Date: 18 Apr 2017
Sources Searched: Medline, Embase, PubMed

DISCLAIMER: Results of database and or Internet searches are subject to the limitations of both the database(s) searched, and by your search request. It is the responsibility of the requestor to determine the accuracy, validity and interpretation of the results.

Conception following Busulfan and Cyclophosphamide Chemotherapy

See full search strategy

1. Successful Pregnancy following Busulfan and Cyclophosphamide Conditioning and Allogeneic Bone Marrow Transplantation for Chronic Myeloid Leukemia

Author(s): Matias K.; Freire A.D.; Azevedo A.; Matias C.; Teixeira H.

Source: Biology of Blood and Marrow Transplantation; Aug 2008; vol. 14 (no. 8); p. 944-945

Publication Date: Aug 2008

Publication Type(s): Journal: Letter

Available: http://www.bbmt.org/article/S1083-8791(08)00245-0/pdf

Abstract: Recovery of gonadal function in patients after allogeneic stem cell transplantation for hematologic malignancies is uncommon, and only a few cases have been reported. We report the case of a 39-year-old woman who had a normal full-term delivery 8 years after allogeneic bone marrow transplantation for chronic myeloid leukemia. Conditioning consisted of cyclophosphamide 120 mg/kg over 2 days and Busulfan 16 mg/kg over 4 days (BuCy). To our knowledge, this is the second reported case of pregnancy after BuCy conditioning.

Database: EMBASE

2. Pregnancies following high-dose cyclophosphamide with or without high- dose busulfan or total-body irradiation and bone marrow transplantation

Author(s): Sanders J.E.; Hawley J.; Levy W.; Gooley T.; Buckner C.D.; Deeg H.J.; Doney K.; Storb R.; Sullivan K.; Witherspoon R.; Appelbaum F.R.

Source: Blood; 1996; vol. 87 (no. 7); p. 3045-3052

Publication Date: 1996

Publication Type(s): Journal: Article

Available in full text at Blood - from Highwire Press

Abstract: Patients successfully treated with a marrow transplant often have concerns about fertility and pregnancy. This study was performed to determine pregnancy outcome among patients who had received high-dose chemotherapy alone or with total-body irradiation (TBI) and marrow transplantation for aplastic anemia or hematologic malignancy. Records of 1,326 postpubertal and 196 prepubertal patients currently more than 12 years of age after marrow transplant in Seattle from August 1971 to January 1992 were reviewed to determine the patients with normal gonadal function and pregnancies. Among 708 postpubertal women, 110 recovered normal ovarian function and 32 became pregnant. In addition, nine formerly prepubertal girls with normal gonadal function became pregnant. Among 618 postpubertal men, 157 recovered testicular function and partners of

33 became pregnant. An additional two formerly prepubertal men had partners who became pregnant. Forty-one female patients and partners of 35 male patients had 146 pregnancies after transplant. All 76 patients responded to a questionnaire requesting pregnancy history, outcome, infant birth weight, and congenital anomalies information for all clinically recognized pregnancies. There were 115 live births among 146 (79%) pregnancies. Spontaneous abortion terminated four of 56 (7%) pregnancies for 28 female cyclophosphamide (CY) recipients and six of 16 (37%) pregnancies for 13 TBI recipients (P = .02). Partners of 28 male CY recipients had four of 62 (6.4%) pregnancies terminate with spontaneous abortion, but there were no spontaneous abortions among eight pregnancies of five TBI recipients' partners. Preterm delivery occurred for eight of 44 (18%) and five of eight (63%) live births for 24 CY and eight TBI female recipients (P = .01). This 25% incidence among all female patient pregnancies is higher than the expected incidence of 8% to 10% (P = .0001). The 13 preterm deliveries resulted in 10 low birth weight ([LBW] 1.8 to 2.24 kg) and three very low birth weight ([VLBW] <1.36 kg) infants, for an overall incidence of 25%, which is higher than the expected incidence of 6.5% for the general population (P = .0001). Twelve of the 13 premature infants survive. Congenital anomalies were seen among two of 52 (3.8%) live-born infants of female and six of 63 (9.5%) live-born infants of male patients, which is not different from the 13% of single congenital anomalies reported for the general population. These data demonstrate that clinically recognized pregnancies among women who have received a marrow transplant incorporating TBI are likely to be accompanied by an increased risk of spontaneous abortion. Pregnancies among all women who received a marrow transplant are likely to be accompanied by preterm labor and delivery of LBW or VLBW babies who do not seem to be at an increased risk of congenital anomalies. However, determination of possible adverse effects of parental exposure to high-dose alkylating agents with or without TBI on children born posttransplant requires longer, additional follow-up.

