

IMMUNOTHERAPY AND TARGETED THERAPY IN MELANOMA: SIDE EFFECTS

Immunotherapy and targeted therapy are the most commonly used treatments for metastatic melanoma. These treatments may cause side effects, some of which can be very serious and need to be identified and managed quickly. This pamphlet identifies some of the most common and/or serious side effects that were observed in clinical trials. However, other side effects not listed here may be observed. Understanding your patient's baseline health status before starting on therapy is critical to identifying when a patient is experiencing an unwanted side effect of their melanoma treatment.

Early diagnosis and management are crucial to minimizing life-threatening complications.

Patients should be made to feel comfortable with sharing any side effects with their healthcare team.

IMMUNOTHERAPY

There is a possibility of severe and fatal immune-mediated adverse reactions with all immunotherapies. If patients taking immunotherapy experience any of the following serious side effects, they should talk to their healthcare team immediately:

SYMPTOM/EFFECT	FREQUENCY	
	PD-1 Inhibitors	Ipilimumab (Yervoy)
	*Nivolumab (Opdivo) and Pembrolizumab (Keytruda)	
Blood sugar problems (diabetes or ketoacidosis): hunger or thirst; need to urinate more often; tiredness	Common	**N/A
Encephalitis: confusion; fever; memory problems; seizures	Rare	Rare
Fatigue	Very common	Very common
Fever	Common	Common
Inflammation of hormone glands (endocrinopathy): weight change; changes in behaviour; headaches; dizziness or fainting (e.g. thyroid dysfunction is most common)	Common	Common
Inflammation of pancreas (pancreatitis): abdominal pain; nausea; vomiting	Rare	Rare
Infusion reaction	Common	Rare
Kidney problems (nephritis): changes in amount or colour of urine; blood in urine; swelling in ankles; loss of appetite	Very common	Common
Liver problems (hepatitis): yellowing of the skin/eyes; dark urine; bleeding or bruising more easily than normal; abnormal lab tests	Common	Common
Low blood counts (anemia, low platelets)	Rare	Common
Musculoskeletal pain	Common	Common
Myocarditis	Rare	Rare
Nausea	Very common	Very common
Peripheral neuropathy	Common	Rare
Pneumonitis: shortness of breath, chest pain, cough	Common	Rare
Skin problems (dermatitis): rash; itchy skin; blisters; peeling; sores; ulcers in mouth or other mucous membranes	Very common	Very common
Stomach problems (colitis): diarrhea or more bowel movements than usual; blood in stools; stomach pain	Very common	Very common
Uveitis	Rare	Common
Vitiligo	Very common	Common

* When Nivolumab is administered in combination with Ipilimumab, immune-mediated adverse reactions have occurred at higher frequencies compared with Nivolumab as monotherapy. ** N/A represents a lack of information specific to the listed side effect for the given therapy

Very common: >10%	Common: 1% to 10%	Rare: <1%
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TARGETED THERAPY

If patients taking targeted therapies experience any of the following serious side effects, they should talk to their healthcare team immediately.

SYMPTOM/EFFECT	FREQUENCY	
	Dabrafenib (Tafinlar) and Trametinib (Mekinist)	Vemurafenib (Zelboraf) and Cobimetinib (Cotellic)
Abnormal Electrolytes	Common	Very common
Abnormal liver function tests	Less common	Very common
Acute pancreatitis	Uncommon	Uncommon
Allergic reaction	Uncommon	Uncommon
Anorexia	Less common	Less common
Constipation	Less common	Less common
Cough	Less common	Less common
Cutaneous squamous cell cancer and other types of skin cancer	Less common	Common
Decreased ejection fraction	Uncommon	Less common
Dermatitis acneiform / rash	Very common	Common
Diarrhea	Common	Very common
Edema	Common	Less common
Eye (vision) problems	Uncommon	Common
Fatigue	Common	Common
Fever/chills	Common	Common
Hair Thinning	Common	Common
Headache	Common	Common
Hyperglycemia	Very common	**N/A
Hypertension*	Less common	Less common
Musculoskeletal pain	Common	Very common
Nausea and Vomiting	Common	Common
New primary melanoma	Uncommon	Uncommon
Pancreatitis	Uncommon	Uncommon
Photosensitivity	Uncommon	Common
Pneumonitis / interstitial lung disease / lung problems	Uncommon	Uncommon
Pulmonary embolism or deep venous thrombosis	Uncommon	Uncommon
QT prolongation*	Uncommon	Uncommon
Retinopathy/RVD/RVO	Uncommon	Common
Rhabdomyolysis or increased serum creatine phosphokinase	Uncommon	Very common
Serious bleeding problems	Less common	Less common
Thickening of tissues on palm of hand/Soles of feet	Common	Common
Tubulointerstitial nephritis or kidney injury	Uncommon	Very common
Uveitis	Uncommon	Uncommon

*Baseline cardiovascular (CV) testing should be conducted prior to initiating patients on targeted therapies due to possible CV side effects.

** N/A represents a lack of information specific to the listed side effect for the given therapy

Very common: >50%	Common: 25% to 49%	Less common: 10% to 24%	Uncommon: <10%
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