

Hackaton

Immunotherapy in melanoma and NSCLC

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PhD candidate immunotherapy

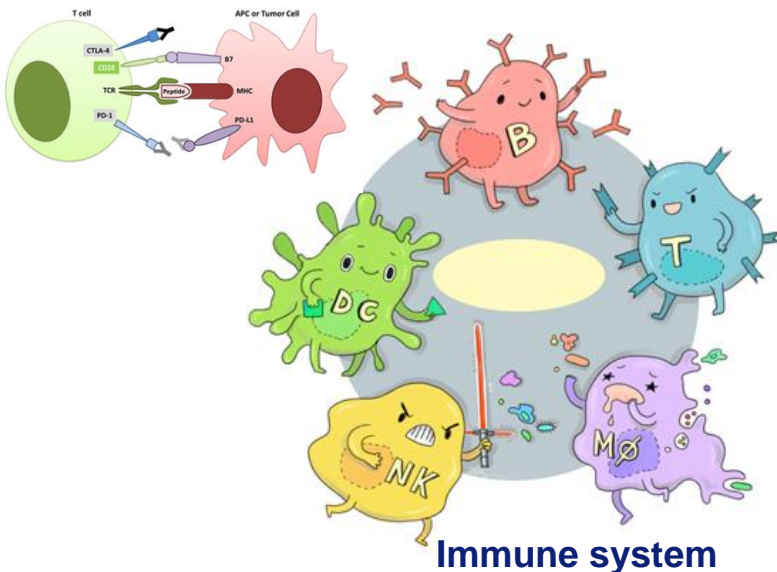
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Immunotherapy

Immunotherapy (checkpoint inhibitors) as a relatively new treatment option for:

- Metastatic melanoma
- Non-small lung cancer stage IV (first/second line)

Mechanism: Checkpoint inhibitors (immunotherapy) ultimately leads to recognition immune system towards cancer cells



Casus 1: ♀ 66 yr

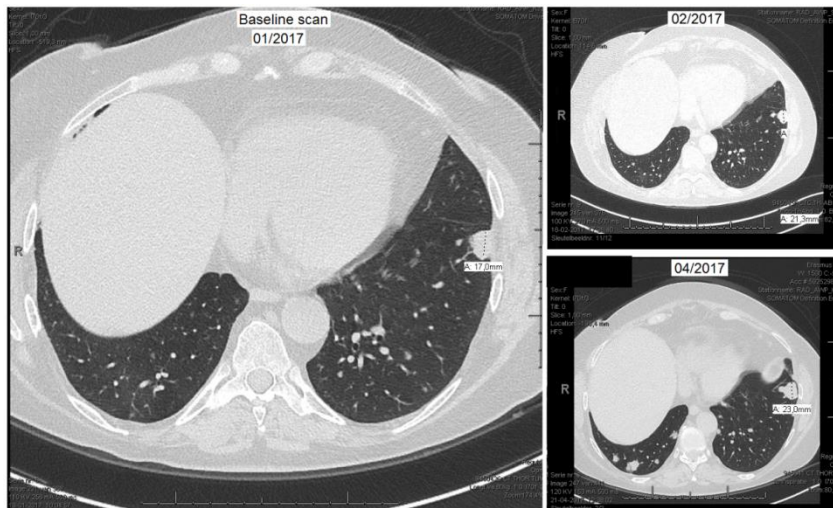
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2014 NSCLC stage IIIB, chemotherapy + radiation