Database: EMBASE

3. Successful pregnancy after Busulfan/cytoxan conditioning regimen for AML

Author(s): Shah A.J.

Source: Journal of Pediatric Hematology/Oncology; Jul 2011; vol. 33 (no. 5)

Publication Date: Jul 2011

Publication Type(s): Journal: Article

Available in full text at Journal of Pediatric Hematology/Oncology - from Ovid

Abstract: The number of patients who have had successful pregnancies following hematopoietic stem cell transplant during childhood remains under investigation. As the number of survivors increase and enter adulthood, we continue to learn more about fertility in these patients. In this case report we report the case of a 27 year-old female who had a normal full term delivery 19 years following a myeloablative autologous transplant for relapsed acute myelogenous leukemia.

Database: EMBASE

4. The successful pregnancy in patient following allogeneic transplant with busulphan-based conditioning regimen for AML

Author(s): Balashov D.; Papusha L.; Skvortsova Y.; Trakhtman P.; Maschan M.; Maschan A.

Source: Bone Marrow Transplantation; Apr 2012; vol. 47

Publication Date: Apr 2012

Publication Type(s): Journal: Conference Abstract

Available in full text at Bone Marrow Transplantation - from ProQuest

Available in full text at Bone Marrow Transplantation - from Nature Publishing Group

Abstract: We report a rare case of a 23 year-old female who had ovarian function recovery and a normal full term delivery after hormone-replacement therapy (HRT) through 9 years after allogeneic HSCT with busulphan-based conditioning regimen for AML. The conditioning regimen consisted of busulfan 16 mg/kg, cyclophosphamide 120 mg/kg, and Liposomal daunorubicin 200 mg/m2. Successful engraftment of donor cells and full donor's chimerism was achieved without signs of leukemia. One year after the HSCT the patient received a course of HRT as a treatment of hypergonadotropic hypogonadism and absence of menses. After 12 months of the HRT recovery of ovarian function was confirmed. Eight years after the HSCT spontaneous pregnancy occurred; heartbeat of the fetus was registered on week 7. Three weeks later a non-severe vaginal bleeding occurred and ultrasound examination showed a non-developing pregnancy. Genetic examination of the abortion material revealed a full triploid genotype (69 XXX). After 4 months spontaneous pregnancy occured again. At 20 weeks of gestation woman was advised by geneticist. According to the results of studies of genetic markers, the genetic risk of fetal chromosomal pathology is regarding as low. All clinical and laboratory parameters were within normal limits. The whole period of pregnancy was uneventful. At 37-38 weeks' gestation the patient was admitted to the hospital with preterm premature rupture of membranes. Considering this, as well as signs of chronic fetal hypoxia, Cesarean section was performed. A girl infant was delivered with a birth weight of 3492g and Apgar scores of 4 and 7 at 1 and 5min, respectively. Postpartum period was unremarkable. On the 6th day the mother and newborn were discharge in satisfactory condition. To our knowledge this is a first case of ovarian function restoration and spontaneous pregnancy in a AML patient after multiple courses of high dose chemotherapy and allogeneic transplant with busulphan-based myeloablative conditioning.

