

Endocrine Problems after Childhood Cancer Treatment

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Survival rates for childhood cancer have grown greatly over the last few decades thanks to many advances in pediatric cancer treatment. Today the majority of children diagnosed with cancer will become long-term survivors. Survivors can be at risk for developing health problems after cancer treatment. These health problems are called late effects and can include endocrine problems.

What are Endocrine Problems?

An endocrinologist, or hormone doctor, treats diseases or health problems affected by hormones. Hormones are needed for normal growth, puberty, thyroid and adrenal gland function and to regulate glucose levels. Common hormone problems seen in childhood cancer survivors include: short stature, growth hormone deficiency, thyroid problems, problems with adrenal glands and early or late puberty. In a study of the Aflac Cancer Survivor Program the most common problems seen in survivors were endocrine. In this study almost 60% of survivors had a hormone related problem such as; poor growth, early or late puberty, low bone mineral density, thyroid problems or being over or underweight.

Who needs to see an Endocrinologist?

Certain cancer treatments can put survivors at risk for developing endocrine problems. If your child is at risk for developing an endocrine problem because of their cancer treatment, they may see an endocrinologist during their survivor clinic visit. If your child begins to develop an endocrine problem your oncologist may send you to see an endocrinologist.

The most common treatment associated with endocrine problems is radiation to the head or brain. This can damage the pituitary gland, located in the middle of the brain. The pituitary gland regulates growth through the production of growth hormone. It also produces hormones which regulate the thyroid and adrenal gland and regulate puberty. Damage to the pituitary gland can then cause an imbalance of these hormones. Radiation of the thyroid gland or ovary or testes can also disturb hormone balance. Only a few chemotherapies alter hormone production by damaging the ovary or testes. Diabetes mellitus can occur in survivors especially those who are overweight or being treated with steroids like prednisone or decadron.

How do I see an Endocrinologist?

There are pediatric endocrinologists in most major cities. In the Aflac Cancer Center there are 2 endocrinologists available to see hematology and oncology patients. Dr Briana Patterson follows patients who are treated for brain tumors and Dr Lillian Meacham sees patients in the Aflac Cancer Survivor Program and the Aflac Endocrine Clinic. Because it is likely a survivor will have an endocrine problem the survivor program has an endocrinologist available during survivor clinic. Any survivor who is at risk for developing an endocrine problem will be scheduled to see an endocrinologist during their survivor clinic visit. It is hoped that this will be more convenient for the family. Seeing the

endocrinologist during survivor clinic will save an extra trip for the family and allow labs to be drawn at the same time. This also helps improve communication between the survivor and endocrine doctors and nurses.

What will an Endocrinologist do?

The endocrinologist will want to know about your child's health history and will ask questions about your family history including any family members who have had endocrine problems. She will do a physical exam including height, weight and calculate your child's Body Mass Index (BMI). This will determine if your child is of normal weight, underweight, overweight or obese. She will also want to know how your child is progressing through puberty and will conduct a breast exam or testicular exam. This will help identify any problems with puberty and development.

Usually the endocrinologist will order blood tests to check different hormone levels. She may also order a bone age which is an x-ray of the left hand and will show how your child's bones are maturing.

How do you treat hormone problems?

Most hormone problems can be treated by giving hormone therapy. Some therapies are pills, some are shots, some are patches and some are nasal sprays. If your child is placed on an endocrine treatment they will need regular follow up to monitor the dose of the hormone therapy. Most hormone treatments are long-term if not life-long.

To learn more about childhood cancer survivorship visit www.cancersurvivorlink.org or www.choa.org/cancersurvivorship.

- Survivors of childhood cancer can develop endocrine, or hormone problems after treatment for their cancer
- If you are concerned about an endocrine problem, talk with your oncologist about seeing an endocrinologist
- Survivors who have received radiation to the head are at highest risk for endocrine problems