CHEMOTHERAPY AND G-CSF INDUCED LARGE VESSEL VASCULITIS AND CAROTIDYNA – SIX PATIENT CASES AND A SYSTEMATIC LITERATURE REVIEW

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Background: Large vessel vasculitis (LVV) and neutropenic infection in patients receiving chemotherapy present similar clinical symptoms with fever and high inflammation parameters. Infection is more frequent but LVV should be kept in mind as differential diagnosis. LVV is a serious condition which may lead to vessel wall damage. Published few case reports and adverse event reports suggest causal association between LVV and use of granulocyte colony-stimulating factors and aortitis: A rare adverse event. Am. J. Hematol. 93, E333–E336 (2018).

Methods: Between 2016-2018 we identified six patients with probable drug induced LVV associated with chemotherapy and G-CSF. All patients had breast cancer. Systematic literature review was performed according to PRISMA guidelines using comprehensive search terms for breast cancer, chemotherapy, LVV and G-CSF.

Results: In our case series, 5/6 patients developed LVV symptoms within two weeks after administration of docetaxel and G-CSF. Vasculitis symptoms disappeared after drug cessation or drug change. Literature search identified 16 published case reports with association of LVV and chemotherapy fulfilling our study criteria. Altogether 22 cases were analyzed. Mean age was 59 years (range 40-77 years). In 14/22 cases data from G-CSF administration was available. Time delay from drug administration to LVV symptoms was average 10 days (range 1-42 days) with G-CSF and median 12 days (range 2-310 days) with chemotherapy. Most prevalent cancer types were breast cancer (8/22), hematological malignancies (7/22) and lung cancer (3/22). Most common clinical LVV symptom were fever (18/22), neck pain (11/22) and chest pain (6/22). Diagnosis was confirmed with imaging studies showing vasculitis in various large vessels in upper body. Notably, four cases had vascular inflammation only in carotid region and this was recognized by radiologist as carotiditis/transient perivascular inflammation of the carotid artery (TIPIC) syndrome.

Conclusion: Large vessel vasculitis is a possible serious rare adverse event associated with chemotherapy (possibly docetaxel) and G-CSF. Since signs and symptoms are non-specific, we assume this condition is underdiagnosed and should be kept in mind when treating oncological patients. Successful management requires early identification and cessation of the drug. When diagnosed and treated properly, the recovery is usually fast.

REFERENCE:

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