Database: EMBASE

5. Pregnancy after chemotherapy in male and female survivors of childhood cancer treated between 1970 and 1999: A report from the Childhood Cancer Survivor Study cohort

Author(s): Chow E.J.; Stratton K.L.; Leisenring W.M.; Shnorhavorian M.; Oeffinger K.C.; Sklar C.A.; Donaldson S.S.; Ginsberg J.P.; Kenney L.B.; Levine J.M.; Robison L.L.; Armstrong G.T.; Green D.M.; Stovall M.

Source: The Lancet Oncology; May 2016; vol. 17 (no. 5); p. 567-576

Publication Date: May 2016

Publication Type(s): Journal: Article

Available in full text at Lancet Oncology - from ProQuest

Abstract: Background: The effect of many contemporary chemotherapeutic drugs on pregnancy and livebirth is not well established. We aimed to establish the effects of these drugs on pregnancy in male and female survivors of childhood cancer not exposed to pelvic or cranial radiotherapy. Methods: We used data from a subset of the Childhood Cancer Survivor Study cohort, which

followed 5-year survivors of the most common types of childhood cancer who were diagnosed before age 21 years and treated at 27 institutions in the USA and Canada between 1970 and 1999. We extracted doses of 14 alkylating and similar DNA interstrand crosslinking drugs from medical records. We used sex-specific Cox models to establish the independent effects of each drug and the cumulative cyclophosphamide equivalent dose of all drugs in relation to pregnancies and livebirths occurring between ages 15 years and 44 years. We included siblings of survivors as a comparison group. Findings: We included 10 938 survivors and 3949 siblings. After a median follow-up of 8 years (IQR 4-12) from cohort entry or at age 15 years, whichever was later, 4149 (38%) survivors reported having or siring a pregnancy, of whom 3453 (83%) individuals reported at least one livebirth. After a median follow-up of 10 years (IQR 6-15), 2445 (62%) siblings reported having or siring a pregnancy, of whom 2201 (90%) individuals reported at least one livebirth. In multivariable analysis, survivors had a decreased likelihood of siring or having a pregnancy versus siblings (male survivors: hazard ratio [HR] 0.63, 95% CI 0.58-0.68; p2 increments: HR 0.82, 95% CI 0.79-0.86; p2 HR 0.22, 95% CI 0.06-0.79; p=0.020; >450 mg/m2 0.14, 0.03-0.55; p=0.0051) and doses of lomustine equal to or greater than 411 mg/m2 (0.41, 0.17-0.98; p=0.046) were significantly associated with reduced pregnancy; cyclophosphamide equivalent dose was associated with risk only at the highest doses in analyses categorised by quartile (upper quartile vs no exposure: HR 0.85, 95% CI 0.74-0.98; p=0.023). Results for livebirth were similar to those for pregnancy. Interpretation: Greater doses of contemporary alkylating drugs and cisplatin were associated with a decreased likelihood of siring a pregnancy in male survivors of childhood cancer. However, our findings should provide reassurance to most female survivors treated with chemotherapy without radiotherapy to the pelvis or brain, given that chemotherapy-specific effects on pregnancy were generally few. Nevertheless, consideration of fertility preservation before cancer treatment remains important to maximise the reproductive potential of all adolescents newly diagnosed with cancer. Funding: National Cancer Institute, National Institutes of Health, and the American Lebanese-Syrian Associated Charities.

Database: EMBASE

6. Fertility outcomes after allogeneic hematopoietic stem cell transplants conditioned with busulfan 4 mg/kg and cyclophosphamide 200 mg/kg to treat severe aplastic anemia

Author(s): Kerbauy M.N.; Mariano L.C.B.; Menezes E.; Dantas E.; Sobrinho J.S.; Nascimento M.M.; Silva R.; Macedo M.C.; Gualandro S.; Seber A.