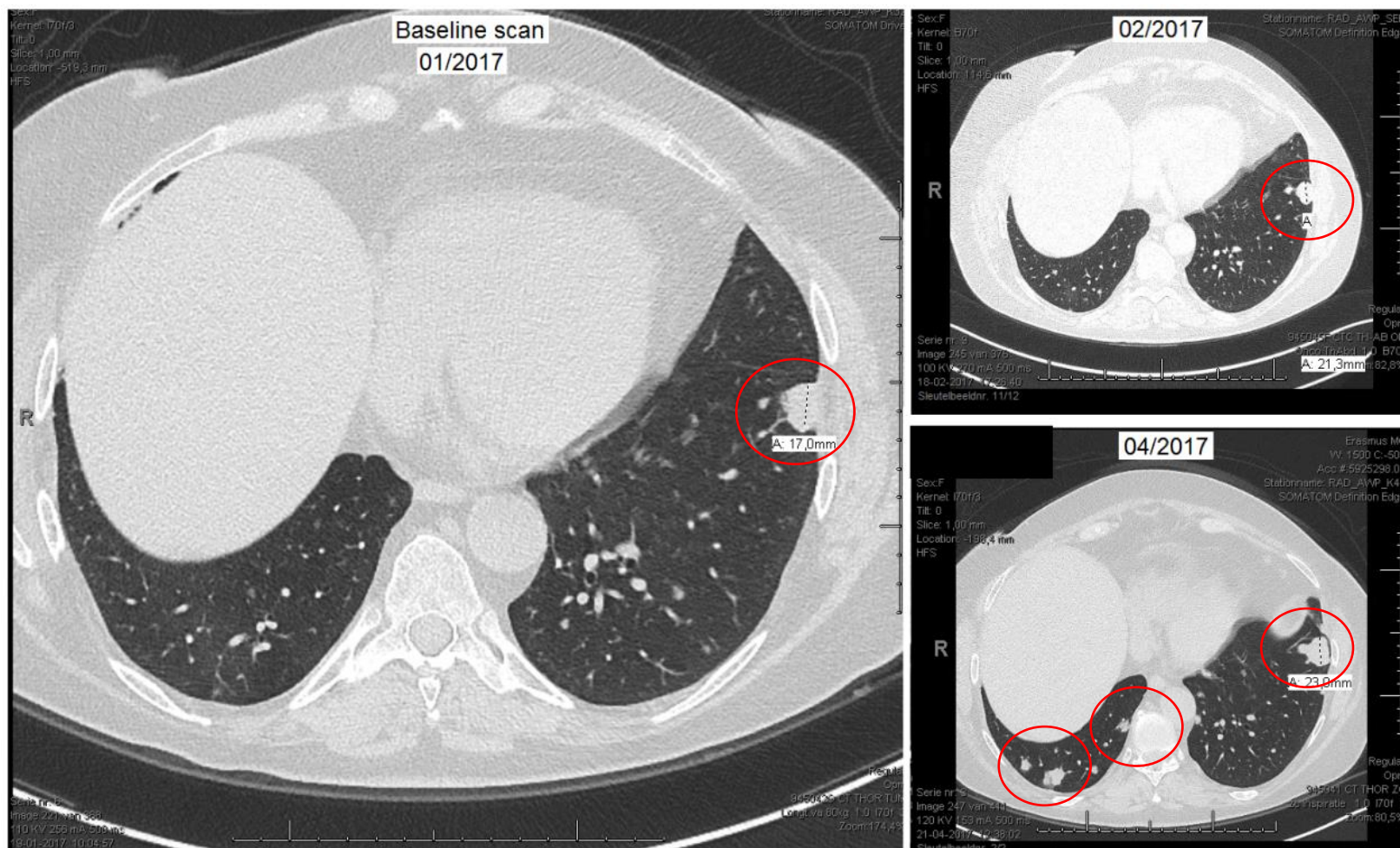
2015 Progression → NSCLC stage IV, start afatinib

12/2016 Progression bone/ spleen/ lymph nodes

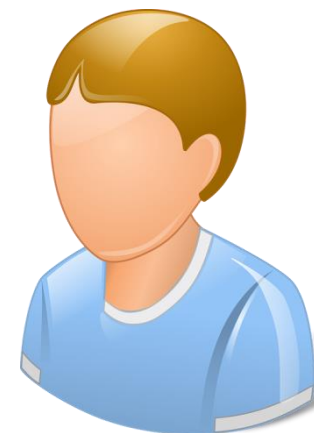
01/2017 Start nivolumab (anti-PD1 immunotherapy)



