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# Spontaneous regression of oesophageal squamous cell carcinoma

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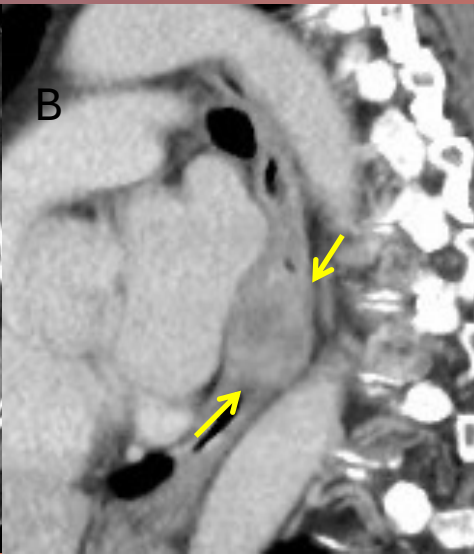
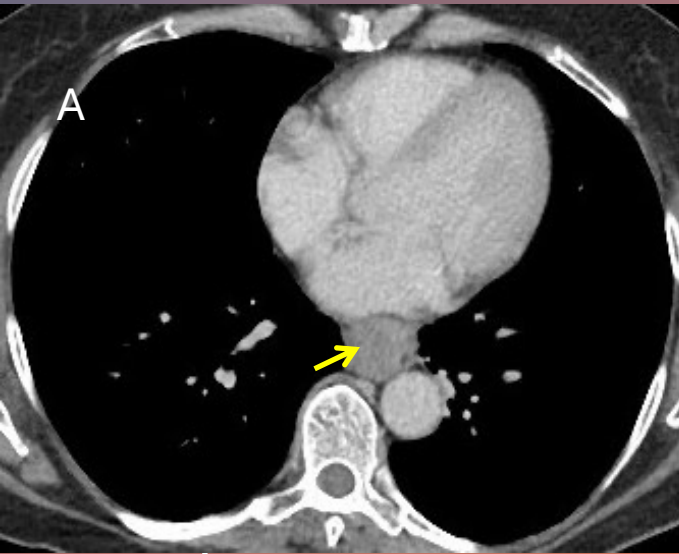
<sup>2</sup>Salford Royal Hospital

# Case synopsis

- 66-year-old Caucasian woman presented with 8 weeks of progressive dysphagia.
- PMHx:
  - 6mm MCA aneurysm - for conservative management.
  - Mohs surgery excision BCC (1990's)
- SHx:
  - Ex-smoker, consumes moderate alcohol (10-15 units per week).
  - No recreational drug use, OTC or regular medications

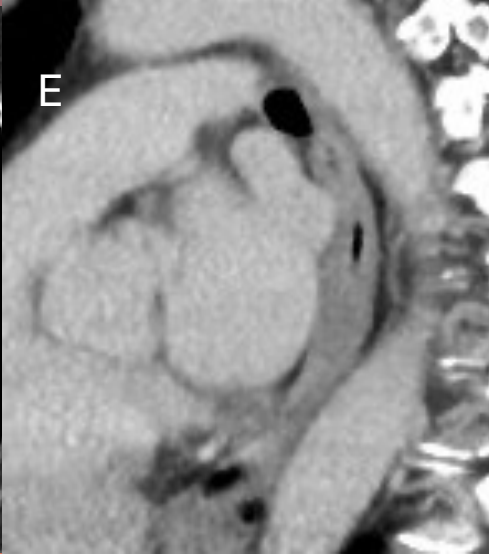
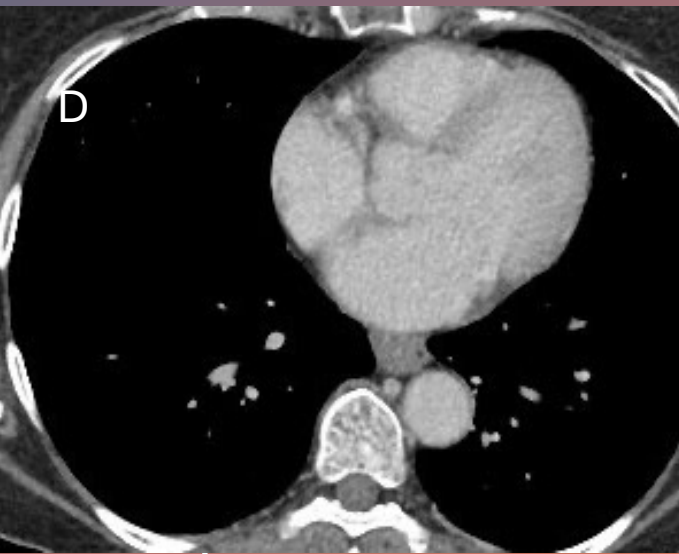
# Case synopsis