Source: Blood; Dec 2015; vol. 126 (no. 23); p. 4460

Publication Date: Dec 2015

Publication Type(s): Journal: Conference Abstract

Available in full text at Blood - from Highwire Press

Available in full text at Blood - from Free Access Content

Abstract: Hematopoietic stem cell transplantation (HCT) is a standard treatment for young patients with Severe Aplastic Anemia and an available matched sibling donor. Conditioning regimens frequently use high-dose cyclophosphamide. A second conditioning agent is frequently associated when transplanting patients with multiple prior transfusions to decrease the risk of primary or secondary graft failure. Low dose oral Busulfan has been used in our country for many years, but the impact of this therapy on fertility has never been evaluated. The objective of this study is to retrospectively evaluate fertility in patients with Severe Aplastic Anemia who underwent allogeneic HCT with Busulfan 4 mg/Kg and Cyclophosphamide 200 mg/Kg. Methods: Retrospective chart review. Patients without appropriate information in the hospital charts were called, asked about pregnancy, and scheduled a regular appointment at the HCT service. All patients had related allogeneic bone marrow grafts from matched sibling donors, received the same conditioning

therapy, and GVHD prophylaxis based on Cyclosporine and Methotrexate. Results: A total of 29 consecutive patients underwent HCT between 1991 and 2014, were alive, and had the information on fertility. The patients had a median age of 22 years at the time of transplant (range 6-36) and were followed after transplant for 2 to 24 years (median 14 years). Twenty-two were male and seven were female. Among the 7 females, 3 had documented ovarian failure; other 3 have tried to become pregnant and all of them did, having 2 normal children and 2 abortions. The patients reported no congenital anomaly. Twenty-two men were contacted: 12 had testosterone levels drawn, and it was low in only one man. Among the 12/22 men who wanted to make their wives pregnant, only one was not successful. The 11 male patients fathered 19 children (between 1 and 3 children per male patient). Conclusions: Very low dose Busulfan associated to Cyclophosphamide seems to have an important adverse impact on ovarian function: half of the females developed gonadal failure, while only one out of 22 men had low testosterone levels. In patients with normal gonadal function, pregnancy seems to be normal with 21 normal babies being born from 2/3 females and 11/ 12 man after the transplant. Since the relatively high rate of gonadal failure in females may be also secondary to high dose Cyclophosphamide, novel conditioning regimens are still desired for women with Severe Aplastic Anemia who still have the desire to get pregnant. (Table Presented).

Database: EMBASE

7. Ovarian function after allogeneic hematopoietic stem cell transplantation in childhood and adolescence

Author(s): Vatanen A.; Taskinen M.; Saarinen-Pihkala U.M.; Jahnukainen K.; Wilhelmsson M.; Borgstrom B.; Gustafsson B.; Winiarski J.

Source: European Journal of Endocrinology; Feb 2014; vol. 170 (no. 2); p. 211-218

Publication Date: Feb 2014

Publication Type(s): Journal: Article

Available in full text at European Journal of Endocrinology - from Free Access Content

Available in full text at European Journal of Endocrinology - from Highwire Press

Abstract: Abstract Objective: The aim of the study was to evaluate long-term ovarian function after allogeneic hematopoietic stem cell transplantation (HSCT) in childhood and adolescence. Subjects and methods: Predictive factors for ovarian function were evaluated among 92 adult or pubertal female survivors transplanted at Huddinge and Helsinki University Hospital during 1978-2000, at a mean age of 9G4.3 years (range 1-19). At the time of the study a meanGS.D. of 13G5.5 years (range 6-27) had elapsed since the HSCT and the mean age of the participants was 22G6.3 years (range 9-41). Results: Spontaneous puberty based on breast development occurred in 40 and menarche in 30 of the 70 girls who were prepubertal at transplantation. Six out of 20 girls who received HSCTafter initiation of pubertal development recovered their ovarian function. Younger age at HSCT, conditioning without total body irradiation (TBI), and a non-leukemia diagnosis predicted the spontaneous menarche. The incidence of menarche was higher after fractioned vs single fraction TBI (P!0.05), cyclophosphamide (Cy) vs busulfan (Bu)-based conditioning (P!0.05), and among leukemia patients transplanted at first remission vs later remissions (P!0.01) and with no cranial irradiation (cranial radiotherapy, CRT) vs given CRT (14-24 Gy) (P!0.01). The majority of recipients conditioned with only Cy vs TBI (P!0.001) or vs Bu-based regimens (P!0.01) showed preserved ovarian function and required no estrogen replacement at their latest follow-up visit at a mean age of 23G6.3 years (range 15-41). Ten women became pregnant. Conclusions: Patients conditioned with TBI or Bu-based regimes are at high risk of ovarian failure. Intensive antileukemia therapy before HSCT including CRT especially among relapsed patients may further decrease the possibility of spontaneous menarche.

