

Diastasis recti abdominis. Surgical or a physiotherapist problem?

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Abstract:

The aim of this work is to show the problem of the diastasis of abdominal muscles most often found in pregnant women, postpartum and obese people. After delivery, simple muscles do not always return to their normal position. They remain significantly weakened and their function disturbed. It can lead to postural disorders and chronic back pain. To detect the possible risk of simple muscle divergence, routine tests are used. When determining the distance, it is recommended to increase physical activity and to implement appropriate exercises in physiotherapy. The article contains practical tips on modifying abdominal muscle exercises and a description of the therapeutic exercises recommended in the event of abdominal muscle divergence.

Keywords: Diastasis; abdominal muscles; hernia; physical activity

Introduction:

The abdominal muscle lies on the front wall of the abdomen. Its initial attachments are the cartilage of the V-VII ribs, the xiphoid process of the sternum and the ribcage-ligament ligament, and the final pubic symphysis and the pelvic comb. From a physiological point of view, the simple abdominal muscle plays a significant role. In addition to its bending function, lowering ribs and pelvic tensing, it interacts with the diaphragm and is therefore the muscle involved in breathing (the expiratory muscle) and works with the perineal muscles in the abdominal compression. Crotch muscles in some patients are often weakened. The result of their weaknesses are physiological abnormalities, including stress incontinence.

The diastasis of the rectus abdominal muscles (RMPB) is the diversion of straight muscles to the sides within the white scar (1-3). The white line is a strong fibrous band, approximately 30-35 cm long and 10 mm wide, extending medially from the alveolar process to the pubic symphysis (4). During pregnancy, most often in the last trimester, it may become sagging and wider under the influence of increased secretion of hormones - relaxin and elastin - which soften the connective tissue. After delivery, the simple muscles do not always return spontaneously to the correct position (5-7).

Risk factors:

An increased risk of simple muscle divergence can occur in many cases. The most common is pregnancy, especially twin pregnancy. A large amount of fetal water and thus increased pressure on the coating during pregnancy may also increase the risk of muscle divergence. Increased occurrence of RMPB is also found in pregnant women with diabetes whose birth weight is higher. In addition, the proliferation of straight muscles is favorable (8,9,10):

- coexistence of obesity,
- the interval between consecutive pregnancies was too short and did not allow for sufficient tissue regeneration,
- numerous pregnancies and births,
- unhygienic lifestyle in pregnancy, including weightlifting,
- excessive work of the abdominal muscles in the last trimester of pregnancy,
- too much pressure when the glottis is closed during the second period of delivery,
- genetic predisposition.

High impact on the tension of soft tissues, including fascia and skin have such factors as:

- avoiding stress,
- proper, properly balanced diet, abounding in vegetables, fruits, the right amount of fiber and hydration of the body,
- regular defecation,
- unwavering daily hormonal cycle, sleep, sleep hygiene,
- avoiding early purity training in childhood.

The separation of the white border also applies to men. Mainly about the type of construction, where the big belly dominates - the result of inactivity and sedentary lifestyle. The most difficult situation from the point of view of therapy and the patient's condition is when a hernia occurs. In such situations, a diagnosis by a surgeon is necessary.

Symptoms:

During increased tension in the abdominal cavity and changes in the endocrine system in a pregnant woman and after childbirth, a hernia may occur and the white line diverges. Then the space between the right and left parts of the rectus abdominal muscle is visible. (Fig.1) Most often it appears above and below the navel, where the muscle fibers are furthest apart. The physiological situation is taken as the separation of the rectus abdominal muscle not larger than 2-2.5 cm. However, in some situations, the separation can be much larger - up to 5-6 cm.

