

Pembrolizumab combined with FOLFIRINOX for treatment of advanced pancreatic adenocarcinoma with MSI-H

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Introduction

- Pancreatic cancer(PC) is one of the leading causes of cancer related deaths
- 80-85% patients with pancreatic cancer have unresectable disease at presentation
- We present a case of unresectable(due to encasement of the celiac artery) PC with high tumor burden that showed excellent response to immunotherapy using pembrolizumab in combination with chemotherapy

Case Presentation

- A 63 year old male, presenting with constitutional symptoms, diagnosed with pancreatic adenocarcinoma with necrosis
- FOLFIRINOX (oxaliplatin, irinotecan, fluorouracil, and leucovorin) was initiated but tumor burden continued to increase with worsening arterial and venous involvement
- Further characterization of the tumor showed microsatellite instability-high (MSI-H) and high tumor burden
- He was started on pembrolizumab in combination with FOLFIRINOX with improvement

Results

- Surveillance imaging obtained two months later showed decreased adenocarcinoma PET scan showed decreased FDG avidity

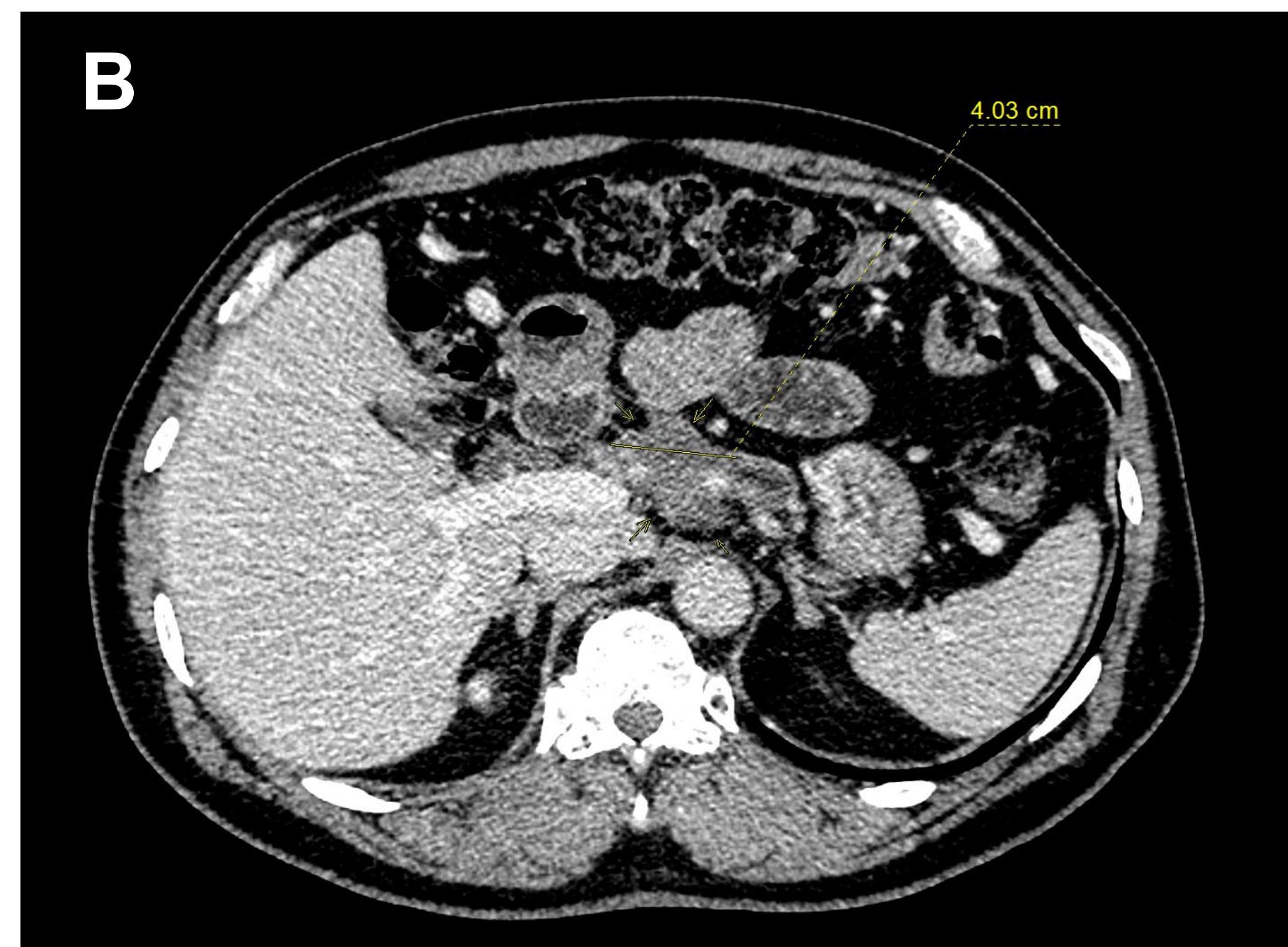
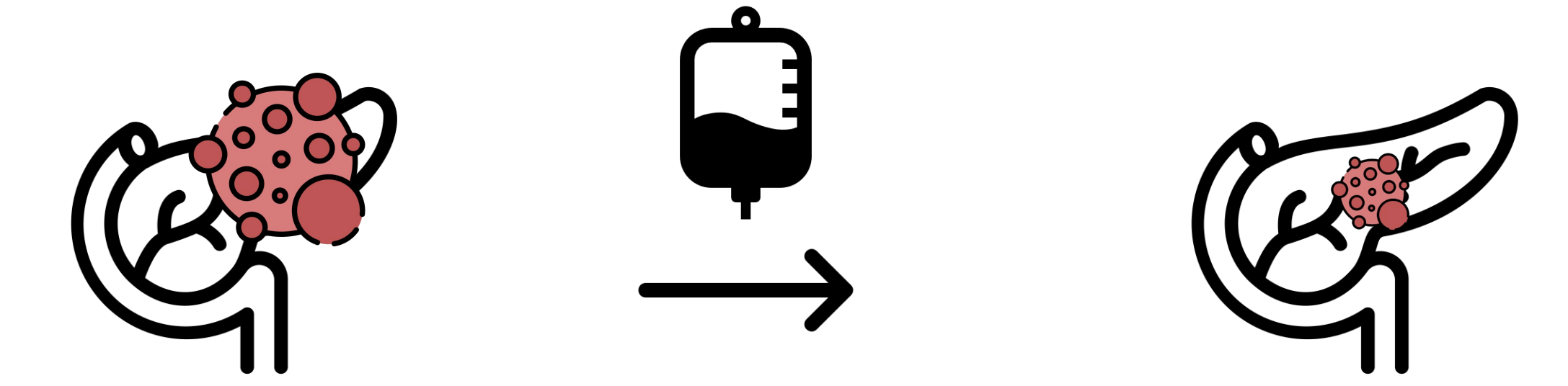


Figure 1. (A) Axial CT A/P slice from showing pancreatic mass size of 7.54 cm in it's widest dimension prior to treatment compared with (B) Axial CT A/P slice after approximately 18 months since presentation showing pancreatic mass size 4.03 cm in it's widest dimension after combination therapy

Conclusions

- Our case report shows that the combined use of FOLFIRINOX and pembrolizumab has the potential to be beneficial as a first line agent in unresectable pancreatic cancer with MSI-H



Pt w/ unresectable pancreatic adenocarcinoma with MSI-H

Treatment with Pembrolizumab + FOLFIRINOX

Reduced tumor burden

Discussion

- In the USA, the 5-year survival rate for PC is approximately 5%.
- The concurrent use of chemotherapy and immunotherapy is currently under research, especially with pembrolizumab
- Per NCCN guidelines, pembrolizumab can be used in PC for tumors with high microsatellite instability which occurs due to mutations in the mismatch repair genes
- The combination of chemotherapy with pembrolizumab for high tumor burden PC resulted in an immune-responsive tumor as well as reduction of the pancreatic tumor

Future Directions

- Further research and clinical trials are needed before pembrolizumab can be recommended as guideline therapy for PC

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