- Initial endoscopy demonstrated a mid-oesophageal stricture with SCC *in situ* on biopsy.
- PET-CT confirmed an avid mid-oesophageal mass with periesophageal nodes, radiologically staging the disease as T3N1M0
- Repeat biopsy was performed due to definite mass on imaging, now showing poorly differentiated SCC.



# Case synopsis

- The patient presented during the COVID-19 pandemic and UK guidelines/MDT consensus advised postponement of surgical resection.
- Over the following 6 weeks however the patient's symptoms improved without treatment or lifestyle changes.
- Repeat 3-month interval PET-CT showed reduced tumour bulk with no FDG avidity, but persistent perioesophageal nodes, revised staging T2N1M0.



# Endoscopic Ultrasound

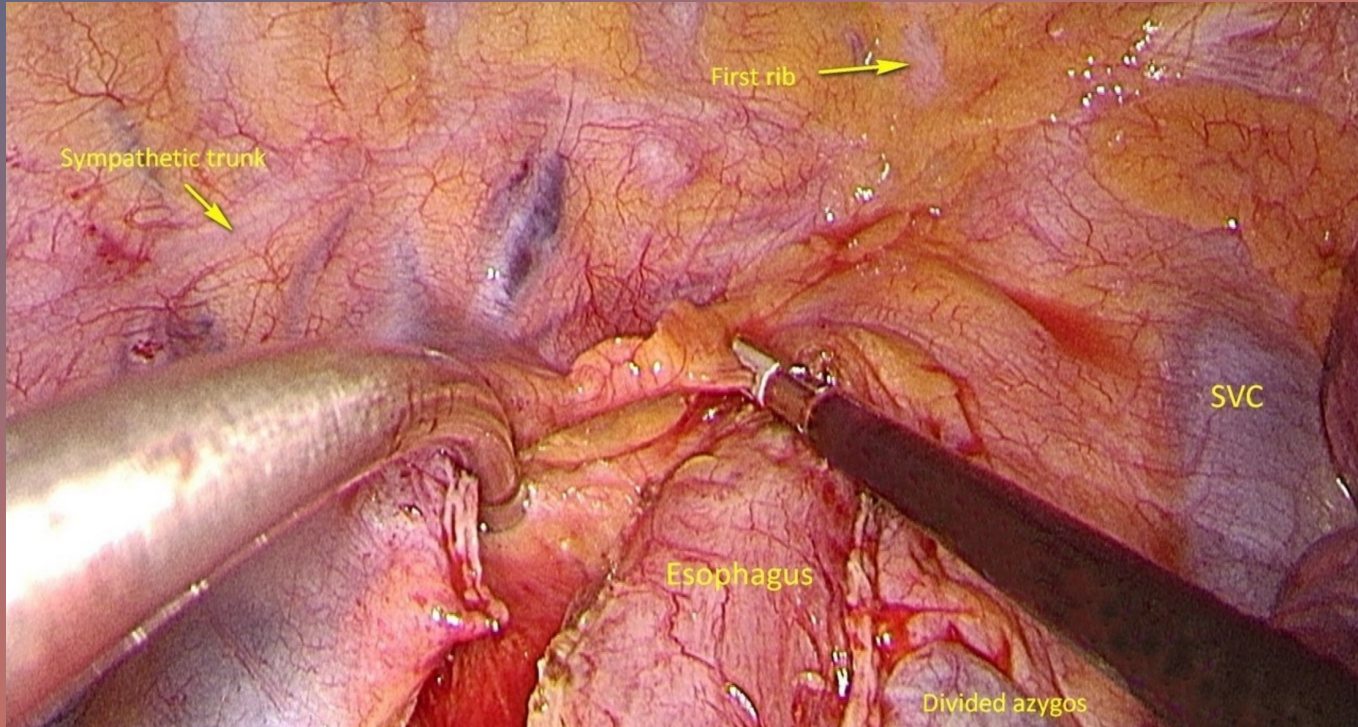
- EUS now showed 8 mm submucosal thickening at the previous tumour site but no definite tumour/pathological nodes



