Atlantic Provinces Pediatric Hematology/Oncology Network
Réseau d' Oncologie et Hématologie Pédiatrique des Provinces Atlantiques

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Reviewed and approved by specialists at the IWK Health Centre, Halifax, NS and the Janeway Children's Health and Rehabilitation Centre, St. John's, NL.

The supportive care guidelines have been developed by appropriate Atlantic Provinces health professional specialists (physicians, pharmacists, nurses and other health professionals) using evidence-based or best practice references. Format and content of the guidelines will change as they are reviewed and revised on a periodic basis. Care has been taken to ensure accuracy of the information. However, any physician or health professional using these guidelines will be responsible for verifying doses, and administering medications and care according to their own institutional formularies and policies and acceptable standards of care.

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Guidelines for Management of Sexually Mature Youth With Cancer or Serious Hematologic Disorder

Sexually mature youth with cancer or serious hematologic disorder have challenges not always applicable to younger children.

1. **Pre-treatment Recommendations:**
    a. At the onset of treatment, a relationship based on respect and confidentiality is important. The health care professional should facilitate open, honest communication. The health care professional should encourage youth to present their concerns and interests with the understanding that the health care professional will represent these interests and concerns as applicable.
    b. Discussions with youth about sexuality will take place privately. Parents may be involved as the youth her/himself wishes.
    c. All youth will receive information about the course, treatment and prognosis of her/his disease, the impact of the disease/treatment on her/his schooling, normal activities, friendships and sexuality. <u>These topics should be reviewed regularly</u>.
    d. Before the start of treatment, a pregnancy test should be done if applicable to the youth's diagnosis and for all youth with child bearing potential prior to starting chemotherapy/radiation. All sexually active young women should have a complete gynecologic exam prior to initiation of treatment.

e. For all sexually active youth, birth control options should be reviewed and initiated, including the use of condoms for youth and partners. Options that decrease menstrual frequency or induce amenorrhea are encouraged - oral contraceptive pill or depo-medroxyprogesterone acetate. In addition, all sexually active youth require barrier protection against sexually transmitted diseases as well as to guard against failure of contraception effectiveness methods above.
f. The metabolism of oral contraceptive pills or depo-medroxyprogesterone acetate is altered by chemotherapy thus decreasing the effectiveness of the contraceptive medication.
g. The possibility of current and future pregnancy should be addressed, including potential physical stress caused by pregnancy. Future fertility related to disorder/treatment should be discussed. In Canada, options for cryopreserved oocytes from an ovarian biopsy are limited. The collection of oocytes requires a laparotomy and a referral to REI clinic. Cryopreserved embryos must be fertilized prior to cryopreservation [thus requiring a suitable partner/donor]. The cost of an IVF treatment is approximately $8,000.00 per cycle and is not covered by MSI [nor are the costs associated with cryopreservation]. Risks of delay of treatment must be balanced with considerations for future fertility.
h. Differences between fertility and sexuality/libido should be explained. These issues should be periodically reviewed with youth during and after completion of treatment.
i. Sperm banking should be discussed prior to initiation of chemotherapy/radiation.

2. Prevention and management of infection:

a. Abrasions - the use of tampons may lead to vaginal abrasions and mucosal abnormalities. Tampons may increase risk of infection. For immunocompromised youth, sanitary napkins are recommended. To decrease mucosal injury and infection, the use of a diaphragm, vaginal contraceptive sponge or cervical cap should be avoided. Over-the-counter water-based lubricants may be used to limit mucosal abrasions during intercourse.
b. Intercourse - sexually active youth with an ANC <500 μ/L have an increased risk of infection. Abstinence is recommended during times of decreased ANC or platelet count. The infection risk for this population is increased at any ANC. Lubricated condoms are recommended to decrease infection risk. Vaginal spermicides are not effective in preventing sexually transmitted disease and increase risk of vaginal irritation and UTI, and therefore should not be used.
c. Sexually transmitted disease - human papillomavirus [HPV] can manifest as visible genital warts or as a subclinical infection. Certain strains are associated with increased cervical, vulvar and vaginal cancer. The youth should be referred for colposcopy if condylomata are present or a dysplastic Pap smear is found. Chlamydia and gonorrhea rates are highest in females 15-19 years of age. These young women should be screened even if asymptomatic. If urethritis is present, screening should be done for chlamydia and gonorrhea. Untreated disease can result in PID and epididymitis. Immunosuppression predisposes to genital herpes simplex infection and recurrence of infection. Daily antiviral medications maybe required to prevent recurrence. For sexually active youth, testing for HIV, hepatitis and syphilis should be offered.

