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Case Report

Case of a patient with tethered cord

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Tethered cord syndrome is a group of diseases that develops as a result of the regression of spinal cord, and due to congenital or acquired causes characterized by evolutive neurologic losses, is called tethered cord syndrome, tight filum terminale, or filum terminale syndrome. Tethered cord syndrome, is a congenital disease of childhood and may be observed in adults. The most frequent causes are isolated spinal cord syndrome, short and thick filum terminale, intradural lipome, and adhesions that develop after lipomyelomeningocele and meningomyelocele surgery. In stretched tethered cord syndrome observed during childhood, skin symptoms, motor losses, urologic symptoms, evolutive spinal cord deformation such as scoliosis are frequent, while perineal and perianal pain, urologic symptoms and motor losses are more frequent in adults. The aim of the treatment is the elimination of the pathology leading to the regression and the protection of healthy neural structures. In the examination of the 10-months girl patient taken into the clinic for febrile convulsion and diagnosed as pneumonia and cardiac insufficiency, a tethered cord syndrome diagnosis has been established according to the results of spinal magnetic resonance observations and the bone survey performed due to the absence of hypo tonicity and deep tendon reflexes in all extremities. We have presented the case under the light of relevant resources due to the rare occurrence of tethered cord case clinic and radiological observations.

Key words: Tethered cord syndrome, pneumonia, hypotonia.

INTRODUCTION

A 10 month girl patient was transferred to our hospital with febrile convulsion, pneumonia and cardiac insufficiency pre-diagnosis. In her physical examination, her general situation was moderately bad, her conscience was open, both lungs were equal at respiration, crepitant rale was observed and the respiration rate was 68/min, cardiac apex beat was 148/min, subcostal intercostal withdrawal and nasal flaring were observed. In her abdominal examination, a 5-6 cm smooth texture hepatomegaly was observed. In lumbar region, advanced protrusion, pes cavus, spastic paraparesis, increased tendon reflexes and developed hypo tonicity were detected. The patient was hospitalized for pneumonia, cardiac insufficiency, peripheral type hypotonia pre-diagnosis. In the lumbosacral MR of the patient at the level of L 3-L 4, it was observed that the spinal cord ends and that the filum terminale is thicker than usual (Figure 1). In the cervico-thoracal graph of the patient, scoliosis was detected (Figure 2). In the EMG, myogenic involvement has been observed. Diastomatomyeli has been observed at T3-T4 level of the patient subjected to spinal tract screening. The echocardiography of the patient was compatible with dilatecardiyomyopati. The patient died on the 10th day of her hospitalization in spite of her intensive care treatment.

DISCUSSION

Tethered cord syndrome is a group of disease that develops as a result of the regression of spinal cord due

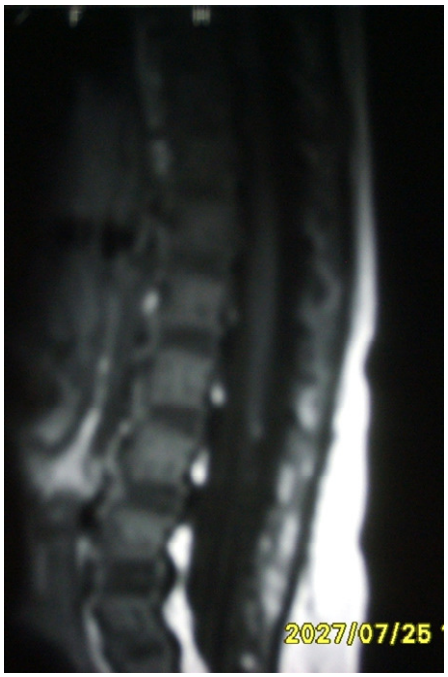

Figure 1. T2-weighted magnetic resonance imaging of the lower spinal cord.

