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Physiotherapeutic management in the separation of the white borderline

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Abstract

Dissolution of the white border of the rectus abdominal muscle is a disruption of the functioning of the rectus muscle, which results in loosening of the white border. As a result, a characteristic muscle stretch is visible. This defect affects a significant number of pregnant women and is not just an aesthetic problem. There are many factors that contribute to the above-mentioned ailments. To get the best treatment results, it is important to diagnose the problem early. For this purpose, special tests are used. The ease with which they are made enables the patient to control the separation of the frontier by the patient.

The implementation of therapy should take place already in the first days after delivery. It is important to start therapy with posture corrective exercises, breathing exercises and learning how to properly perform everyday activities. Then we implement exercises that involve the abdominal muscles. The exercise program can be supplemented with dynamic slicing. A holistic approach to the problem and combining different forms of therapy allows

you to obtain optimal results.

Key words: physiotherapy; white border.

Admission

Straight abdominal muscles are located on the anterior abdominal wall. They are stretched between the cartilaginous parts of the ribs from 5 to 7, the xiphoid process and the rib-ligamentous ligament and the pubic crest of the pelvic bone and pubic symphysis. The abdominal straight muscle stretch (Latin diastasis musculorum rectorum, DRMA) is a divergence of the abdominal straight muscles, within the abdominal midline, to a width greater than the thickness of two or three fingers. The white border is a strong fibrous band about 33 cm long and at least 10 mm wide. The white goat runs medially from the xiphoid process to the pubic symphysis [1,2].

Population of abdominal straight muscles and white borderline is most commonly described in relation to pregnancy - it occurs in 27% of pregnant women in the second trimester, 66% in the third trimester. After delivery, the problem is diagnosed in 53% of women, and after a confinement period, it remains in 36% [3,4].

DRMA can also occur in men, newborns and in postmenopausal women. Separation of the abdominal straight muscles for women is a serious aesthetic defect. It should be noted, however, that it carries the risk not only of hernias, but also affects the mechanics of the trunk and the vulnerability of the lumbar spine and pelvis to injuries [3,4].

Predisposing factors and the way dysfunctions arise

Among pregnant women, an important cause of DRMA is the occurrence of hormonal changes, mainly caused by increased secretion of relaxin, which occurs in the last trimester of pregnancy. These hormones promote flabbiness and expansion of connective tissue, because they are designed to - relax the ligaments, muscles and joints within the pubic symphysis, so that the transverse dimension of the pelvis is expanded, enabling delivery. A large amount of fetal water, significant fetal size as well as multiple pregnancy and the process of pressure during labor also have an effect on collagen fibers located within the white border - they prolong it, especially in the last weeks of pregnancy [4,7].

The factors that predispose DRMA include sudden weight gain or obesity, pregnant women over 35 years old, work that requires weight lifting, and weakened abdominal muscles. In addition, the solution by caesarean section, numerous pregnancies and subsequent successive ones in a short time can also lead to this phenomenon [3,4].

A sign of DRMA in pregnant women is the belly forming a cone, especially when rising from the back, and when the result is 2.5 fingers or more during the test. Symptoms after delivery in DRMA include the abdomen forming a cone when rising from lying back or tilting the torso, a positive test performed about the third day after delivery, and visible and palpable bowel movements near the skin surface. In women with a small amount of fat on the abdomen, a hollow in the abdomen may also be visible - sometimes the folds of the skin fall into the shape of a parting, usually the patient reports a different appearance of the abdomen than before pregnancy [4].

The muscles of the anterior abdominal wall play an important role in maintaining proper body posture, its stability and ensuring proper breathing. The occurrence of DRMA may cause weakening of pelvic stability, impairment of abdominal muscle function and change the mechanics of the torso and body posture [4,7].

Changes in abdominal muscle tone caused by DRMA may affect the lumbar spine and pelvis susceptibility to injury, and the fixation of abnormal body posture may, as a consequence, lead to chronic back pain [8].

The proper functioning of the abdominal straight muscles ensures that the abdominal organs are maintained at the right height, and the change in their tension occurring in this disease can result in the formation of hernial sacs within the white boundary. Hernial sacs are spaces into which intestines, fat, or in extreme cases even larger network elements can migrate from the abdominal cavity. In this case, surgery is the only option [6].

Diagnostic test

It is recommended that the test enabling the diagnosis of abdominal rectus myocardium was carried out in the last trimester of pregnancy, and within 3 days after delivery [3].

While performing the test test, the patient is lying on her back. The feet are based on the ground and the lower limbs bent at the hip and knee joints. The test involves compressing the patient's abdomen at the level of the navel, because the divergence is sometimes the greatest. In order to tighten the abdominal muscles, the subject lifts the head, shoulders and shoulders [3,4].

The loose white border perceptible during palpation indicates the dissolution of the rectus abdominis muscle. In the presence / in / in dysfunction - a minimum of 3 fingers of the therapist (width from 2 cm) can fit between the tight edges of the rectus abdominis muscle. The divergence works both below and above the umbilicus, but it should be remembered that the borderline is slightly narrower here and the test will be positive already when spreading above 1 cm. An important element of therapy is also to teach the patient how to independently examine the separation, which will allow controlling the effects of the implemented physiotherapy [3,4].

