**Supplementary file**

**Table S1 Summary analysis of clinical and literature cases.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study objects** | **Age/Gender/Nationality** | **Cancer types** | **Immune checkpoint inhibitors (ICIs)** | **Time lag (months) from ICI initiation to TB diagnosis** | **Regimens before ICI therapy** | **Application of other immunosuppressants** | **Diagnosis of TB** | **Treatment of TB** | **Whether to discontinue ICI therapy** | **Whether to restart ICIs** | **Outcomes** |
| Lee 2016 (1) | 87/Male/Chinese | Hodgkin lymphoma | Pembrolizumab | 4.5 | ABVD, XRT | - | Sputum culture (+) | Lsoniazid, Rifampicin, Ethambutol | Yes | No | TB had been completely relieved. |
| Fujita 2016 (2) | 72/Male/Japanese | Lung squamous cell carcinoma | Nivolumab | 4 | Carboplatin + Docetaxel Carboplatin + Gemcitabine | - | BAL culture (+), PCR (+) | Unknown | Yes | No | Unknown |
| Chu 2017 (3) | 59/Male/Unknown | Lung adenocarcinoma | Nivolumab | 1.5 | Gefitinib | Prednisone | Pericardial fluid culture (+), (pericardial) Histology | Specific medication is not specified. | Yes | Yes | Pericardial fluid had completely subsided. |
| Jensen 2018 (4) | 56/Male/Caucasian | Lung adenocarcinoma | Nivolumab | 9 | Pemetrexed | - | Lung AFB (+), PCR (+), Histology | Specific medication is not specified. | Yes | No | Unknown |
| Picchi 2018 (1) (5) | 50/Male/Caucasian | Melanoma | Pembrolizumab | 3 | Unknown | - | TST (+), (pleural) Histology | The “four-drug” regimen | No | No | Hydrothorax had completely subsided. |
| Picchi 2018 (2) (5) | 64/Male/Caucasian | Non-small cell lung cancer | Nivolumab | 1 | Unknown | - | Bone culture (+), PCR (+), Histology | The “four-drug” regimen | Yes | No | Died after the surgery for spinal cord compression. |
| Tetikkurt 2018 (6) | 53/Male/Unknown | Oral squamous cell carcinoma | Pembrolizumab | Unknown | Surgical resection, Cisplatin + Radiotherapy | - | PCR (+) | Specific medication is not specified. | Yes | Yes | Tumour had shrunk after the reapplication of ICIs. |
| He 2018 (7) | 65/Female/Chinese | Melanoma | Pembrolizumab | 9.25 | IL-2 | - | Lung AFB (+), Histology, BAL culture (+), PCR (+) | HREZ, Streptomycin, ethambutol, moxifloxacin were administered due to hepatic damage, fever | Yes | Yes | Tumor had been completely relieved after the combination of ICI and anti-TB therapy. |
| Takata 2019 (8) | 75/Male/Japanese | Lung adenocarcinoma | Nivolumab | 10.5 | Carboplatin + Pemetrexed Carboplatin + Paclitaxelalbumin | - | Sputum culture (+), PCR (+) | HREZ, Isoniazid, rifampicin were administered due to abnormal reaction | Yes | Yes | TB did not recur after the reapplication of ICI. |
| Barber 2019 (1) (9) | 59/Male/Vietnamese | Nasopharyngeal carcinoma | Nivolumab | 1.5 | Unknown | - | Lung AFB (+), Histology, Sputum PCR (+) | HREZ, Streptomycin, rifampicin, moxifloxacin, linezolid were administered due to intestinal perforation | Yes | No | Died 2 months after the application of ICI because of the worsening of the primary disease. |
| Barber 2019 (2) (9) | 83/Male/Caucasian | Merkel cell carcinoma | Pembrolizumab | 8.25 | Unknown | - | Lung AFB (+), Histology | HREZ，Levofloxacin, rifapentin were administered after isoniazid administration | Yes | Yes | Tumor had shrunk after the reapplication of ICI because of disease progression after completion of anti-TB treatment. |
| Tsai 2019 (10) | 49/Male/Unknown | hard palate squamous cell carcinoma | Nivolumab | 3 | Cisplatin + Radiotherapy, Cetuximab, Paclitaxel, Carboplatin | - | Sputum PCR (+), PCR (+), Culture (+) | Specific medication is not specified. | Yes | No | Died of acute respiratory failure caused by bacterial pneumonia secondary to pulmonary TB. |
| van Eeden 2019 (11) | 56/Female/Caucasian | Lung adenocarcinoma | Nivolumab | Unknown | Gemcitabine + Carboplatin，Pemetrexed + Radiotherapy | - | Sputum PCR (+) | HREZ | Yes | Yes | The patient's TB improved, but died of disease progression after restarting with ICI. |
| Inthasot 2020 (12) | 69/Male/Belgian | Lung adenocarcinoma | Nivolumab | 13 | Cisplatin + Pemetrexed Pemetrexed maintenance | - | BAL PCR, Culture (+) | Specific medication is not specified. | Unknown | NO | Unknown |
| Elkington 2018 (13) | 62/Male/Unknown | Ocular melanoma | Pembrolizumab + Ipilimumab | 24 | Surgical resection | - | BAL culture (+), (liver and lung) Histology | Specific medication is not specified. | Unknown | NO | Clinical symptoms, liver function and lung lesions improved. |
| Kim 2018 (14) | 60/Male/Korean | Undifferentiated lung cancer | Nivolumab | 15 | Unknown | - | (Endobronchial lesions) PCR (+), Histology | Specific medication is not specified. | Stop for 1 month | Yes | TB had improved after medication, but liver function abnormalities occurred after the reapplication of ICI. Then the patient was treated with liver protective after discontinuing the administration of anti-TB and ICI. |
| Suliman2021 (15) | 58/Male/Caucasian | Lung adenocarcinoma | Pembrolizumab | 3 | - | - | BAL AFB (+), PCR (+) | HREZ | Yes | No | Being currently treated with anti-TB and chemotherapy and is clinically stable. |
| Anastasopoulou2019 (1) (16) | 76/Female/Greek | Melanoma | Nivolumab | 6 | INF | Methylprednisolone + Infliximab | BAL PCR, Culture (+) | HREZ | No | No | Died of acute respiratory failure 3 days after anti-TB therapy. |
| Anastasopoulou2019 (2) (16) | 85/Male/Greek | Melanoma | Atezolizumab | 6.75 | INF | - | Sputum culture (+) | Isoniazid, rifampicin, pyrazinamide | Yes | NO | Pulmonary TB had been completely relieved. |
| The patient | 68/Male/Chinese | Lung squamous cell carcinoma | Camrelizumab | 1 | Docetaxel + Cisplatin | - | BAL AFB (+) | HREZ | Yes | NO | Being currently treated with anti-TB and chemotherapy and is clinically stable. |

**Abbreviations:** BAL: bronchoalveolar lavage fluid; TST: tuberculin skin test; AFB: acid fast bacilli; PCR: polymerase chain reaction; hrze: isoniazid, rifampicin, pyrazinamide, ethambutol.

Note: In the column of Immune checkpoint inhibitors (ICIs): Nivolumab, Pembrolizumab and Camrelizumab are anti-PD-1 ICIs, Atezolizumab is anti-PD-L1 ICI, Ipilimumab is anti-CTLA-4 ICI.

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