ESMO Preceptorship Programme
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Pneumonitis as a potential adverse event of pembrolizumab
DISCLOSURE OF INTEREST

- No conflict of interest to declare.
Case presentation

38 year-old female

- 04 June 2018: diagnosed with stage IV NSCLC (with multiple-site bone metastasis)

Pathology: adenocarcinoma, EGFR mutation (+) (exon 19 deletion), T790M mutation (-) (tissue sample)

- Treated with Gefitinib + Zoledronic acid for 3 months → partial response, with markedly reduced clinical symptoms (cough & chest pain), the longest diameter of tumor reduced by 57% (86mm → 37mm)
Case presentation

Continued with Gefitinib for 2 months → clinical symptoms became more severe.
Chest CT: tumor size increased (37mm → 62mm) → Disease progression

10 Sep 2018

18 Oct 2018
Case presentation

- 10/2018: PD-L1 strong-positive (80%), T790M mutation (-) (blood sample)
- **Switch to Pemetrexed + Carboplatin + Bevacizumab**
  - Partial response after 3 cycles (tumor size 62mm → 24mm)
  - Progression after 6 cycles (tumor size 24mm → 36mm)
Case presentation

03/2019: Switched to Pembrolizumab

- Patient developed fever 2 days after the 2nd cycle, max temperature at 39°C and coughing up white sputum → treated with self-prescribed cefuroxime + ciprofloxacin for 1 week → symptoms persisted
- admitted to hospital: WBC/Neutrophils 7.52/5.49 G/L, CRP 121.9 mg/L
- Treated with Moxifloxacin + Ceftazidime x 3 days → WBC/Neutrophils 8.71/6.57 G/L, CRP 125 mg/L
- Moxifloxacin + Meropenem x 3 days
- Fever persisted, bilateral fine crackles and dyspnea.
Case presentation

- Methylprednisolone IV with tapered dose
- Symptoms disappeared, no fever
- Continue 3rd cycle of Pembrolizumab
- 05/2019: disease progression (tumor size 36 → 81mm)
Discussions

- Strong PD-L1 expression as a predictor of poor response to Tyrosine Kinase Inhibitors?\(^1,2\)
- Pembrolizumab as a second-line treatment in patients with EGFR mutation and PD-L1 (+)
- Pneumonitis as an adverse events of PD-L1 inhibitors including pembrolizumab: diagnosis and management?
- Corticosteroids use and its effects on immune system in patients treated with immunotherapy?

Thank you for your attention!