Database: EMBASE

8. Letter to the Editor: Unexpected pregnancy after allogeneic stem cell transplantation

Author(s): Pfitzer C.; Strauss G.; Borgmann-Staudt A.; Buhrer C.

Source: Journal of Obstetrics and Gynaecology Research; May 2013; vol. 39 (no. 5); p. 1119

Publication Date: May 2013

Publication Type(s): Journal: Letter

Available in full text at Journal of Obstetrics and Gynaecology Research - from John Wiley and Sons

Database: EMBASE

9. Recovery of ovarian function and pregnancy in a patient with AML after myeloablative busulphan-based conditioning regimen

Author(s): Balashov D.N.; Papusha L.I.; Trakhtman P.E.; Maschan A.A.; Persiantseva M.I.; Skorobogatova E.V.; Skvortsova Y.V.; Rumiantsev A.G.; Nazarenko T.A.; Revishvili N.A.; Andriutsa A.V.

Source: Journal of Pediatric Hematology/Oncology; May 2011; vol. 33 (no. 4)

Publication Date: May 2011

Publication Type(s): Journal: Article

Available in full text at Journal of Pediatric Hematology/Oncology - from Ovid

Abstract: We report a rare case of ovarian function recovery and pregnancy after hormone-replacement therapy (HRT) in the acute myeloblastic leukemia (AML) patient in third complete remission received hematopoietic stem cell transplantation (HSCT) with busulphan-based conditioning regimen. Successful engraftment of the donor cells and full donor's chimerism was achieved without the signs of leukemia. One year after HSCT the patient received a course of HRT as a treatment of hypergonadotropic hypogonadism. After 12 months of HRT the recovery of ovarian function was confirmed. Eight years after the HSCT spontaneous pregnancy occurred; heartbeat of the fetus was registered on week 7. Three weeks later a nonsevere vaginal bleeding occurred and the ultrasound examination showed a nondeveloping pregnancy. Genetic examination of the abortion material showed a full triploid genotype (69 XXX). To our knowledge this is a first case of ovarian function restoration and spontaneous pregnancy in a AML patient after multiple courses of high-dose chemotherapy and busulphan-based myeloablative conditioning for HSCT. Copyright © 2011 by Lippincott Williams & Wilkins.

Database: EMBASE

10. Four successful pregnancies in a patient with mucopolysaccharidosis type I treated by allogeneic bone marrow transplantation

Author(s): Remerand G.; Merlin E.; Kanold J.; Demeocq F.; Brugnon F.; Janny L.; Froissart R.

Source: Journal of Inherited Metabolic Disease; 2009 ; p. 1-3

Publication Date: 2009

Publication Type(s): Journal: Article In Press

Available in full text at Journal of Inherited Metabolic Disease - from Springer Link Journals

Available in full text at Journal of Inherited Metabolic Disease - from ProQuest

Abstract: To date, little is known about the fertility of women suffering from mucopolysaccharidosis type I (MPS I). We report on a female patient with MPS I treated by allogeneic bone marrow transplantation (BMT) at the age of 4 years (after a conditioning regimen containing busulfan 16 mg/kg and cyclophosphamide 100 mg/kg) who had four successful pregnancies without any reproductive assistance. Clinical and biological examinations of the children were normal. On the basis of this case, we discuss the fertility counselling of female MPS I patients at the time of BMT. © 2009 Springer Science+Business Media B.V.

