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Case Report

Case study of spinal tumor

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INTRODUCTION

Spinal tumors are lesions that are usually caused directly by the spinal cord tissue (1).Only 1 to 5 percent of the central nervous system tumors arerelated to the spinal cord (2, 3).Spinal cord tumors are intramedullary cord and extra medullary cord (4). The most common type of intramedullary spinal cord tumor, which is 90% of the tumors, primarily includes astrocytoma and appendiaoma (5).Annually, 10,000 cases of spinal tumors are reported in the United States (6).Central nervous system tumors are the second most common type of tumor in children. In this group, the spinal cord tumors are a relatively rare diagnosis and represent 1 to 10% of all tumors of the central nervous system (7).0.5 to 2.5 children per 100,000 people in the United States suffer from spinal tumors(8). These tumors exhibit metastatic events in 30% of cases (9). Sometimes, spinal tumors are found in children with fetal origin (10). These tumors can have various degrees in children (11). The cause of many childhood spinal tumors is unknown (12).In spinal tumors in childhood, there is no standard staging system (13). Spinal tumors and masses can occur with various clinical symptoms and signs (7). Lumbar pain and shooting pain to the legs and arms, changes in digestive and urine habits, weakness in the legs and moving difficulty are the most important symptoms of the spinal tumors (14).If the symptoms and the treatments of the spinal cord tumors were understated, it may cause physical disorders, mental deficiency,and increase the financial and treating burden for family and society during the next stages of life (15). Therefore, delay in diagnosis and treatment may causeProgressive paralysis, urinary and fecal incontinence, as well as reduced survival. (1) There are different methods for the treatment of spinal tumors (16). The three common types of treatment in these children are radiation therapy, chemotherapy and surgical treatments (17, 18).Although new studies indicate that many brain tumors are diagnosed and surgically removed, it is important to pay attention to this disease (19, 20).Studies by Lovian (2016), Azat (2016), Bahat (2016) and Babayi (2015) and many other studies have shown that although rapid diagnosis and onset of treatment can improve the children with a spinal cord tumor, it should be noted that rapid diagnosis is not always possible (21,22).Because

of the old managerial strategies and treatment, our knowledge of spinal cord tumors in pediatric patients is still lagging behind. This lag is mainly due to the rarity of the disease and the lack of comprehensive data regarding the prevalence, risk factors, optimal and long-term treatment and consequences of these tumors in childhood(23). So understanding the causes and clinical outcomes of these tumors is very important.Based on the importance of the issue, the present study is a case study aimed at identifying the causes, symptoms and treatment of a 9-year-old child with internal spinal cord tumor in YasujShahidBeheshti Hospital in 2016.

PATIENT INTRODUCTION

The patient was a 9 years old child who woke up with lumbar pain while crying in around one year ago. The pains were alternately started during the overnight asleep and were relieved by sedative ointments. As time went by, the number of starting the pain was growing and the patient was suffering from an acute lumbar pain but he did not have any motional and sensory weakness in the body. After referring to neurosurgeon, the patient took oral NSAIDs and after enough training, he came home. The drugs relieved the pain. However, after several months, the patient referred to the same doctor with sharp pain of lumbar part. After doing an MRI scan, a lesion of 18mm *48mm was observed in L4-L5 area and S1-S2. Cauda equine was involved by some parts of the tumor. The tumor was an extra medullary tumor with soft consistency, red color, capsular, and bleeding.

After diagnosing, the patient was admitted to the hospital. Then he underwent an operation after doing examinations and enough consideration. The surgery was done under general anesthetic with median lumbar incision from L4 to S1. Fascia and muscle were shaved off. L5- S1 laminectomy and semi laminectomy was done. The tumor removed totally in a microscopic condition. The basal part of the tumor, adhered to the nerve root, was dissected by micro dissection and the biopsy was sent. The surgeon repaired the dura and closed the wound. After the operation, the patient was settled in trendlenburg position and was taken Sefazoline and Gentamysine. The patient did not have any motional and sensory difficulty in his body and after 48 hours, he could start walking by lumbar orthotic brace. At last, after spending 6 days in the hospital, he was discharged.

DISCUSSION AND CONCLUSION:

The main obsession about brain and spinal tumors is that how they grow rapidly, how they spread easily through the brain and spinal cord and the possibility of returning the tumors after removing and treating. Both kinds of malignant and benign tumors can threaten the life (24). Spinal column tumors specifically appear with the symptoms of pain, nervous disorders, mass, disfigurement in spinal column or a mixture of these symptoms. Nevertheless, usually the most common symptom of spinal cord and spinal column tumor is pain in lumbar part(25). Therefore, considering that the lumbar pain was the only cause of referring the case study patient to the hospital and starting the rapid diagnostic assessments and treatments, it is necessary for parents to pay more attention about the lumbar pain of their children in the child hood according to the intensity and duration.

Spinal cord tumors may cause insensitivity, weakness and or disharmony in the arms and legs (usually in both parts of body) and also bladder and intestinal problems (26). None of these symptoms was observed in the aforementioned patient, that this shows the rapid referring of the patient after beginning of the symptoms of lumbar pain and indicates that it is possible to have a complete treatment if the patient refers for treatment at the appropriate time and this was observed in the aforementioned patient.

Generally, in the school age children can cause the weakening of their operations at school, tiredness and personality variation (27). None of the symptoms in the case study patient was observed. Maybe it was because of the rapid referring of the patient and taking the NSAID drugs.

The treatment mainly involves surgery and radiotherapy in children over 3 years of age and chemotherapy in children less than 3 years of age

(28). However, in this patient, because of lack of metastasis in the surrounding tissues, the surgery was enough and the surgery no longer was needed. However, the patient will continuously be evaluated and his next visits for more investigation were taught to him.

One of the obsessions that may involves the child and his family mentally is that even the childhood tumors that are treated successfully may return in the next years (26). So it was recommended to the patient's family to refer to his Therapist physician, if they observe the symptoms like pain, weakness in the body, fasting tiredness, urine incontinence or personality problems. The family was taught about the documents and medical treatments.

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