

# OFF-LABEL USE OF PEMBROLIZUMAB IN PD-L1 POSITIVE METASTATIC ANAPLASTIC THYROID CARCINOMA: A CASE REPORT



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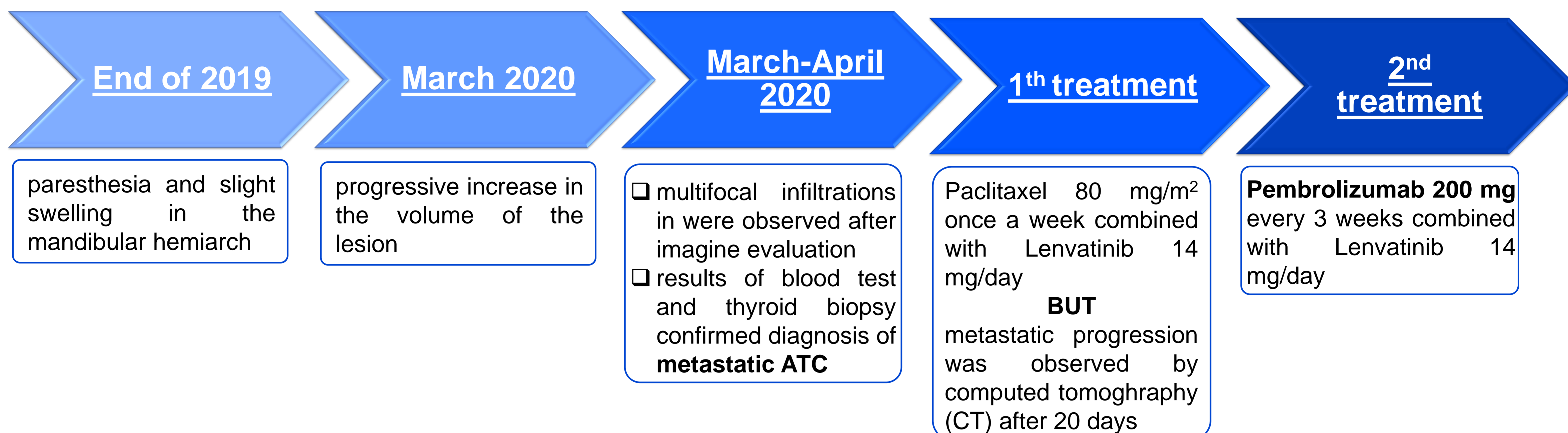
## Background and importance

- ❑ 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



## Two case reports supporting the treatment

	PATIENT CHARACTERISTICS	PEMBROLIZUMAB REGIMEN	RESULTS
Case report 1 [2]	75-year-old female patient with PD-L1 positive (60% expression of PD-L1) unresectable locally advanced ATC	8 cycles of Pembrolizumab	stable disease (SD): 10 months after drug discontinuation
Case report 2 [3]	53-year-old male patient with BRAF negative stage IVC ATC	4 cycles of Pembrolizumab 200 mg every 3 weeks	<ul style="list-style-type: none"> <li>❑ 53% tumor burden reduction</li> <li>❑ survival: 16 month after diagnosis and 9 month after Pembrolizumab start</li> </ul>

## 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

- [1] Iyer PC et al., J Immunother Cancer. 2018 Jul 11;6(1):68.
- [2] Spalart V et al., Case Rep Endocrinol. 2019 Nov 26;2019:9095753.
- [3] Aghajani MJ et al., Cancer Immunol Immunother. 2019 Dec;68(12):1921-1934.