Database: EMBASE

11. Ovarian recovery after stem cell transplantation

Author(s): Liu J.; Ball E.D.; Carrier E.; Malhotra R.; Voltarelli J.; Stracieri A.B.; Oliveira L.; Simoes B.P.

Source: Bone Marrow Transplantation; Feb 2008; vol. 41 (no. 3); p. 275-278

Publication Date: Feb 2008

Publication Type(s): Journal: Article

Available in full text at Bone Marrow Transplantation - from ProQuest

Available in full text at Bone Marrow Transplantation - from Nature Publishing Group

Abstract: Autologous or allogeneic SCT with conventional conditioning (chemotherapy with or without irradiation) has emerged as an effective and potentially curative therapy in patients with hematologic malignancies and in other selected solid tumors; however, several patients experience significant early and delayed side effects, including long-term endocrine imbalance and infertility. In spite of several reproductive recovery and pregnancy reports published in the oncology literature, review of medical literature reveals a paucity of comparable information in the SCT field. We report here four cases of ovarian recovery in patients who received hormonal replacement therapy after diagnosis of primary ovarian failure due to high-dose chemotherapy and SCT.

Database: EMBASE

12. Children with sickle cell disease: Growth and gonadal function after hematopoietic stem cell transplantation

Author(s): Brachet C.; Heinrichs C.; Tenoutasse S.; Devalck C.; Azzi N.; Ferster A.

Source: Journal of Pediatric Hematology/Oncology; Jul 2007; vol. 29 (no. 7); p. 445-450

Publication Date: Jul 2007

Publication Type(s): Journal: Article

Available in full text at Journal of Pediatric Hematology/Oncology - from Ovid

Abstract: The aim of this study is to describe the growth, pubertal development, and gonadal function of a cohort of 30 sickle cell disease children who underwent bone marrow transplantation. They all received the standard pretransplant conditioning regimen of busulfan (14 or 16 mg/kg) and cyclophosphamide (200 mg/kg). Growth was normal both before and after transplant. Seven out of 10 girls had severe ovarian failure and requirement for estrogen replacement. Three out of 10 girls recovered some ovarian function posttransplant, with spontaneous pubertal development, menses, and 1 successful normal pregnancy. Follicle-stimulating hormone (FSH) serum levels were very high during spontaneous puberty and slowly normalized thereafter in these 3 patients. The 3 girls with ovarian function recovery differed from the 7 others by the lower busulphan dose of the conditioning regimen they received (14 rather than 16 mg/kg). All boys showed spontaneous pubertal development. However, most of them had small testis and elevated serum FSH levels, reflecting germinal epithelium damage. Testosterone level was low normal and luteinizing hormone elevated, reflecting Leydig cell insufficiency. In conclusion, 7/10 girls had complete gonadal failure and most of the boys had spontaneous puberty but germinal epithelial failure. Serum FSH levels showed important variations over time in the same patient. © 2007 Lippincott Williams & Wilkins, Inc.

Database: EMBASE

13. Prevalence of conception and pregnancy outcomes after hematopoietic cell transplantation: Report from the bone marrow transplant survivor study

Author(s): Carter A.; Francisco L.; Smith D.; Grant M.; Bhatia S.; Robison L.L.; Baker K.S.; McGlave P.B.; Weisdorf D.J.; Gurney J.G.; Forman S.J.

