short report
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LONG-TERM CONTINUOUS COMPLETE REMISSION OF ACUTE MYELOID LEUKEMIA IN A JEHOVAH'S WITNESS TREATED WITHOUT BLOOD SUPPORT

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ABSTRACT

We report the case of a young female patient, a Jehovah's witness, affected by peroxidase-positive acute leukemia. The patient, completely aware of the risks both of the disease and of the usual treatment for acute myeloid leukemia, refused any transfusional support. An atypical treatment plan with low hematological toxicity but also with reduced probability of positive results was therefore proposed and accepted.

Initial treatment with vincristine and prednisone induced remission; therapy was then continued for 32 months with monthly cycles of aracytin and 6-thioguanine, at accurately tailored dosages to avoid excessive hematological toxicity. The patient never needed blood support and never suffered infectious or hemorrhagic events. She is still in remission, 11 years off-therapy. The ethical and legal aspects of treatment decisions in such situations are discussed. In the author's opinion, neither withholding all treatment nor insisting on standard measures is correct: on the contrary, as always, treatment in such cases must be tailored on the patient's needs, which include not only his physical condition but his religious beliefs as well.

Key words: Jehovah's witnesses, acute leukemia, acute leukemia treatment, blood support

Treatment of patients who do not accept needed blood support on religious grounds, is always a difficult problem. This dilemma is of particular concern (also from the point of view of legal responsibilities) in cases such as acute leukemia in which the physician himself, by choosing and applying appropriate treatment, may increase the need of tranfusional support.[1]

Treatment decisions in the few cases reported, have been as follows:

– patients have been denied intensive chemotherapy for fear they cannot survive it without blood support, or

– standard intensive chemotherapy has been given: in one case with success[2] and in another with unfortunate results[3];

– one patient succesfully received *alternative,* less myelosuppressive treatment.[4]

Here we report a similar case that came to our attention in 1979. This patient too obtained a long-term continuous complete remission with an *alternative* treatment, and no transfusional support.

Case report

A 20-year-old female, Jehovah's witness, was diagnosed as having acute leukemia (M1 FAB). She presented low-grade fever of one month's duration and modest weakness. Physical examination revealed splenomegaly (3 cm below costal margin) and sternal tenderness.

Blood counts were as follows: Hb 9.8 g/dL, WBC 2.2×10^9/L (neutrophils 0.22 and blast cells 0.44×10^9/L), Plt 146×10^9/L.

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Bone marrow contained 95% blasts, which were round (10-20 microns in diameter) with basophilic cytoplasm and sometimes a few azurophilic granules, a round or indented nucleus with a reticular chromatin pattern and frequent prominent nucleoli. They were often heavily vacuolated. Peroxidase was positive in 70% and ANAE negative in 100% of blasts. Cytogenetic, immunologic and molecular biology studies were not available in our institution at that time.

The patient, informed that appropriate treatment for her disease implied marked and prolonged myelosuppression requiring transfusional support, denied consent to be transfused. A minimally myelosuppressive treatment plan was then proposed and accepted; the patient was completely aware of the reduced probability of achieving a durable complete remission.

In October 1979 she started treatment with vincristine (at a dosage of 1.4 mg/m^2 weekly) and prednisone (40 mg/m^2 daily), which went on for 6 weeks. Treatment was uneventful, with neither infectious nor hemorrhagic complications. After four weeks, bone marrow documented complete remission. Peripheral blood counts at that time were: Hb 12.3 g/dL; WBC 4.2×10^9/L (without blasts and with a normal differential); Plt 198×10^9/L. After two more weeks of the same regimen, treatment was continued with a program consisting of AraC and 6-thioguanine at monthly intervals, with progressively increased doses in order to avoid serious myelosuppression (AraC and thyoguanine minimum 20 mg/m^2 every 12 hours × 4 times and maximum 80 mg/m^2 every 12 hours × 10 times). The patient received 32 such cycles and demonstrated good hematological tolerance without any transfusional needs. During the initial months as many as 8% blasts reappeared in the bone marrow; thereafter, however it remained normal till September 1982, at which time the patient refused further treatment and bone marrow examinations. She continues to be well with normal blood counts (last follow-up: May 1993).

Discussion

Treatment decisions in cases like the one just described are surely difficult.[1] We did not think that it was correct either to use standard acute leukemia treatment or withhold all therapy. We believed it was better to offer *alternative* measures, as Dainer et al. had suggested.[4]

Indeed, it is our convinction that both ethically and legally physicians can never refuse treatment in cases such as this one, in which the therapy administered neither conforms to usual standards nor must it the source of risks that would require blood support to overcome. On the contrary, physicians always must provide the best treatment the patient is able to tolerate, *tailoring* it to meet his or her particular needs, and the term "a patient's needs" must also include one's religious beliefs.

Response to the treatment, chosen so many years ago, was unexpectedly good but also quite unusual. Indeed old reports[5] indicate very tenuous evidence for vincristine and prednisone activity in acute myeloid leukemia, and we are not aware of any recent documentation of such an effect. AraC and thioguanine have, on the other hand, well-documented activity in acute myeloid leukemia, but response to the low dosages we employed is quite unusual. Aware of this, we surely cannot recommend such treatment in every similar case.

References

1. Boggs DR. Jehovah's witnesses with leukemia. Hosp Pract 1985; 20:92-3.
2. Goldberg SL, Chan CSP, Dawkins FW, Mehlman TW, Schechter GP. Should Jehovah's witnesses be denied intensive chemotherapy for acute leukemia? N Engl J Med 1990; 322:777-8.
3. Hargis JB, Waddell DJ, Diehl L, Redmond J. Induction chemotherapy in Jehovah's witnesses with leukemia. Lancet 1990; 2:563-4.
4. Dainer PM, Knupp CL, Sartiano GP.Low-dose cytosine arabinoside as an alternative treatment for acute leukemia in Jehovah's witnesses. Am J Hematol 1992; 40:2156-7
5. Wintrobe MM. Clinical Hematology. 8th ed. Philadelphia: Lea & Febiger, 1981:1547.