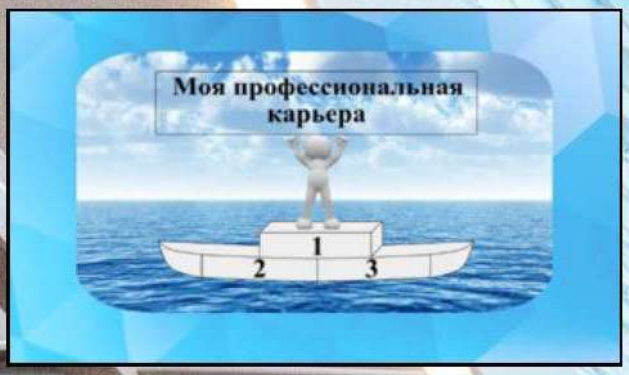

ISSN INTERNATIONAL STANDARD SERIAL NUMBER
ISSN 2782-4365
Проверить номер:

Научно-образовательный электронный журнал

ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ

Выпуск №63-2 (том 3)
(июнь, 2025)

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Международный научно-образовательный электронный журнал
«ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ»

ISSN 2782-4365
УДК 37
ББК 94

Международный научно-образовательный электронный журнал «ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ». Выпуск №63-2 (том 3) (июнь, 2025). Дата выхода в свет: 16.06.2025.

Сборник содержит научные статьи отечественных и зарубежных авторов по экономическим, техническим, философским, юридическим и другим наукам.

Миссия научно-образовательного электронного журнала «ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ» состоит в поддержке интереса читателей к оригинальным исследованиям и инновационным подходам в различных тематических направлениях, которые способствуют распространению лучшей отечественной и зарубежной практики в интернет пространстве.

Целевая аудитория журнала охватывает работников сферы образования (воспитателей, педагогов, учителей, руководителей кружков) и школьников, интересующихся вопросами, освещаемыми в журнале.

Материалы публикуются в авторской редакции. За соблюдение законов об интеллектуальной собственности и за содержание статей ответственность несут авторы статей. Мнение редакции может не совпадать с мнением авторов статей. При использовании и заимствовании материалов ссылка на издание обязательна.

СОДЕРЖАНИЕ

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Название публикации: «MYOSARCOMA: A COMPREHENSIVE OVERVIEW»

Abstract: Myosarcoma is a rare and aggressive type of cancer that arises in the soft tissues of the body, particularly the muscles. It falls under the category of sarcomas, which are cancers that develop in connective tissues such as muscles, tendons, and fat.
Keywords: Myosarcoma can occur in any muscle, but it is most commonly found in the limbs, trunk, and abdomen. The tumor develops from the muscle cells or their precursors and can spread to other parts of the body if not treated promptly.

1. What is Myosarcoma?

   Myosarcoma is a malignant tumor originating from muscle tissue, classified under soft tissue sarcomas. These tumors can either be primary (originating in the muscle itself) or secondary (metastasizing from other areas). The disease is known for its aggressive nature and ability to invade surrounding tissues. It is considered rare compared to other types of cancer, with a higher occurrence in adults but can also affect children.
2. Causes and Risk Factors

The exact cause of myosarcoma remains unclear, but several factors may increase the risk of developing the disease:Genetic predispositions: Inherited genetic disorders, such as Li-Fraumeni syndrome and neurofibromatosis type 1, are linked to an increased risk of developing soft tissue sarcomas, including myosarcoma.Radiation exposure: Previous radiation treatment for other cancers can elevate the risk of developing myosarcoma, especially in the area that was irradiated.Chemical exposures: Certain industrial chemicals or environmental toxins may increase the likelihood of developing myosarcoma.Trauma and injury: Although not definitively proven, some studies suggest that repeated trauma or injury to a muscle may be associated with the development of myosarcoma in certain cases.

3. Symptoms of Myosarcoma

In the early stages, myosarcoma often does not produce noticeable symptoms, and its growth may be silent. However, as the tumor progresses, individuals may experience:A palpable lump or swelling: A visible or palpable mass in the affected muscle or soft tissue area. The lump may grow in size over time.Pain or discomfort: Pain may occur as the tumor presses on surrounding tissues or nerves. This discomfort may worsen with activity or movement.Restricted movement or weakness: The muscle's function can be impaired, leading to difficulty moving the affected limb or muscle group.Systemic symptoms: In some cases, fatigue, unexplained weight loss, fever, or night sweats can occur as part of a paraneoplastic syndrome, indicating the cancer has spread.

4. Diagnosis of Myosarcoma

The diagnosis of myosarcoma involves several steps to confirm the presence of the tumor and determine its type and extent:Physical examination: A doctor will conduct a thorough examination to assess any lumps or unusual masses in the muscles or soft tissues.Imaging studies:MRI (Magnetic Resonance Imaging): MRI is commonly used to get detailed images of soft tissues, helping determine the tumor's size, location, and its relationship with surrounding structures.

CT scan (Computed Tomography): A CT scan is often used to assess whether the cancer has spread to other areas, particularly the lungs or other internal organs.

Biopsy: A biopsy involves removing a small sample of tissue from the suspected tumor to be examined under a microscope for the presence of cancer cells. This is crucial for determining the exact nature of the tumor.Blood tests: Although there is no specific blood test to diagnose myosarcoma, certain markers may be elevated in the bloodstream, helping to confirm the diagnosis or monitor treatment progress.

5. Treatment Options for Myosarcoma

Treatment of myosarcoma typically involves a combination of therapies, depending on the tumor's size, location, and stage at the time of diagnosis:

Surgical treatment: The most common and effective treatment for myosarcoma is surgery to remove the tumor. If the tumor is localized and operable, surgical resection can provide a good chance for long-term survival. However, in cases where the tumor is too large or inoperable, surgery may not be an option.

Radiotherapy: For tumors that cannot be entirely removed through surgery, radiation therapy may be used either before surgery (neoadjuvant therapy) to shrink the tumor or after surgery (adjuvant therapy) to target any remaining cancer cells.

Chemotherapy: Chemotherapy may be recommended to treat more advanced stages of myosarcoma, especially when the cancer has spread to other parts of the body. It works by targeting rapidly dividing cancer cells, but it can also affect healthy cells, leading to side effects.

Targeted therapy and immunotherapy: In some cases, newer therapies like targeted drugs or immune checkpoint inhibitors may be considered, although these are still under investigation in clinical trials for their effectiveness in treating sarcomas.

6. Prognosis of Myosarcoma

   The prognosis for myosarcoma depends on several factors, including:

   Tumor size and location: Smaller tumors that have not spread to other parts of the body have a better chance of successful treatment.

Stage at diagnosis: Early detection and treatment offer a better prognosis. Myosarcomas diagnosed in later stages with metastasis to other organs generally have a poorer outcome.

Response to treatment: Patients who respond well to surgery, chemotherapy, and radiation therapy generally have a better prognosis.Generally, the survival rate for myosarcoma is lower than that of other cancers due to its aggressive nature. However, advances in treatment have improved outcomes for many patients, especially when the disease is caught early.

7. Conclusion

Myosarcoma is a rare and aggressive form of cancer that requires prompt diagnosis and treatment. Its symptoms may be subtle at first, making early detection challenging. Treatment typically involves surgery, radiation, and chemotherapy, with

the goal of removing the tumor and preventing further spread. Although the prognosis can vary widely, early and aggressive treatment can improve outcomes for many individuals. Due to its complexity, patients diagnosed with myosarcoma should work closely with a multidisciplinary medical team specializing in oncology to determine the most effective treatment plan for their specific condition.

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