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- Liu H, Gu Z, Qiu B, et al. A recurrence predictive model for thymic tumors and its implication for postoperative management: a Chinese Alliance for Research in Thymomas Database study. *J Thorac Oncol.* 2020;15:448-456.
- Hamaji M, Ali SO, Burt BM. A meta-analysis of surgical versus nonsurgical management of recurrent thymoma. *Ann Thorac Surg.* 2014;98:748-755.
- Urgesi A, Monetti U, Rossi G, Ricardi U, Maggi G, Sannazzari GL. Aggressive treatment of intrathoracic recurrences of thymoma. *Radiother Oncol.* 1992;24:221-225.
- Kondo K, Monden Y. Therapy for thymic epithelial tumors: a clinical study of 1,320 patients from Japan. *Ann Thorac Surg.* 2003;76:878-884.

Coronavirus Disease 2019 or Lung Cancer: A Differential Diagnostic Experience and Management Model From Wuhan



To the Editor:

In the Journal of Thoracic Oncology, Tian et al.¹ reported one patient who died of coronavirus disease-2019 (COVID-19) after undergoing lung lobectomy for adenocarcinoma. Bonomi et al.² presented a patient with metastatic lung cancer who died rapidly after contracting COVID-19. Russano et al.³ believed that patients with tumors had a higher risk of lethal COVID-19 complications. This news seems foreboding for patients with cancer who also acquire COVID-19. Therefore, because of the dramatic COVID-19 outbreak, extreme caution is required to ensure COVID-19 is not misdiagnosed as lung cancer and to consider that COVID-19 can coexist in patients with lung cancer.

However, the high-resolution computed tomography (CT) findings of some patients with COVID-19 are dominated by ground-glass opacity-like changes, and these patients can even have only one localized lesion, with vacuoles, pleural traction, and invasion of pulmonary capillaries. These observations are also highly consistent with and are classic CT findings of lung cancer. Differentiating lung cancer from COVID-19 is a challenge in Wuhan, the epicenter of the outbreak currently on controlled levels of infection, and wherein the number of patients with early-stage lung cancer and

those with asymptomatic COVID-19 is increasing.^{4,5} This adds to the problem of identifying those with asymptomatic COVID-19. The doctors' concerns are twofold. First, patients with COVID-19 are being mistakenly treated for lung cancer, and these individuals could undergo an unnecessary operation. Second, patients with lung cancer with COVID-19 during the perioperative period can experience severe complications or nosocomial infection events.

We took the following measures to distinguish them. First, the patients admitted to the hospital were asked about their detailed medical history, including any contact history with patients having COVID-19 and whether they had had fever, cough, diarrhea, sore throat, or other symptoms in the past 2 weeks. After stating their medical history, the patients signed a declaration form consenting to disclose their medical history without any concealment; otherwise, they would bear the legal responsibility. Second, chest CT examination, routine blood parameters, blood IgG and IgM analyses, and nucleic acid examination of pharyngeal swab specimens were performed on the patients and their companions on hospital admission. Third, only those patient companions whose tests revealed negative results were allowed to accompany the patient, and only a minimum number of people were allowed to accompany the patients. If the patients were diagnosed as having suspected COVID-19 in the above examination, they were admitted to the ward for patients with suspected COVID-19 for further investigation. If the diagnosis was confirmed, the patients were transferred to the infected area for treatment. Fourth, newly admitted patients were placed in protective isolation in single rooms. After repeated body temperature monitoring, if there were no abnormalities, and if none of the symptoms mentioned above were present after 24 hours, the patient underwent a second pharyngeal swab for nucleic acid examination. If the test result was negative, the patient was transferred to the general ward for 2 to 3 days. Patient indicator information of COVID-19 was announced in the department medical staffs' WeChat group and was updated daily. Fifth, hospitalized patients wore masks at all times; visitors and discussions with other patients were strictly prohibited. Sixth, the department ward for suspected COVID-19 and the general ward were managed by

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different sets of staff, and the staff were strictly prohibited from changing wards. They also needed to follow strict protective measures among themselves, such as wearing a mask if two or more people slept in the same duty room. Seventh, patients going out for checks or eating were assigned a special route, and there was regular disinfection by professionals. Eighth, routine bronchoscopy was performed before lung surgery and nucleic acid examination was also performed along with an analysis of secretions from the lower respiratory tract. Ninth, after several days (generally 1–2 weeks) of examination and surgical preparation, patients with lung cancer and with no evidence of COVID-19 underwent a routine operation.

