Adolescent osteosarcoma research paper

Sociology, Population

Introduction

Osteosarcoma is a mesenchymal tumor characterized by the production of osteoid malignant cancer cells. Osteosarcoma remains a relatively rare type of bone cancer malignancy with nearly 900 new cases reported in the United States per year (Geller & Gorlick, 2010, p. 705). The reported cases of osteosarcoma represent one percent of the reported cancers in the United States with a peak frequency of 4. 4 cases per million annually among the adolescent and young adult population. Although, a rare type of bone cancer malignancy, the demands and challenges to the patients, families, as well as caregivers continues challenging medical professionals. The incidences of this disease prove sobering when connected to the death rate in the U. S. alone (Jimenez-Andrade, Mantyh, Bloom, Ferng, Geffre, & Mantyh, 2010, p. 173).

In 2009, the United States reported cancer as the most common cause of death with nearly 562, 340 American dying from the dreaded disease (Jimenez-Andrade, Mantyh, Bloom, Ferng, Geffre, & Mantyh, 2010, p. 173). At present, the State of Arizona remains one of the fastest growing states where osteosarcoma occurs (World Population Review, 2014).

Regardless of its rare occurrence, osteosarcoma is the most common malignancy or tumor of the bone among humans. In addition, osteosarcoma represents about 3. 4 percent of all cancers in children, and 56 percent of malignant bone tumors in children. Bone tumors include varieties of cellular entities originating in bone cells or precursors with origins forming in non-osseous called bone metastases (Heymann & Redini, 2011, p. 402).

Current therapy for osteosarcoma may result in short, medium, or long terms

side effects. Preventative measures engaging families with professional healthcare providers provides education toward achieving fewer discomforts for the patients caused by chemotherapy in particular. The metastasized bone tumor is a major cause of morbidity resulting skeletal remodeling, anemia, fractures, pain, and death (Anderson, Wells, Lazarte, Gore, Salvador, & Salazar-Abshire, 2012, p. 2).

At the metastatic stage, treatment considerations typically include palliative chemotherapy in the majority of cases. Generally, the toxicity of this treatment remains manageable. One of the most significant realities is the high incidence of patients' relapse and ensuing death from the disease after the onset of treatment (Penel, et al., 2011, p. 1545) as exemplified in a nation-wide population-based study in Finland from1991 to 2005 of patients diagnosed with osteosarcoma..

The Finland study data retrieved its data from the Finnish Cancer Registry. The study focused on the occurrence, treatment, and results of the osteosarcoma patients evaluating the value of the prognostic parameters. As reported in the United States (Geller & Gorlick, 2010, p. 705), the high incidence of osteosarcoma is 60 percent of all tumors diagnosed among children under the age of 20 years in Finland.

Population, Impact of Changes, and Preventative Measures

Osteosarcoma has a bimodal distribution showing initial peak in late adolescent and young adult population, while the second period occurs among those reaching 60-years of age.. During the adolescent and early adult population of 0 to 24 years, osteosarcoma occurred at an age-adjusted incidence of about 4. 4 per million in the United States showing dominance

to males; however, it peaks earlier among female population reporting at age 12 to 16 years old (Geller & Gorlick, 2010, p. 706).

Highest incidences of this type of cancer occurs among Asian or Pacific islanders about 5. 3 per million, African Americans nearly 5. 1 per million, Hispanics near 4. 9 per million, Whites about 4. 4 per million, and American Indian or Alaskan natives about 3. 0 per million, respectively (Geller & Gorlick, 2010, p. 706). Most people with the disease do not have specific risks factors and the etiology, based on the theory of Stephen Paget led to the concept of a niche specializing in the microenvironment promoting the emergence of the tumor stem cell providing all the factors required for its development .

The significant objectives are the survival period and how the oncological and surgical objectives achieved in population-based and nationwide materials. One of the objectives is to describe the features at the time of diagnosis of the osteosarcoma, accuracy of diagnosis, and clinical classification (Sampo, et al., 2011).

Randomized protocols and clinical trials set the value of chemotherapy administered as an agent treatment of osteosarcoma. Rendered surgical treatment methodology of this cancer proves advantageous to improving patient survival as the most effective way to thwart the recurrence of the disease (Jimenez-Andrade, Mantyh, Bloom, Ferng, Geffre, & Mantyh, 2010).

Introduced in 2007, M. D. Anderson Children’s Hospital of the University of Texas M. D. Anderson Cancer Center provides family-centered continued care in the pediatric division education program. Professional care providers in this division focus their momentum providing improved attention care

providers in the adoption of the family-centered care has maintained and facilitated people involved in the program with osteosarcoma. The family-centered care advisory council empowered the families in their decision-making, planning, and representation from the families of children with bone cancer, physicians, nurses, social workers, child-family life specialists, and educators (Anderson, Wells, Lazarte, Gore, Salvador, & Salazar-Abshire, 2012)..

Conclusion

As provided in the introduction of this academic endeavor, osteosarcoma is a mesenchymal tumor characterized by the production of osteoid malignant cancer cells. The treatment for osteosarcoma is challenging during the first year of therapy typically incorporating the use of chemotherapy. Advances in family and patient communication helps make care more predictable for the adolescent and young adult patients with osteosarcoma bringing better understandings of factors driving bone cancer pain.

Progress in this area assists sustaining advances in care of patients, their comorbidity issues, as well as the potential enlarging the range of therapies available to osteosarcoma. These focus on improving the quality of life as well as survival rate of adolescent and young adult patients' where the high incidences of this type cancer occurs.

This scholarly endeavor provides the fundamental aspects of what medical professionals, patients, and families face with this dreaded disease in addressing pain associated with the co-morbidity factors. The quality of the support the young patient receives during this challenging time as outlined in the previous information remains a critical component of the treatment

and the focus on recovery. While this document did not provide in depth literature substantiating this critical aspect of the process of treating and healing connected with this life threatening form of cancer, the dynamics of this process remain a fundamental aspect of understanding why the diagnosis, prognosis, and treatment connect to the quality of support of patients inflicted with the disease. As with all forms of cancer, ongoing studies continue providing health care professionals new insights for applying patient support toward optimum treatment focused on treatment while making the victim of the disease informed and comfortable as possible under all circumstance he/she must endure during this time.

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