Source: Bone Marrow Transplantation; Jun 2006; vol. 37 (no. 11); p. 1023-1029

Publication Date: Jun 2006

Publication Type(s): Journal: Article

Available in full text at Bone Marrow Transplantation - from ProQuest

Available in full text at Bone Marrow Transplantation - from Nature Publishing Group

Abstract: We conducted a retrospective study to describe the magnitude of compromise in reproductive function and investigate pregnancy outcomes in 619 women and partners of men treated with autologous (n=241) or allogeneic (n=378) hematopoietic cell transplantation (HCT) between 21 and 45 years of age, and surviving 2 or more years. Median age at HCT was 33.3 years and median time since HCT 7.7 years. Mailed questionnaires captured pregnancies and their outcomes (live birth, stillbirth, miscarriage). Thirty-four patients reported 54 pregnancies after HCT (26 males, 40 pregnancies; eight females, 14 pregnancies), of which 46 resulted in live births. Factors associated with reporting no conception included older age at HCT (>30 years: odds ratio (OR)=4.8), female sex (OR=3.0), and total body irradiation (OR=3.3). Prevalence of conception and pregnancy outcomes in HCT survivors were compared to those of 301 nearest-age siblings. Although the risk for not reporting a conception was significantly increased among HCT survivors (OR=36), survivors were not significantly more likely than siblings to report miscarriage or stillbirth (OR=0.7). Although

prevalence of conception is diminished after HCT, if pregnancy does occur, outcome is likely to be favorable. Patients should be counseled prior to transplant regarding strategies to preserve fertility.

Database: EMBASE

14. Pregnancy in a patient with mucopolysaccharidosis type IH homozygous for the W402X mutation

Author(s): Hendriksz C.J.; Moss G.M.; Wraith J.E.

Source: Journal of Inherited Metabolic Disease; 2004; vol. 27 (no. 5); p. 685-686

Publication Date: 2004

Publication Type(s): Journal: Article

Available in full text at Journal of Inherited Metabolic Disease - from Springer Link Journals

Available in full text at Journal of Inherited Metabolic Disease - from ProQuest

Abstract: We present a patient with MPS IH, homozygous for the W402X mutation. The patient was treated by bone marrow transplantation at age 14 months. The patient became pregnant at age 21 years. Because of concerns about her own health, the patient opted for a termination. © SSIEM and Kluwer Academic Publishers.

Database: EMBASE

15. Successful pregnancy after bone marrow transplantation for thalassaemia

Author(s): Borgna-Pignatti C.; Marradi P.; Rugolotto S.; Marcolongo A.

Source: Bone Marrow Transplantation; Jul 1996; vol. 18 (no. 1); p. 235-236

Publication Date: Jul 1996

Publication Type(s): Journal: Article

Abstract: Bone marrow transplantation from an HLA-identical sibling can cure thalassaemia. The risk of chemotherapy-induced sterility, however, represents a deterrent for many patients already at risk of gonadal insufficiency and reduced fertility because of the effects of transfusional iron overload. We report here the first patient transplanted for thalassaemia, after ablative therapy with busulfan and cyclophosphamide, who, despite late pubertal maturation, became pregnant and delivered a full-term, normal infant.

Database: EMBASE

16. Reproductive status in long-term bone marrow transplant survivors receiving busulfan-cyclophosphamide (120 mg/kg).

Author(s): Grigg, A P; McLachlan, R; Zaja, J; Szer, J

Source: Bone marrow transplantation; Nov 2000; vol. 26 (no. 10); p. 1089-1095

Publication Date: Nov 2000

Publication Type(s): Journal Article

Abstract: There are few published data on the recovery of fertility after 'little' Bu-Cy (busulfan 16 mg/kg, cyclophosphamide 120 mg/kg) conditioning for BMT. To address this, we identified 19 females aged less than 40 years at transplant and 47 males from a single centre who were alive a minimum of 2 years after BMT with little Bu-Cy as conditioning and who were evaluable for testing. FSH, LH, testosterone and inhibin B levels were measured in males. Twenty-six also had semen analysis, a median of 5 years post transplant; 21 had detectable sperm, with 11 having counts >20 x 10(6)/ml. There was an association between prolonged chronic graft-versus-host disease and low sperm counts. FSH and inhibin B levels correlated with sperm counts but not to the extent that they could reliably predict counts in individual patients. An additional six of seven males attempting to father children did so, a median of 3.2 years post transplant. Low testosterone levels were noted in 12% of males, most of whom had symptoms consistent with androgen deficiency. FSH, LH and oestradiol levels in the absence of hormone replacement therapy were measured in females; all remained amenorrheic with endocrine evidence of ovarian failure. These results have implications for fertility counselling and hormone replacement therapy both pre- and post BMT.

