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ICPI in the context of autoimmune diseases
Disclosure of interest

- Nothing to declare.
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![Diagram](image)

**Figure 1** Stimulating the immune system to fight cancer involves monitoring the careful balance between immune repression and stimulation to detect side-effects such as the formation of autoimmune diseases
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- Immune checkpoint inhibitors are usually avoided in patients who are known to have autoimmune diseases to avoid worsening or flare up of the underlying disease.
- This presentation will discuss an interesting case of metastatic renal cell carcinoma who was treated with immunotherapy although she has underlying SLE and RA.
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46 YO female
ECOG PS 0

Background
- SLE.
- Rheumatoid arthritis, both in remission
- Asthma.
- Severe anaphylactic reactions to multiple medications including fusidic acid, clindamycin and ibuprofen.

Clinical presentation
- Lt pelvic pain
- CT performed and it showed left renal mass
- Radiological staging confirmed stage IV renal cancer with lung, left iliac crest bone metastasis and T2, T5 T6 vertebrae metastasis
- Biopsy prove the histopathology of clear cell subtype
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Treatment

**January 2016:** Left sided nephrectomy, palliative radiotherapy to the left iliac crest, then she was commenced on Sunitinib as per the guidelines in the metastatic setting.

**July 2018:**
- Progressive disease with enlarged multiple lung nodules
- The patient started on Cabozantinib
- Stopped in light of toxicity Grade 3 mucositis and sepsis that required hospital admission.
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Immune checkpoint inhibitors?
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- **December 2018:** Commenced single agent Nivolumab - Nivolumab held off at one cycle due to breathlessness with flare of SLE and new SOB.
- The patient was referred to the Rheumatology team for clinical review.
- He breathlessness and SLE flare settled with oral steroid.
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- **January 2019**: Restaging CT TAP showed no evidence of pneumonitis and demonstrated good response and interval regression of the lung lesions and stable disease elsewhere.

- Continued to have 3 monthly CT as follow up.
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- The patient has a good response after only 1 cycle of Nivolumab and her response was maintained for at least 10 months. Which is remarkable response for a patient with metastatic disease who progressed through many treatment lines.

- Her breathlessness and SLE flare up settled on oral prednisolone.
- Prednisolone was weaned down and she recovered well.
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- Autoimmune diseases (ADs) like lupus, rheumatoid arthritis, sjogren’s syndrome, IBD, and many other disorders) are considered to have a very high risk of flare up when treated with ICPIs.

- These patients were largely excluded from clinical trials due to possible higher toxicity rates.

- High frequency of autoimmune diseases and concomitant cancer like in renal cancer 30% and 24% in NSCLC.

- I will discuss areal world data that shed a light into this area. A retrospective study that was presented in ASCO in 2019 looked into 2,425 patients treated with PD1 inhibitor with advanced NSCLC, 22% of them had ADs.
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- ICPIs are associated with comparable survival outcomes among patients with advanced non–small-cell lung cancer (NSCLC), regardless of a patient’s history of autoimmune disorders.

- 94% of patients received PD-1 inhibitors; 22.1% of those patients had evidence of active autoimmune disease.

- The median overall survival was 12.4 months in all patients, 12.8 months in patients with no autoimmune disease, and 11.5 months in those with autoimmune disease.

- The overall frequency of adverse events was similar between the two groups, but the researchers did reported an increase in AE in the AD patients, including endocrine, gastrointestinal and blood disorders by nearly 1% in each category.
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- **Conclusion**
  - Patient with a background of autoimmune disease can be considered for ICPI based on careful clinical assessment after weighing up benefits and risks of treatment.
  - ADs **SOULD NOT** be frank contraindication to ICPIs.
  - Honest and frank discussion with the patient about benefits and risks of treatment may facilitate the decision.
  - Careful monitoring of early symptoms and signs of toxicity is crucial to treat the patient in a timely manner and avoid life threatening complications. Multidisciplinary approach in management should be adopted.
  - Physicians should generally prioritize choosing the most effective treatment option for the most urgent, life-threatening condition, which is most often cancer.
  - Prospective clinical trials should include more AD patients in the future.