AML FAB M0-7, excluding Fanconi anemia, Down syndrome, secondary AML, and granulocytic sarcoma, in contrast in AML-BFM 93 only patients younger than 18 years) showed that the overall 5-year survival rate of all children, not only those in remission, was 59% ± 2%. This was considerably higher than of the total patient group of the CCG 2891 trial (CCG estimated 40%; intensive timing 49% ± 5%; standard timing 34% ± 6%). Events 5 years after diagnosis were extremely rare in the BFM studies, and therefore, estimates are comparable. It is surprising that the survival curve from the BMT group in the CCG study shows no plateau after more than 5 years.19 This is in contrast to the chemotherapy groups in the CCG and in the BFM study.

Regarding children in remission only, as reported in the CCG paper, the 5-year overall survival in the AML-BFM 93 study (n = 386) was 71% ± 3% (matched related-BMT 70% ± 8%, n = 30; chemotherapy alone 71% ± 3%; n = 356). Considering all children with AML in remission of studies AML-BFM 87 and 93 (between 1987 and June 1998, n = 616), the 5-year overall survival was 67% ± 2%. In contrast to the CCG study, outcome was predominantly achieved by intensive chemotherapy alone (chemotherapy, n = 546; MR-BMT in first remission, n = 44 [7%]; other, n = 26 [ie, 4%]; autologous BMT, n = 11; alternative donor BMT, n = 15).

Most recently, our data were supported by the results of the Medical Research Council (MRC) 10 and 12 trials, failing to show a benefit for allogeneic BMT.6,7 Intensive chemotherapy regimens such as AML-BFM 93 or MRC 10/12 including intensive induction, consolidation, and high-dose postremission treatment and sufficient supportive care seem to achieve therapy results similar to allogeneic BMT, with less severe late effects.8-10 And although several other pediatric studies reported superior results of allogeneic BMT,11-14 results for the total groups were inferior. Therefore, a benefit of allogeneic BMT may be achieved for patients treated with less intensive induction and consolidation treatment.

As a consequence, one could argue that allogeneic BMT should always be considered in context with the applied protocol. Due to the favorable outcome (survival rate higher than 70%) in children with standard risk AML (standard risk group: AML M1/M2 with Auer rods or t(8;21), AML M4eo or inv(16), and less than 5% blasts at day 15; AML FAB M3 with t(15;17) regardless of their blast count on day 15),15 these patients were excluded from matched related-BMT in first CR in study AML-BFM 93. This had the advantage that the potential morbidity of the transplantation procedures can be avoided in the majority of these patients. Patients with standard-risk AML will either not suffer from relapse at all or suffer predominantly from late relapse. According to our data, the probability to achieve a second remission is high in late relapses allowing BMT in second CR.16 Whether there is a benefit by BMT in first CR for high-risk patients treated with BFM protocols is the subject of our current study.

References


To the editor:

Intensive chemotherapy and bone marrow transplantation for children with acute myeloid leukemia

In a recent article, Woods et al detail the findings of a well-designed Children’s Cancer Group study comparing matched sibling allogeneic bone marrow transplantation (BMT), autologous bone marrow transplantation, and intensive chemotherapy for children with acute myeloid leukemia (AML) in first complete remission (CR).1 The authors drew 2 conclusions that are subject to debate. First, referring to beneficial effect of intensively timed induction therapy, they state that “for the first time in North America we have...
To the editor:

Treatment of children with acute myeloid leukemia

In a recent article, Woods et al report that postremission bone marrow transplantation (BMT) produced better overall survival than chemotherapy in children with acute myeloid leukemia (AML). It is true that the presented event-free survival estimates for both the allogeneic BMT and chemotherapy groups receiving intensively timed induction therapy exceeded 50% (66% and 53%, respectively); this statement is misleading, however, because this analysis includes only children successfully completing induction therapy and in remission (652 of 887). As the authors themselves point out, the overall survival rate from diagnosis for all patients (allogeneic BMT, autologous BMT, and chemotherapy only) receiving intensively timed induction chemotherapy was only 49%.

The authors, citing the superior overall survival rate for children receiving matched related allogeneic BMT (allogeneic, 60%; chemotherapy, 53%; autologous BMT, 48%), conclude that “for younger patients, including children and adolescents, allogeneic BMT for AML in first remission is the treatment of choice when a matched related donor is available.” The authors imply that, for pediatric patients with a matched related donor, a strategy employing allogeneic transplantation in first remission is more effective than a strategy reserving transplantation for the treatment of relapses. The study’s design does not permit such a conclusion to be drawn, since all patients with a matched related donor were assigned to a transplant in first remission. By definition, the only potential allogeneic transplant options available to patients in the other 2 groups in the event of a relapse were alternative donor transplants. A randomized controlled study comparing conventional chemotherapy with allogeneic transplantation involving only subjects with matched related donors would be necessary to definitively answer this question. Understandably, this would be much more difficult to conduct.

Donald Pinkel

Correspondence: Donald Pinkel, Driscoll Children’s Hospital, 3533 South Alameda, PO Box 6530, Corpus Christi, TX 78466-6530

References

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John Horan and Dave Korones