of malignant mesothelioma and asbestos exposure in the Lombardy region, Italy 2000-2008. G Ital Med Lav Ergon 2011; 33 (3 Suppl): 96- 8.
21-Borasio P, Berruti A, Billé A, Lausi P, Levra MG, Giardino R, Ardissone F. Malignant pleural mesothelioma: clinicopathologic and survival characteristics in a consecutive series of 394 patients. Eur J Cardio thorac Surg 2008; 33 (2): 307- 13.
22-Harvey I. Pass. Biomarkers and prognostic factors for mesothelioma. Ann CardiothoracSurg 2012;1(4):449-456.
23-Francart J, Vaes E, Henrard S, Legrand C, Baas P, Gaafar R etal. A prognostic index for progression-free survival in malignant mesothelioma with application to the design of phase II trials: a combined analysis of 10 EORTC trials. Eur J Cancer. 2009 Sep;45(13):2304-11
24-A. Scherpereel, P. Astoul, P. Baas, T. Berghmans, H. Clayson, P. de Vuyst, et al .Guidelines of the European Respiratory Society and the European Society of Thoracic Surgeons for the management of malignant pleural mesothelioma. Eur
Respir J 2010; 35: 479–495.
25-Tomita M, Shimizu T, Hara M, Ayabe T, Onitsuka T, et al. Preoperative leukocytosis, anemia and thrombocytosis are associated with poor survival in non-small cell lung cancer. Anticancer Res.2009;29(7):2687-90.
26-Wan S, Lai Y, Myers RE, Li B, Palazzo JP, Burkart AL, et al. Post-diagnosis hemoglobin change associates with overall survival of multiple malignancies - results from a 14-year hospital-based cohort of lung, breast, colorectal, and liver cancers. BMC Cancer 2013 Jul 10; 13:340.
27- Caro JJ, Salas M, Ward A, Goss G, et al. Anemia as an independent prognostic factor for survival in patients with cancer: A systemic, quantitative review. Cancer 2001; 91:2214-2221.
28- Hoff CM, Hansen HS, Overgaard M, Grau C, Johansen J, Bentzen J, et al. The importance of haemoglobin level and effect of transfusion in HNSCC patients treated with radiotherapy–results from the randomized DAHANCA 5 study. Radiother Oncol 2011, 98(1):28–33.
29-Kao S, Pavlakis N , Harvie R , Vardy J , Boyer M , Zandwijk N , and ClarkeS.High Blood Neutrophil-to-Lymphocyte Ratio Is an Indicator of Poor Prognosis in Malignant Mesothelioma Patients Undergoing Systemic Therapy Clin Cancer Res; 16(23) December 1, 2010.
30- Kao SC, Vardy J, Chatfield M, Corte P, Pavlakis N, Clarke C, et al. Validation of prognostic factors in malignant pleural mesothelioma: a retrospective analysis of data from patients seeking compensation from the New South Wales Dust Diseases Board. Clin Lung Cancer. 2012;14(1): 70-71.