Background and importance

- Anaplastic Thyroid Carcinoma (ATC) is a rare aggressive carcinoma representing 1-2% of all thyroid carcinomas.
- For metastatic ATC, systemic chemotherapy with taxans, platinum compounds or adriamycin is recommended.
- BRAF mutated tumors have higher expression of Programmed Death Ligand 1 (PD-L1) (82%) when compared to BRAF wild-type tumors (13%).

Aim and objective

To describe the clinical case of a 38-year-old male patient with BRAF negative and PD-L1 positive metastatic ATC treated with Pembrolizumab. Pembrolizumab isn’t indicated for ATC treatment but its off-label use in combination with Lenvatinib is justified by one study [1] and few case reports [2,3].

Materials and methods

- End of 2019: paresthesia and slight swelling in the mandibular hemiarch
- March 2020: progressive increase in the volume of the lesion
- March-April 2020: multifocal infiltrations in were observed after imagine evaluation
- $1^{st}$ treatment: Paclitaxel 80 mg/m² once a week combined with Lenvatinib 14 mg/day
- BUT: metastatic progression was observed by computed tomography (CT) after 20 days
- $2^{nd}$ treatment: Pembrolizumab 200 mg every 3 weeks combined with Lenvatinib 14 mg/day

Two case reports supporting the treatment

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<td>Case report 1 [2]</td>
<td>75-year-old female patient with PD-L1 positive (60% expression of PD-L1) unresectable locally advanced ATC</td>
<td>8 cycles of Pembrolizumab</td>
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<tr>
<td>Case report 2 [3]</td>
<td>53-year-old male patient with BRAF negative stage IVC ATC</td>
<td>4 cycles of Pembrolizumab 200 mg every 3 weeks</td>
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Results

After three months from the start of Pembrolizumab and after fourteen weeks from the start of Lenvatinib:

- a reduction of thyroglobulin was detected (before: 6468 ng/ml; after: 4906 ng/ml)
- the results of vertebral Magnetic Resonance (MR) and mandibular CT shown a reduction of metastasis.

To date the treatment is ongoing and is well tolerated.

Conclusions and relevance

Pembrolizumab combined with Lenvatinib seems effective in treating metastatic ATC and could become a therapeutic choice for patients presenting PD-L1 expression

References