

Thrombocytopenic Thrombotic Purpura Induced After the First Dose of Pemetrexed

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Abstract Clinical Image

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Images



Pemetrexed (ALIMTA*) is a chemotherapeutic drug approved by the FDA in combination with pembrolizumab and platinum

chemotherapy as the first treatment for non-squamous non-small cell lung cancer (NSCLC) that has spread with no abnormal EGFR or ALK genes. However,

severe cutaneous reactions that may lead to death can happen with ALIMTA. Cutaneous toxicity of grade 3 or 4 has been observed in 0.8-1.3% of cases. Thrombocytopenic thrombotic purpura (TTP), a life-threatening event consisting of disseminated vascular thrombosis is an exceptional side effect of pemetrexed. A 65 years old man, smoker; affected by pulmonary adenocarcinoma stage IV (brain and adrenal glands), with negative EGFR and ALK, was put on after brain radiotherapy under combination chemotherapy with pemetrexed and cisplatin. He presented two days after first pemetrexed administration, an acute thrombocytopenic thrombotic purpura without fever or any sign of infection, but he reported hematuria and epistaxis. The clinical examination showed multiple disseminated purpuric lesions in thorax, abdomen, back

and limbs (see images). Laboratory testing finds pancytopenia with platelet rate at 18 000/mm³. The patient received emergency transfusions of platelet concentrates and intravenous administration of corticosteroids with improvement progressively of the lesions after 1 month.

We can conclude that pemetrexed can cause TTP. Oncologists have to be alert for the rapid onset and aggressiveness of this possible side effect. The most complication is bleeding especially into the brain, which can be fatal.

Images showed diffuse purpuric lesions after administration of pemetrexed in thorax, abdomen, back and forearm.