Response evaluation RECIST v1.1



Casus 2: ♀ 43 yr



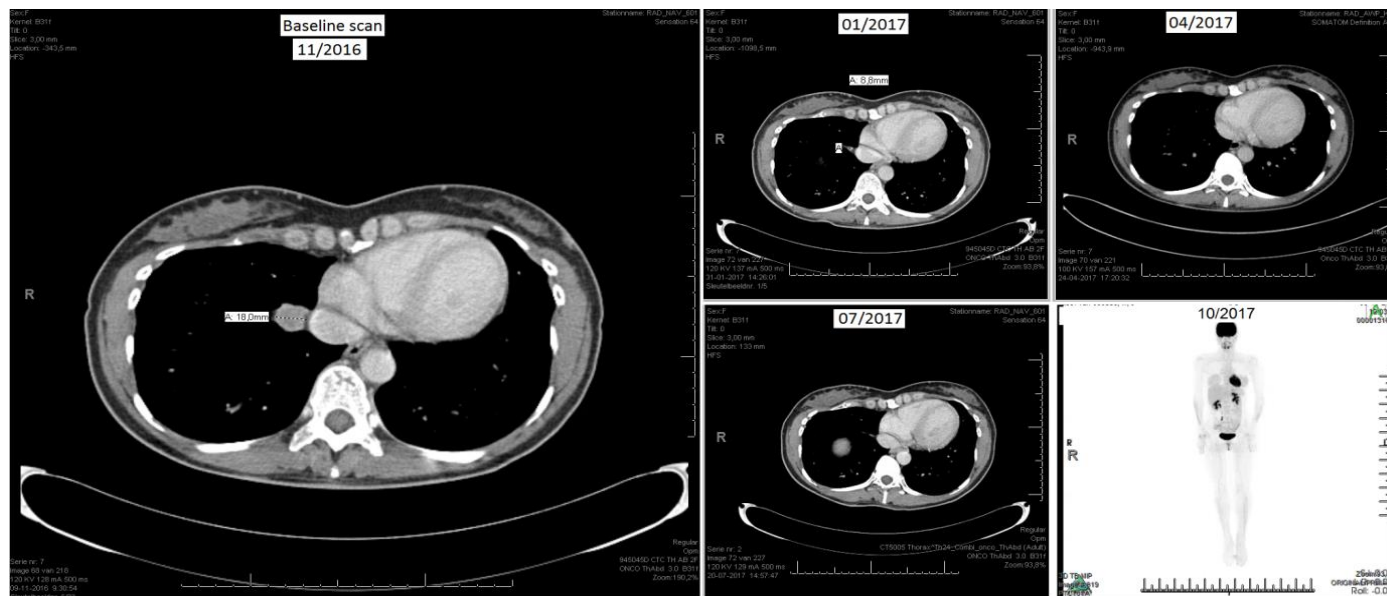
Hx:

04/1999 Removal cutaneous melanoma, Breslow 1.65 mm

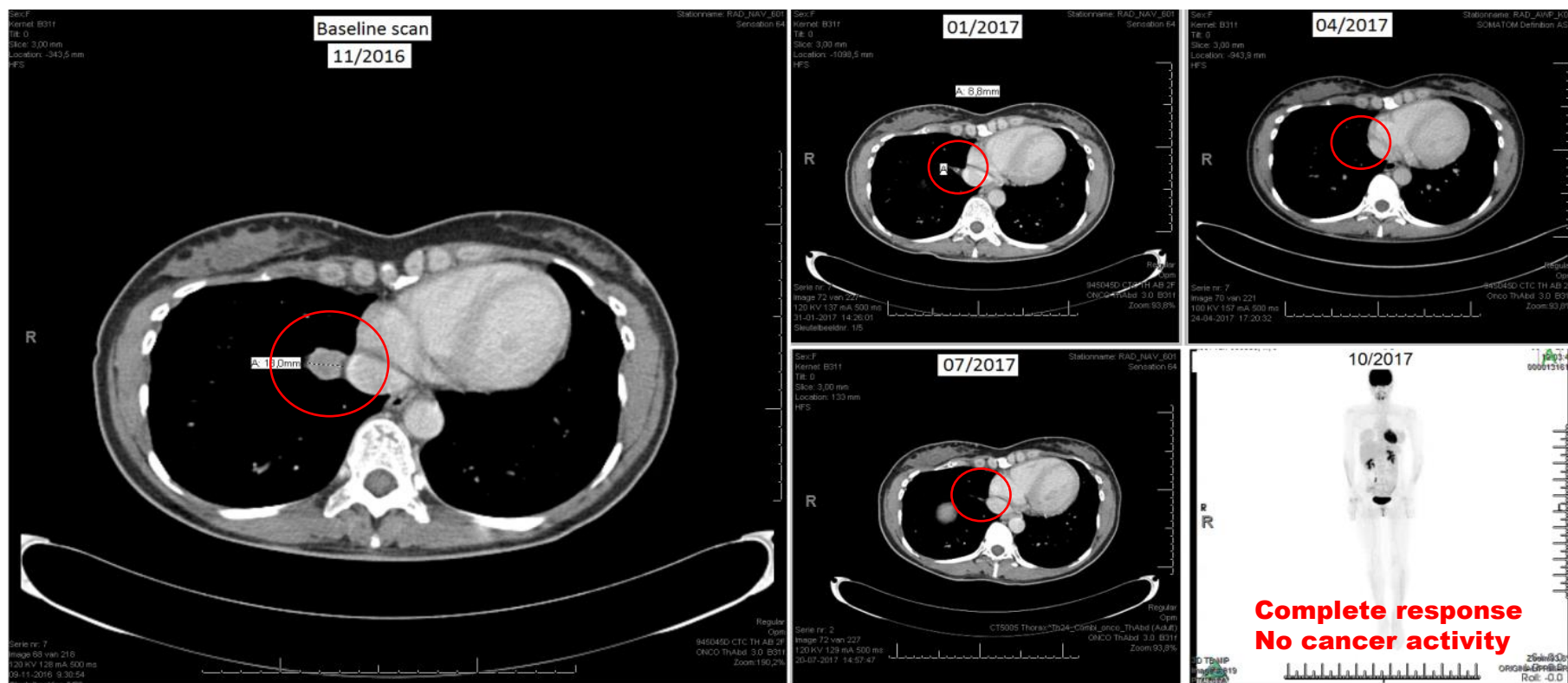
11/1999 T3N2Mx melanoma, lymphadenectomy right axilla

11/2016 Progression melanoma, subcutaneous /pulmonary /lymph node metastases

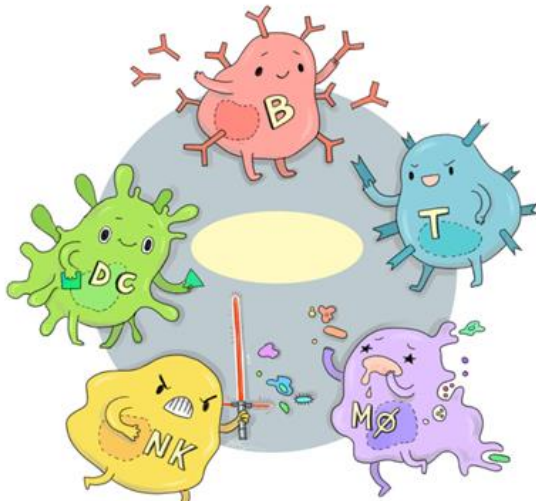
11/2016 Start pembrolizumab (anti-PD1 immunotherapy)



Response evaluation RECIST v1.1



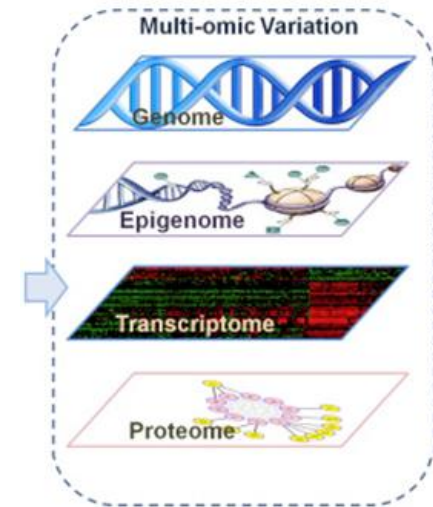
Immunotherapy



Immune system



Tumor biology



Examples from previous research:

- Tumor mutational burden
- PD-L1 expression

- Effective in some melanoma/NSCLC patients (approx. 20%)
- Proportion of patients do not respond to immunotherapy
 - Serious side effects
 - Withholding from other therapy options
 - (Expensive)



Immunotherapy

Challenge:

Help us to understand who will respond by stratification of patients by tumor biology.



Tumor biology