Database: Medline

Strategy 182987

#	Database	Search term	Results
1	Medline	exp "LEUKEMIA, MYELOGENOUS, CHRONIC, BCR-ABL POSITIVE"/	17560
2	Medline	("Chronic myeloid leukemia" OR "Chronic myeloid leukaemia" OR CML).ti,ab	21189
3	Medline	(1 OR 2)	27385
4	Medline	(Busulphan).ti,ab	744
5	Medline	exp BUSULFAN/	4131
6	Medline	exp CYCLOPHOSPHAMIDE/	49939
7	Medline	(cyclophosphamide).ti,ab	44064
8	Medline	(4 OR 5)	4463
9	Medline	(6 OR 7)	68150
10	Medline	(pregn*).ti,ab	394736
11	Medline	exp PREGNANCY/	805874
12	Medline	(10 OR 11)	887839
13	Medline	(3 AND 8 AND 9 AND 12)	3
14	Medline	(Myleran).ti,ab	342
15	Medline	(9 AND 12 AND 14)	1
16	Medline	(8 AND 9 AND 12)	21
17	EMBASE	exp "LEUKEMIA, MYELOGENOUS, CHRONIC, BCR-ABL POSITIVE"/	38823

18	EMBASE	("Chronic myeloid leukemia" OR "Chronic myeloid leukaemia" OR CML).ti,ab	31450
19	EMBASE	(17 OR 18)	0
20	EMBASE	(Busulphan).ti,ab	1169
21	EMBASE	exp BUSULFAN/	21606
22	EMBASE	(20 OR 21)	21741
23	EMBASE	exp CYCLOPHOSPHAMIDE/	196081
24	EMBASE	(cyclophosphamide).ti,ab	63103
25	EMBASE	(23 OR 24)	201642
26	EMBASE	(pregn*).ti,ab	550093
27	EMBASE	exp PREGNANCY/	729381
28	EMBASE	(26 OR 27)	873725
29	EMBASE	(19 AND 22 AND 25 AND 28)	17
30	EMBASE	(22 AND 25 AND 28)	225
31	EMBASE	*CYCLOPHOSPHAMIDE/	59290
32	EMBASE	*BUSULFAN/	5429
33	EMBASE	(28 AND 31 AND 32)	51
34	EMBASE	("Bu-cyclophosphamide").ti,ab	61
35	EMBASE	(28 AND 34)	0
36	EMBASE	(BuCy).ti,ab	725
37	EMBASE	(28 AND 36)	4
38	Medline	(BUSULFAN).ti,ab	3512

39	Medline	(9 AND 12 AND 38)	16
40	PubMed	("Chronic myeloid leukemia" OR "Chronic myeloid leukaemia" OR CML).ti,ab	21088
41	PubMed	(Busulphan).ti,ab	6033
42	PubMed	(BUSULFAN).ti,ab	6033
43	PubMed	(cyclophosphamide).ti,ab	67383
44	PubMed	(pregn*).ti,ab	907299
45	PubMed	(41 OR 42)	6033
46	PubMed	(40 AND 43 AND 44 AND 45)	4
47	PubMed	(43 AND 44 AND 45)	32
48	PubMed	("Bu-cyclophosphamide").ti,ab	13
49	PubMed	(BuCy).ti,ab	877
50	PubMed	(48 OR 49)	887
51	PubMed	(44 AND 50)	12
52	Medline	(BUSULFAN).ti,ab	3512
54	Medline	(9 AND 12 AND 52)	16