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P2203 Evaluation of nasal lavage fluid for diagnosing invasive fungal infections in leukaemic patients

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Title: Evaluation of nasal lavage fluid for diagnosing invasive fungal infections in leukemic patients

Background: One of the important problems in treating patients with acute leukemia after intensive chemotherapy is invasive fungal infections, especially invasive Sinopulmonary aspergillosis. Early diagnosis and timely treatment of these infections is one of the major challenges in managing these patients.

Materials/methods: During, 2017-2018 the leukemic patients who were admitted to hematology ward of Imam Khomeini Hospital of Tehran, and who had been suspected for invasive fungal infections after chemotherapy were selected and their each nostril was washed with 5ml saline and the lavage fluid collected in sterile receivers and sent to mycology laboratory for detecting galactomannan level. At the same time, the serum levels of galactomannan were also checked.

Results: Of the 32 patients with leukemia and probable or proven invasive fungal sinopulmonary infection, 14 patients (%43.7) had Galactomannan level of nasal lavage ≥ o.5 and the rest had lower than o.5. Due to coagulation disorders, sinus endoscopy and biopsy were performed only for 14 patients from all patients. Of these, 6 patients were in the group with high galactomannan level of nasal lavage (≥0.5) which aspergillosis grew in all of their sinus biopsies. Of the 8 cases with galactomannan <0.5 mucormycosis was isolated from three biopsies and the rest were negative for any molds. The serum level of galactomannan (≥0.5) was positive in 14 patients, of which 10 (71.4%) were associated with high galactomannan level of nasal lavage. Finally, two patients with positive culture biopsy for aspergillosis had galactomannan levels of nasal lavage ≥ 0.5 and serum levels<0.5 in two sequential checkpoints that were treated successfully with voriconazole.

Conclusions: Besides the other methods, it may also be possible to use galactomannan level of nasal lavage as a safe diagnostic method for preemptive therapy in leukemic patients suspected of invasive sinopulmonary aspegillosis.

Key words: aspergillosis, galactomannan, preemptive therapy