3. Prevention of excessive menstrual bleeding:

a. Prevention - induced amenorrhea prior to starting treatment for serious bleeding disorders should be considered. Menstrual frequency can be decreased with daily administration of a low-dose, monophasic, combined oral contraceptive pill. This regimen can be continued for up to 4 months without a withdrawal bleed. Youth should be instructed to remove the placebo pills in packs, or order a 21-day formulation. When the platelet count is >50,000 μ/L and expected to remain stable, a withdrawal bleed can occur by stopping the oral contraceptive pill for 1 week. To decrease breakthrough risk, prescribe a monophasic, progestigenic OCP such as Minovral®. Daily oral contraceptive use requires adherence. A contraceptive patch may increase adherence. Contraindications to OCP use include a history of DVT/PE, liver cancer, breast cancer, surgery of lower extremities and/or prolonged immobilization.

b. Endometrial atrophy and amenorrhea can be achieved with depo-medroxyprogesterone acetate (Depo-Provera®) 150 mg IM every 12 weeks. This may require a platelet count >20,000 μ/L. Amenorrhea is achieved in 3 months by 30%, in 12 months by >50%. IM depo-medroxyprogesterone is associated with initial irregular bleeding. Simultaneous estrogen administration for the first 3 weeks of the first 2 injections may decrease irregular bleeding. Irritability, anxiety and depression have been associated with its use. It may decrease bone mineral density and should be avoided in youth at risk for osteoporosis/osteopenia. Prolonged use should be avoided.

4. Management of excessive menstrual bleeding [in consultation with a pediatric gynecologist]:

a. Rule out another bleeding cause [coagulopathy, thrombocytopenia] or pregnancy when excessive bleeding occurs. Refer to a pediatric gynecologist for a pelvic exam and assessment to determine the cause of the bleeding.

b. With a normal hemoglobin, monitor with frequent hemoglobin levels during heavy bleeding episodes. If the youth is taking a monophasic OCP, confirm adherence to treatment prescribed. Increase dose to two pills a day until bleeding resolves or add 20 μg of ethinyl estradiol for 21 days for 3 cycles. Antifibrinolytic therapy [such as tranexamic acid, Cyklokapron®] is a very useful adjuvant.

c. If not on prophylaxis with OCP or depo-medroxyprogesterone, begin therapy with OCPs as described above. Administering depo-medroxyprogesterone with active bleeding may initially worsen the bleeding profile as it is associated with initial irregular bleeding (see 3.b.).

d. Hemoglobin 80-120 gm/L - youth can often be managed in OPD if hemodynamically stable. If not bleeding at the time of evaluation, start Minovral® once daily. If bleeding at the time of evaluation, start Orval® BID until 24 hours without bleeding and then decrease to once daily for 3 cycles. Then change to Minovral®. Minovral® and Ovral® are contraindicated in patients with thromboembolic disorders or headaches with focal neurological symptoms, e.g., migraine (see contraindication section in product monograph). An antiemetic may be needed 30 minutes prior to high dose OCP. Begin iron

supplementation. A stool softener (e.g., docusate sodium, Colace®) should be prescribed with the iron supplement due to the constipation that may occur which may lead to straining and possible bleeding.

e. Hemoglobin <80 g/L, or 80-100 g/L and actively bleeding - give Ovral® 2 tablets orally immediately, then 1 tablet q6h. When bleeding stops, decrease to 1 tablet q8h x 1 week, followed by 1 tablet q12h x 1 week, followed by 1 tablet once daily continuously for 3 cycles, and then change to Minovral®. Hospitalization with IV hydration and hormonal therapy may be required. If hospitalized, give Ovral® 2 tablets q6h to stabilize endometrium until bleeding stops. If bleeding does not decrease, or increases, change Ovral® to intravenous conjugated estrogen 25 mg IV q6h. If effective, may continue for a total of 6 doses. Discontinue conjugated estrogen as soon as bleeding stops and restart Ovral®. Taper Ovral® by 1 tablet per day over 1 week. Then continue Ovral® 1 tablet once daily continuously for 3 cycles, and then change to Minovral®. Dilation and curettage are rarely required. RBC transfusions may be required.
f. All youth should be evaluated for iron status. Iron supplementation should be considered for all youth with iron deficiency. Youth receiving regular RBC transfusions and supplemental iron should have their iron status checked every 3 months.

5. Sexuality and contraception:

a. Communication - provide opportunity to discuss developmental issues of sexuality.
b. Contraception - discuss the need for contraception with all youth. Stress that contraception does not eliminate the spread of HIV/AIDS or other STDs. Youth should be counseled that condoms should be used to prevent infection. Emergency contraception should be discussed. Two doses of levonorgestrel 0.75 mg (PlanB®) at 12 hour intervals has been used. Doses should be administered within 120 hours of unprotected intercourse. Counseling should be repeated intermittently during the course of treatment and following.

References:

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