Protocol Title: Randomized Trial of Standard Chemotherapy Alone or Combined with Atezolizumab as Adjuvant Therapy for Patients with Stage III Colon Cancer and Deficient DNA Mismatch Repair

Target Population: Stage III Colon Cancer with DNA Repair Disorder or Lynch Syndrome

Summary: This randomized phase III trial studies combination chemotherapy and atezolizumab to see how well it works compared with combination chemotherapy alone in treating patients with stage III colon cancer and deficient deoxyribonucleic acid (DNA) mismatch repair.

Key Inclusion Criteria:
- Histologically proven Stage III Colon Adenocarcinoma ( [Tx, T1, T2, T3, or T4], N1-2M0; includes N1C).
- Presence of deficient (d) DNA Mismatch Repair (dMMR).
  - Note: loss of MLH1 and PMS2 commonly occur together; formalin-fixed paraffin-embedded (FFPE) tumor tissue is required for subsequent retrospective central confirmation of dMMR status.
  - Patients whose tumors show MSI-H by PCR-based assay are not eligible to participate unless they also have MMR testing by IHC and are found to have dMMR (i.e. loss of one or more MMR proteins).
- Patients who are known to have Lynch syndrome and have been found to carry a specific germline mutation in an MMR gene (MLH1, MSH2, MSH6, PMS2) are eligible to participate.
- Tumors must have been completely resected.
  - In patients with tumor adherent to adjacent structures, en bloc R0 resection must be documented.
  - Positive radial margins are not excluded as long as en bloc resection was performed.
  - Proximal or distal margin positivity is excluded.
- Entire tumor must be in the colon (rectal involvement is an exclusion).
- No evidence of residual involved lymph node disease or metastatic disease at the time of registration based on clinician assessment of imaging.
- No prior medical therapy (chemotherapy, immunotherapy, biologic or targeted therapy) or radiation therapy for colon cancer except for one cycle of mFOLFOX6.
- Eastern Cooperative Oncology Group (ECOG) performance status ≤ 2.
- For women of childbearing potential, a negative pregnancy test done ≤ 7 days prior to registration is required.
- No active known autoimmune disease, including colitis, inflammatory bowel disease (i.e. ulcerative colitis or Crohn's disease), rheumatoid arthritis, panhypopituitarism, adrenal insufficiency.
- No known active Hepatitis B or C; Patients positive for HIV potentially eligible if they meet specific criteria.
- Excluded if known active pulmonary disease with hypoxia.
- No grade ≥ 2 peripheral motor or sensory neuropathy.
- No other planned concurrent investigational agents or other tumor directed therapy (chemotherapy, radiation) while on study.
- No systemic daily treatment with either corticosteroids (> 10 mg daily prednisone equivalents) or other immunosuppressive medications within 7 days of registration.
- No known history of severe allergic anaphylactic reactions to chimeric, human or humanized antibodies, or fusion proteins.
- No known hypersensitivity to Chinese hamster ovary (CHO) cell products or any component of the atezolizumab formulation.
- No known allergy to 5-fluorouracil, oxaliplatin, or leucovorin.

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For additional information: https://clinicaltrials.gov/ct2/show/NCT02912559