



THE CHILDREN'S MEDICAL CENTER OF DAYTON

Pediatric Clips

*Implications for Cancer Survivorship —
Emmett Broxson, MD*

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Pediatric Clips from The Children's Medical Center of Dayton are quick reviews of common pediatric conditions.

Dayton Children's is the region's pediatric referral center for a 20-county area. As the only facility in the region with a full-time commitment to pediatrics, Dayton Children's offers a wide range of services in general pediatrics as well as in 35 subspecialty areas for infants, children and teens. We welcome your inquiries about services available — call 937-641-3618 or e-mail marketing@childrensdayton.org.



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caring for the
children you love.*

CASE:

A female patient was diagnosed with stage IIB nodular sclerosing Hodgkins disease 12 years ago. Her therapy included

doxorubicin, vinblastine, dacarbazine and bleomycin along with radiation to her neck and upper chest. She now receives

follow-up care in the long-term follow-up clinic at Dayton Children's.

CASE DISCUSSION

On this patient's first visit to the follow-up clinic she is given a summary of her therapy as well as information about her follow-up evaluations. The Children's Oncology Group (COG) established "Health Links," a lay summary of the complications of each therapy received. This information is provided during the first visit and is supplemented during subsequent visits. She is also screened based on recommendations established for her disease and therapy. The recommendations used were compiled and reviewed by a panel of pediatric oncologists and oncology nurses. A meta-analysis was accomplished and is published with the guidelines. "Health Links" and the guidelines mentioned are available at CureSearch.org.

For this patient, the doxorubicin, an anthracycline, may affect her heart clinically and subclinically. The effects can be exacerbated by the radiation therapy she received. Effects seem to be related to the cumulative doses of anthracyclines received as well as the age at which they were received. Certain conditions such as isometric exercise, pregnancy and viral infections may precipitate cardiac decompensation. Effects can be noted early on after therapy or, in most cases, 15 to 20 years after

therapy. She will be followed with periodical echocardiograms or MUGA scans.

Bleomycin can be associated with pulmonary fibrosis or interstitial pneumonitis. This is especially seen with high cumulative doses, generally greater than 40 units/m², and when combined with other pulmonary toxic therapy, such as radiation therapy, and chemotherapeutic agents such as nitrosoureas and anthracyclines. High concentrations of oxygen as with general anesthesia can lead to chronic pulmonary fibrosis. She would be counseled to avoid SCUBA diving due to the high concentration of oxygen associated with high underwater pressures. She would be advised to let her other health care providers know of her bleomycin therapy, especially her anesthesiologist. Her medical record is also flagged with a bleomycin alert sticker.

Dacarbazine has been associated with ovarian failure. Cyclophosphamide, a drug commonly used in Hodgkin disease, is also associated with ovarian failure.

Radiation therapy seems to have the most long-term complications. Frequently hypothyroidism, xerostomia and dental problems

can be associated with radiation to the upper chest and neck. The dental problems include tooth/root agenesis, microdontia, root thinning/shortening, enamel dysplasia, periodontal disease and tooth decay. Radiation to the chest leads to an increased risk of breast cancer. Approximately 67 percent of patients who receive radiation to the chest for Hodgkins disease will get breast cancer within 10 to 20 years. Breast self-examination is recommended monthly beginning at puberty along with clinical examinations yearly until 25 years of age. At that time clinical examinations are recommended every six months. Mammograms are recommended beginning eight to 10 years after radiation or at age 25, whichever is later. We have also seen breast asymmetry due to chest radiation.

The cancer experience can cause a number of late effects that are related to host factors such as sex, family history, type of malignancy and premonitory conditions. Social factors, such as socioeconomic status and educational achievement also play a role. Potential effects include depression, anxiety, post-traumatic stress disorder, social withdrawal, obesity and educational problems.

Continued

Continued from the front.

Frequently there are health care and insurance access issues, especially related to older patients receiving follow-up in a pediatric facility.

Since more than 75 percent of children with childhood cancer are cured, the management of late effects becomes very important. The Institute of Medicine (IOM) published their recommendations for "Improving Care and Quality of Life" in childhood cancer survivors in 2003. This has also become a priority for adult survivors with the IOM report "From Cancer Patient to Cancer Survivor: Lost in

Transition." At the 2006 meeting of the American Society of Clinical Oncology, survivorship follow-up was a major emphasis.

Dayton Children's late effects program has been in place since the early 1990's. Currently it has two half-day clinics a month serving over 200 adolescents and young adults. Patients are referred to the clinic when there is minimal risk for recurrence and when they are being seen annually by their primary pediatric

oncologist. During the clinic a nurse coordinator, social worker, pediatric endocrinologist and pediatric oncologist see the patient.

Recommended web sites:

CureSearch.org
Survivoralert.org
Cancersurvivorchild.org

FEATURED SPECIALIST



Emmett Broxson, MD, is the director of the Comprehensive Cancer Care Center for Cancer and Blood Disorders at Dayton

Children's, the neuro-oncology clinic and the long-term follow-up clinic. Dr. Broxson is board certified in both pediatrics and pediatric hematology/oncology. He is a professor of

pediatrics at the Wright State University Boonshoft School of Medicine. Dr. Broxson is also principal investigator for Children's Oncology Group (COG).

Hematology/Oncology at Dayton Children's

The Comprehensive Care Center for Cancer and Blood Disorders provides extensive services to children through 21 years of age with blood disorders or malignancies. For children with a malignancy, state-of-the-art care is provided through collaboration with the national Children's Oncology Group. A multidisciplinary approach ensures that patients' and families' medical and psychosocial needs are met. The

multidisciplinary care team for Dayton Children's cancer program follows nationally approved protocols for cancer treatment. This ensures the infants, children and teens treated at Dayton Children's receive the latest cancer treatments. Dayton Children's cancer program is accredited by the American College of Surgeons Commission on Cancer. This makes Children's one of just 11 approved pediatric programs in the country.



For further information about The Children's Medical Center of Dayton or its specialists contact us at 937-641-3618 or marketing@childrensdayton.org.



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