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Short Communication

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A Short note on Ewings sarcoma

Lakshmi Vasudha Yrrinki*

Abstract

Ewing's sarcoma was first distinguished as "diffuse endothelioma of bone". The cause is still unknown the but mostly theories suggest that these tumors arise from a primitive cell obtained either from an embryologic tissue which is called the neural crest, or from mesenchymal stem cells that are capable to become one of a variety of tissue types. Pathologists have studied that Ewing sarcoma is almost alike to an even rarer soft tissue tumor called primitive neuroectodermal tumor (PNET).ES and PNET were having similar features when observed under microscope, in more than 95% of cases also had a similar genetic abnormality called as translocation. Hence they were grouped into class of cancers entitled Ewing's Sarcoma Family of Tumor (ESFT).This family includes, Ewing's sarcoma of the bone, Extraosseus Ewing's sarcoma, Primitive neuroectodermal tumor (PNET),Peripheral neuroepithelioma, Askin's tumor and Atypical Ewing's sarcoma. The translocation in ESFT is between chromosomes 11 and 22 and is referred to as t (11;22). The gene from chromosome 22 encodes the Ewing sarcoma gene (EWS) whose function is not well-understood. The gene FLI1 from chromosome 11, is involved in turning other genes on and off. EWS/FLI is a fused gene, which encodes an altered fusion protein which controls the regulation of other genes that can give rise to cancers when inappropriately expressed.

The symptoms of Ewing sarcom include, swelling and soreness near and around the tumor area, mild fever that may seem to be caused by an infection, bone pain, mostly pain which worsens during exercise or at night and limping, which is caused due to tumor on a leg bone.

The treatment for all Ewing's sarcoma which includes both soft tissue tumors and bone tumors is the same. The clinical trials involves,14-17 cycles of chemotherapy, alternating between with 2 regimens of drugs, Resection surgery , involves limb-sparing surgery with prosthetic reconstruction, Everyday radiation treatments for 6 weeks to the primary site is required.

Chemotherapy is basically the first step in treating .It includes using powerful medicines to kill cancer cells or make them stop from further dividing Chemo is injected into the bloodstream, so that it can travel throughout the body. Combination therapy is the other method which involves use of more than one type of chemo at a time. After several weeks or months of chemo when there is a decrease in the number cancer cells a surgery is done at which point it can be effective. Sometimes the surgeons might graft (add on) bone or tissue (from either the patient or a donor) to replace diseased bone and tissue which have been removed. An artificial bone, called an implant, may also be used. At times amputation (surgical removal of an arm or leg) is necessary to ensure that the tumor is completely removed. Radiation therapy is the other process which is used to kill or reduce the number of cancer cells which are not removed surgically, followed by more chemo to remove any remaining cells. This process includes use of high-energy X-rays or other types of radiation like, External radiation which involves use of machines outside the body to deliver the X-ray dose and Internal radiation which includes needles, seeds, wires or catheters for proper supply of the radiation directly into or close to the cancer.

Keywords

Ewings; Sarcoma; Chemotherapy

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***Corresponding author:** Lakshmi Vasudha Yrrinki, Department of Microbiology, Andhra University Vishakhapatnam, India, Mobile: +91 7032403546; E-mail: lakshmivasudha20@gmail.com

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Author Affiliations Top

Department of Microbiology, Andhra University, Vishakhapatnam, India