- A final endoscopy was performed due to the unusual circumstances and repeat biopsies of the irregular area revealed only high-grade dysplasia.

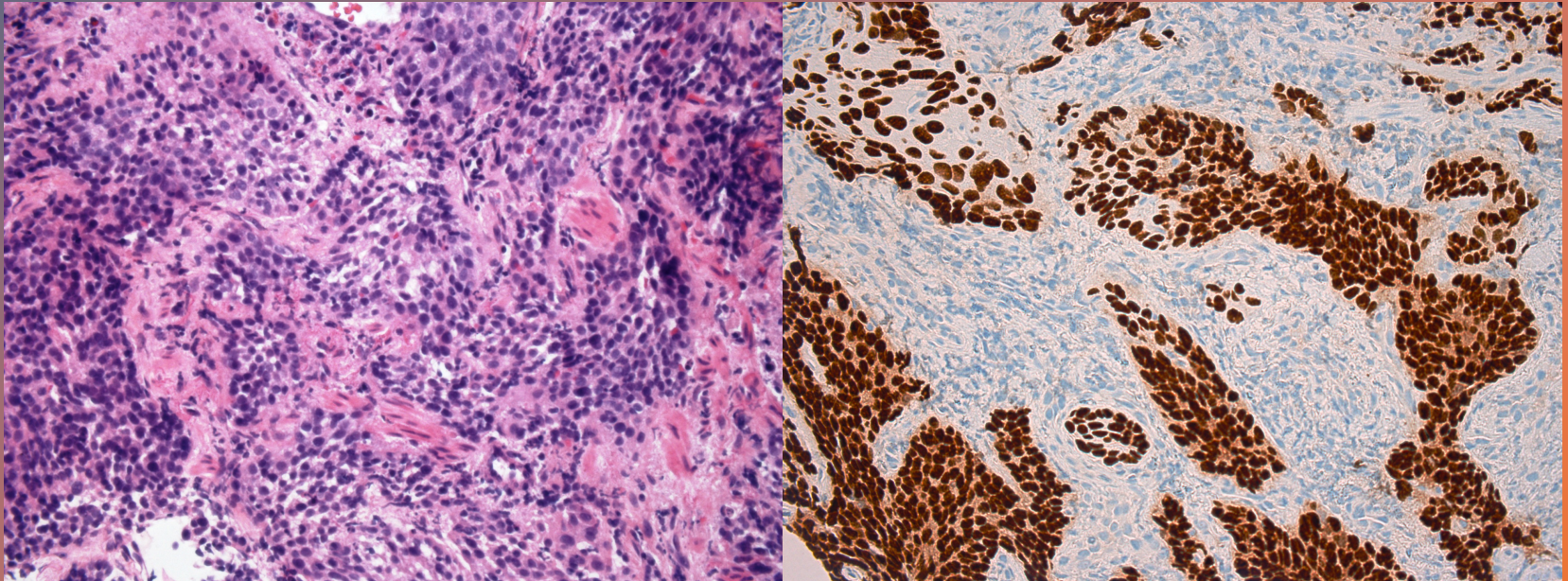
# Curative resection

- After recommencement of major cancer surgery, MDT consensus was to proceed straight to surgical resection (3-stage oesophagectomy), some 6 months after initial presentation.