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References

1. Tian S, Hu W, Niu L, Liu H, Xu H, Xiao SY. Pulmonary pathology of early-phase 2019 novel coronavirus (COVID-19) pneumonia in two patients with lung cancer. *J Thorac Oncol*. 2020;15:700-704.
2. Bonomi L, Ghilardi L, Arnoldi E, Tondini CA, Bettini AC. A rapid fatal evolution of coronavirus disease-19 (COVID-19) in an advanced lung cancer patient with a long time response to nivolumab [e-pub ahead of print]. *J Thorac Oncol*. <https://doi.org/10.1016/j.jtho.2020.03.021>, accessed March 31, 2020.
3. Russano M, Citarella F, Vincenzi B, Tonini G, Santini D. COVID-19 or lung cancer: what should we treat [e-pub ahead of print]? *J Thorac Oncol*. <https://doi.org/10.1016/j.jtho.2020.04.001>, accessed April 10, 2020.
4. Ouyang W, Yu J, Zhang J, Xie C. Alert to potential contagiousness: a case of lung cancer with asymptomatic SARS-CoV-2 infection [e-pub ahead of print]. *J Thorac Oncol*. <https://doi.org/10.1016/j.jtho.2020.04.005>, accessed April 16, 2020.
5. Meng H, Xiong R, He R, et al. CT imaging and clinical course of asymptomatic cases with COVID-19 pneumonia at admission in Wuhan, China [e-pub ahead of print]. *J Infect*. <https://doi.org/10.1016/j.jinf.2020.04.004>, accessed April 12, 2020.

Lorlatinib Salvages Central Nervous System- Only Relapse on Entrectinib in ROS1-Positive NSCLC



To the Editor:

A 26-year-old social smoker presented with a 6-month history of persistent lumbar back pain. Magnetic resonance imaging (MRI) scan revealed an L2 lytic lesion, and vertebral biopsy confirmed TTF-1-positive ROS1-rearrangement-positive adenocarcinoma. Positron emission tomography-computed tomography scan identified widespread bony metastatic involvement, together with left hilar soft tissue thickening, left perihilar and paratracheal lymphadenopathy, and nodules along right pericardial pleura (Fig. 1A); he was, therefore, staged as stage IVc lung

adenocarcinoma (TxN2M1c) patient. He commenced crizotinib and completed four fractions of palliative radiotherapy after cementoplasty to L2. Three months later, he was referred to our service, where baseline MRI scan of the brain was performed, which identified 17 asymptomatic discrete brain metastases with a dominant lesion in the right postcentral gyrus (Fig. 1B). Computed tomography scan of the thorax and abdomen revealed an excellent partial response at all sites of the intrathoracic disease. The patient received a single fraction of CyberKnife radiosurgery for a total of 17 brain metastases and continued crizotinib 250 mg twice daily throughout this period with a performance status of 0 and an intra- and extracranial continued partial response (Fig. 1C). However, after 14 months of crizotinib treatment, MRI scan of the brain revealed asymptomatic nonmeasurable response evaluation criteria in solid tumors (RECIST)-defined progression in the left frontal cortex and right precentral gyrus metastases, with more than 40 new additional micrometastases. Extracranially, he continued to respond. The patient was switched to second-line entrectinib, with regular MRI brain evaluation, but with stable disease as best response. After 6 months, isolated intracranial, multifocal progressive disease with new measurable disease by RECIST criteria was identified on MRI with ongoing

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