Physiotherapeutic procedure

The separation of the white border is not only an aesthetic problem. It is a problem which, due to the role of the abdominal muscles in stabilizing the spine and pelvis, should not be underestimated. Neglecting the above problem may lead to numerous dysfunctions that result in pain. As a result, women's awareness of the role of physiotherapy in the treatment of diastasis musculorum rectorum (RMPB) stretch range is treated. It is important to quickly diagnose the problem and then implement the appropriate therapy. Physical exercise can be successfully used in this disorder. It is also worth using kinesiotaping patches, which are complementary therapy to conducted rehabilitation [3,7].

We implement physical exercises from the first day after delivery. These are primarily posture correction exercises, which may become disturbed after pregnancy. Most often, lumbar lordosis deepens, which leads to weakening of the abdominal muscles. This causes back pain and is also a factor that increases the risk of muscle separation. Teaching the patient to maintain an active posture is therefore the first stage of rehabilitation. Posture control can be performed while sitting on a large rehabilitation ball. Feet should be parallel to the ground, knees apart, hip width apart. Shoulders and shoulders relaxed. It is important to set the spine in a neutral position, so as not to over-stretch the buttocks and stomach. After mastering the maintenance of this position, it is recommended to gently pull the navel towards the spine, which will stimulate the transverse muscles. At the initial stage, it is also important to avoid lifting heavy weights. Education in everyday activities, such as getting out of bed from lying sideways is also important [3,9].

At the beginning of the puerperium, exercises involving abdominal obliques should be avoided. The end attachment of these muscles is the white boundary, therefore their contraction may cause the extension of the stretch mark. For this reason, exercises related to torsion and flexion of the torso should be avoided [9].

Starting from the third day we introduce exercises that involve transverse muscles more intensively. We make them lying down with the lower limbs bent, then try to pull the navel. It is important to tighten the pelvic floor muscles during this movement. At this stage, you can already tighten the rectus abdominis with simultaneous mechanical approach of its edges. After about two weeks, we increase the scope of the movement (exercise 1). Exercise can be done during pregnancy to prevent RMPB from forming after delivery. After one month we can add another exercise. It involves the straightening of the lower extremities during the rectus abdominis tension (exercise 3). After the puerperium period, if the stretch does not exceed 2 cm in width, we introduce exercises in a supported knee. In this position, we perform transverse muscle tension, then try to detach the knees from the ground. The detailed methodology for performing the above exercises is presented in Table 1 (Table 1). [4]

At each stage of rehabilitation, it is important to control the results of the therapy. If the abdominal wall at the midline of your body is highlighted while you are exercising, you should stop exercising. This bulge in the abdomen may mean that the muscles are still too weak to contract as intra-abdominal pressure increases. [3,9].

Tab. 1. Detailed methodology exercise. [4,9]

Number exercise	Starting position	Movement	Repeat
1.	In lying back, lower limbs in flexion, the foot contact with the ground.	Entrainment ,, navel "while tightening the muscles of the pelvic floor.	10 seconds voltage / 10 series / twice a day.
2.	In lying back, lower limbs in trójzgięciu. Arms crossed over the belly button to belly arms extend on both sides.	Flexion of the head while approaching the edges of the rectus abdominis muscle to the midline. We flexion during exhalation occurs during inhalation while leaving the head and abdominal relaxation.	20 times / 4 times a day.
3.	In lying back, lower limbs in trójzgięciu. arms crossed over the belly button to belly arms extend on both sides.	Keeping the head above the ground. Then snap one of the lower limbs and gently lifting it off the ground. Exercise repeat for the other leg.	10 times on each side / 1 once a day.
4.	In kneeling propped.	We transverse muscle tension with a force of 30%, followed by separation of the knee from the ground to a height of 1 cm.	30 seconds / 3 Series / 1 once daily.



Fig. 1. Exercise 2 contained in Table 1 [Source own].



Fig. 2. Task 3 in table 1 [Source own].



Fig. 3. Exercise 4 contained in Table 1 [Source own].

In patients with rupture rectus is helpful kinesiotaping that is adjunct therapy process. Kinesiotaping, the elastic therapeutic tape is a method involving the firming of selected body parts with special patches. In Depending on the application we get different effects. Method of wrapping a RMPB is similar to that used on the scar. The length of the patch is adapted individually to the patient. Patches applied voltage is 25 - 50%. When performing application the patient is lying down in the back position. Sliced diagonally glued to disperse at regular intervals. Then a second layer is adhered, wherein the patches are at an angle of 45 degrees to the previously adhered. Kinesiotaping reduces the risk of deepening divergence. It should be remembered that this is a method supporting treatment, it should not be used as the only method of therapy [7].

Summary

Parting straight muscles of the abdomen within the linea alba is an increasingly frequent problem among women after childbirth. As one of the main reasons are considered to hormonal changes faced by women during pregnancy. Performing a simple test to diagnose DRMA can recognize malfunctions. Furthermore, the divergence rectus muscle, the belly is placed in a characteristic cone. Parting straight muscles of the abdomen is not only an aesthetic defect, but can lead to many dysfunctions.

Improving women DRMA should be characterized primarily regularity. It is therefore important to conduct physiotherapy in women with muscle rupture simple to implement as

early as during the first days after birth, and at each stage individually selected measures physiotherapy.

Comprehensive care for women after giving birth to quickly diagnose the problem and implement individually selected therapy, which improves the quality of life of women.

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