# Histopathology

- Postoperative histology of tumour showed chronic inflammatory infiltrate, fibrosis and squamous dysplasia but no evidence of malignancy, suggesting pathological regression.
- Final histology was pT0N1R0; 2/49 nodes positive.



Left, H&E stained section; right Immunohistochemistry of nuclear p40 expression - SCC marker (x20 objective).

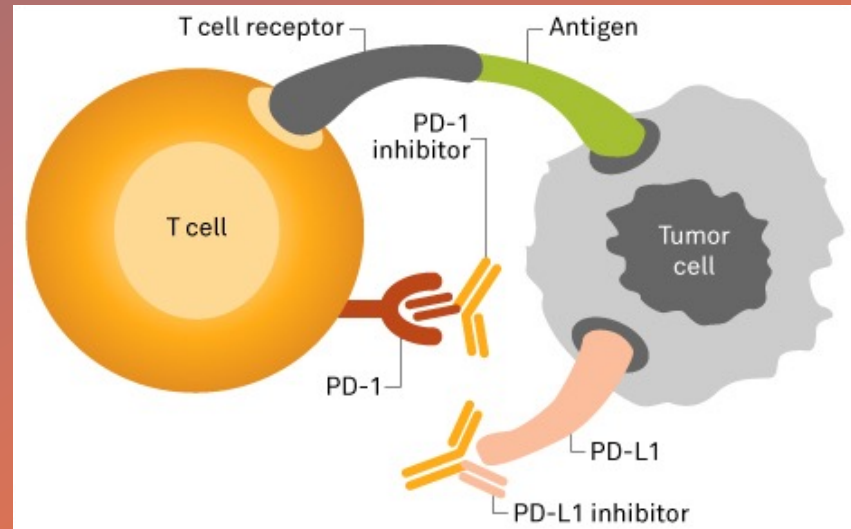
# Discussion

- Spontaneous regression of cancer is unusual, particularly in patients with oesophageal cancer.
- The mechanisms of this phenomenon remains unclear but multiple theories have been proposed, including immune or hormonal mediated response, bacterial infection and disrupted angiogenesis leading to tumour necrosis.
- Tumours that are known to be responsive to immunotherapy, such as renal cell carcinoma and melanoma, seem to exhibit spontaneous regression more frequently



# Discussion

- Several mechanisms have been proposed in the literature which focus around a heightened T-cell mediated response towards the tumour.
- T-cells are known to have antitumour effects via the PD-1/PD-L1 axis which is the target of novel anti-PD-1 immunotherapy agents.
- Overexpression of PD-L1 has been implicated in oesophageal SCC and use of PD-1 inhibitors in oesophageal cancers is supported by a strong biological rationale.



# Discussion

- In this present case, we are unable to provide a clear account for the mechanism, although the primary tumour appeared to regress following repeat endoscopy and re-biopsy.
- This may suggest that a traumatic ‘insult’ to the tumour may have evoked a focal immune-mediated response. This would also explain why the local lymph nodes remained positive for metastasis.

# Take home message

- ▶ Spontaneous tumour regression is uncommon but more frequently seen in cancers' responsive to immune modulation e.g. RCC, melanoma
- ▶ Several mechanisms have been proposed which focus on a heightened T-cell-mediated response towards the tumour evoked by stimulus such as infection, surgical trauma or local tumour insult (eg, biopsy or vascular disruption).
- ▶ Standard treatment of cancer during the COVID-19 pandemic has been disrupted for many patients leading to unorthodox treatment pathways.
- ▶ Understanding mechanisms behind the spontaneous regression of cancer may offer valuable insights into factors influencing tumour growth and biology.