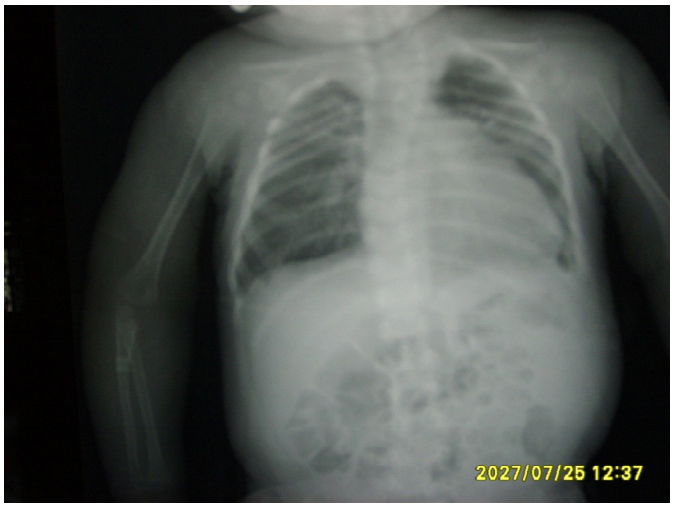

Figure 2. Chest x–ray showing scoliosis.

to congenital or acquired causes characterized by evolutive neurologic losses (Pandey and Soni, 2015; Leung et al., 2015). The evolution of spinal imaging techniques and the extensive use of magnetic resonance imaging (MRI) have shown that the symptoms associated to the regression of spinal cord are not limited to occult type dysraphism but also that may develop such as tumors, trauma, arachnoid, meningocele and meningomyelocele after surgery (Pandey and Soni, 2015; Shweikeh et al., 2015). In tethered cord syndrome observed during childhood, motor losses, urologic symptoms, evolutive spinal cord deformation such as scoliosis, feet deformation (*pes equinovarus, pes equinos, hallus valgus*), trophic ulcer and skin symptoms are frequent, while perineal and perianal pain, urologic symptoms and motor losses are more frequent in adults(Pandey and Soni, 2015; Leung et al., 2015). The acceleration of growth during childhood, trauma, disc

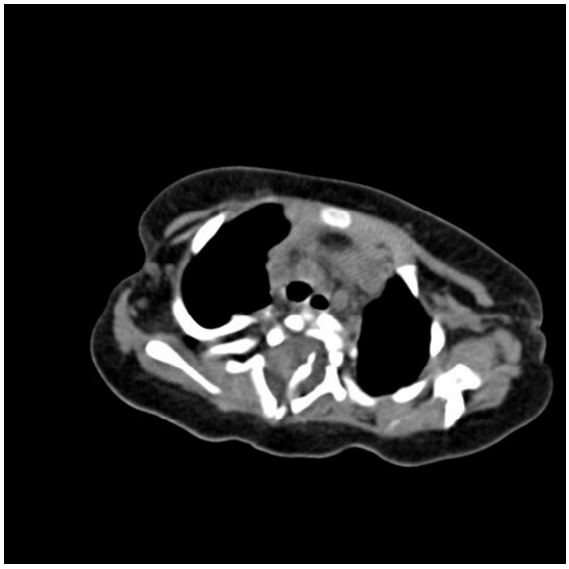

Figure 3. Spinal tract screening demonstrated diastometamyelia at the level of T3 to T4.

hernia, spinal stenosis and spondilous in adults increase clinic observations (Shweikeh et al., 2015; Srinivas and Kumar, 2014; Lew and Kothbauer, 2007). Lipomyelomeningocele develop in addition to neurologic observations at age of 2 and separate spinal cord malformation and thick filum terminale develop at later ages (Pandey and Soni, 2015; Lew and Kothbauer, 2007).

In the evaluation of patients with tethered cord syndrome; direct vertebra graphs, spinal computer-assisted tomography, myelography and MRI are used. In direct vertebra graphs, it is possible to observe spina bifida, bone spicule leading to separate spinal cord. If there is an associate separate spinal cord, spinal computer-assisted may be used for the evaluation of bone spicule. The final diagnosis of tethered cord syndrome is established using MRI. In MRI, it is possible to detect conus medullaris, thick filum terminale and other native anomalies (hidromyelia) (Lew and Kothbauer, 2007; Greenberg, 2001; Kılıçkesmez et al., 2003). The aim of the treatment is the elimination of the pathology leading to the regression of the spinal cord backwards and the protection of healthy neural structures (Mapstone, 1994; Yoamans, 1990; Pang and Wilberger, 1985). Considering that neurological observations are evolutive and that neurogenic bladder rarely heal after its development, the diagnosis shall not be delayed and the surgical intervention shall be performed as soon as possible (Lew and Kothbauer, 2007; Greenberg, 2001; Kaminker et al., 2000).

Our aim is to emphasize the importance of tethered cord syndrome so that the pediatricians must be attentive to this condition.

CONFLİCT OF İNTEREST

We declare that we have no conflict of interest.

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