Blood
Volume ١١٣, Issue ٢٦, ٢٠٠٩, Pages ٦٥٢٨-٦٥٣٢

Phase ٢ study of the efficacy and safety of the combination of arsenic trioxide, interferon alpha, and zidovudine in newly diagnosed chronic adult T-cell leukemia/lymphoma (ATL)

Kchour, G.[a], Tarhini, M.[b], Kooshyar, M.-M.[c], El Hajj, H.[d], Wattel, E.[e], Mahmoudi, M.[a], Hatoum, H.[d], Rahimi, H.[c], Maleki, M.[f], Rafatpanah, H.[a], Rezaee, S.A.R.[g], Yazdi, M.T.[h], Shirdel, A.[c], De Thé, H.[i], Hermine, O.[j], Farid, R.[a], Bazarbachi, A.[d]

[a] Immunology Research Centre Bu-Ali Research Institute, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran
[b] Department of Pathology and Laboratory Medicine, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran
[c] Department of Internal Medicine, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran
[d] Department of Internal Medicine, American **University** of Beirut, PO Box ١١٣-٦٠٤٤, Beirut, Lebanon
[e] Centre National de la Recherche Scientifique (CNRS) FRE ٣٠١١, Université Claude Bernard, Hopital Edouard Herriot, Lyon, France
[f] Department of Dermatology, Bu-Ali Research Institute, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran
[g] Microbiology and Virology Research Center, Bu-Ali Research Institute, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran
[h] Department of Pharmaceutical Biotechnology, College of Pharmacy, Tehran **University** of **Medical** Science, Tehran, Iran
[i] CNRS Unité Mixte de Recherche (UMR) ٧١٥١, Laboratoire Associé au Comité de Paris de la Ligue Contre le Cancer, Paris, France
[j] CNRS UMR ٨٦٠٣, Department of Hematology, Necker Hospital, Paris, France

View references (٢٤)

Abstract

Adult T-cell leukemia/lymphoma (ATL) is resistant to chemotherapy and carries a dismal prognosis particularly for the acute and lymphoma subtypes. Promising results were obtained with the combination of zidovudine and interferon-alpha. Chronic ATL has a relatively better outcome, but poor long-term survival is noted when patients are managed with a watchful-waiting policy or with chemotherapy. In ATL cell lines, arsenic trioxide shuts off constitutive NF-κB activation and potentiates interferon-alpha apoptotic effects through proteasomal degradation of Tax. Clinically, arsenic/interferon therapy exhibits some efficacy in refractory aggressive ATL patients. These results prompted us to investigate the efficacy and safety of the combination of arsenic, interferon-alpha, and zidovudine in ١٠ newly diagnosed chronic ATL patients. An impressive ١٠٠٪ response rate was observed including ٧ complete remissions, ٢ complete remissions but with more than ٥٪ circulating atypical lymphocytes, and ١ partial response. Responses were rapid and no relapse was noted. Side effects were moderate and mostly hematologic. In conclusion, treatment of chronic ATL with arsenic, interferonalpha, and zidovudine is feasible and exhibits an impressive response rate with moderate toxicity. Long-term follow up will clarify whether this will translate to disease cure. Overall, these clinical results strengthen the concept of oncogene-targeted cancer therapy. © ٢٠٠٩ by The American Society of Hematology.

Reaxys Database Information

|

Indexed Keywords

EMTREE drug terms: alpha interferon; arsenic trioxide; zidovudine; antineoplastic agent; organoarsenic derivative; oxide

EMTREE medical terms: adult; aged; anemia; article; cancer regression; CD٤+ CD٢٥+ T lymphocyte; cholestasis; clinical article; clinical trial; cytolysis; drug dose reduction; drug efficacy; drug fever; drug response; drug safety; drug withdrawal; fatigue; female; human; lymphocyte; male; nausea; neutropenia; phase ٢ clinical trial; priority journal; prospective study; side effect; T cell leukemia; thrombocytopenia; vomiting; chemically induced disorder; drug