A small bulge on the abdominal wall up to one year after delivery is acceptable. However, it should be remembered that early rehabilitation gives the best chance of improvement. (7)

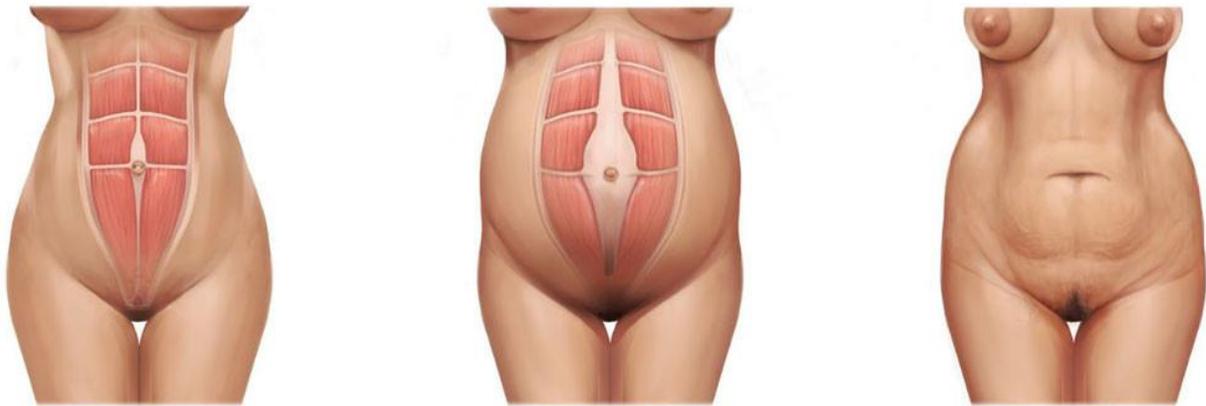


Fig.1 Diastasis recti

In addition, people with abdominal muscle distension may have accompanying symptoms such as bloating, incontinence, constipation, diarrhea, haemorrhoids, pain during intercourse, back pain. (5,6,8).

Diagnosis:

In recognizing the separation of the rectus abdominal muscle, it is helpful to ask patients to perform tests:

Test I:

Many authors (5, 7, 8, 10, 11) recommend routine use of the test for diagnosis of RMPB in the last trimester of pregnancy and puerperium from the third day after physiological delivery and Caesarean section. During the test, the patient lies on the back with lower extremities bent in the hip and knee joints and feet supported on the ground. The investigator squeezes the belly in the middle line at the level of the navel perpendicularly and transversely to the white line, instructing the patient to bend the torso forward by tearing off the head and shoulders from the ground and reaching with the hands towards the knees. In the case of the current RMPB, the researcher senses palpationally relaxed white line (the fingers penetrate towards the abdomen of the abdominal cavity), while on the sides should be felt tensions of both straight muscles. The test is considered positive if three or more fingers fit in the space between the edges of the tense straight muscles and this is referred to as a width of more than 2 cm (approximately one finger is assumed to be 1 cm wide). Then the test should be done at the white border above and below the navel (5, 8, 11). Gilleard and Brown (7) suggest that when testing 4.5 cm above and below the navel, the positive symptom should be considered to be more than 1 cm apart, because the white ending is narrower in this area.

Test II:

Lying on back, we raise our head, straining our abdominal muscles. We observe the surface of the stomach. If a characteristic cone appears on the abdomen, it shows the separation of this muscle. It is important for the patient to understand how to do both of these tests yourself. Thanks to this, it is possible to monitor progress in therapy on an ongoing basis. (8).

Treatment:

In the context of this disease, the drug is primarily the movement and appropriate habits that allow tissue regeneration. It is recommended to avoid lifting persons who may develop a straight abdominal muscle and after diverging. It is also important to get up from bed properly. If lifting can not be avoided in a given situation, it is recommended to do so in a way that saves muscles. While lifting the object, the abdominal muscles should be stretched and the ascending movement should be performed only after their tension. Patients who actively exercise should verify the exercises and avoid (6,7,8):

- exercises and positions increasing the abdominal press (exercises at the gym with a heavy load);
- exercises for the abdominal muscles, because too intensive training will increase the separation;
- abdominal muscles exercises, because by strengthening this muscle we will enlarge the range;
- in the case of a large stretch, the exercises should be abandoned, where under the influence of gravity, the internal organs will press on the abdominal muscles, eg a backed knee, a dog with head down in yoga or intensive cycling, especially in difficult terrain.

In RMPB rehabilitation it is recommended to exercise in lying on the back with lower extremities bent in the hip and knee joints and feet resting on the ground. The patient, crossing his forearms at the height of the navel, covers the abdomen with both hands. During slow exhalation she should raise her head and at the same time with both hands move the muscles straight to the centerline of the body. The head should be lifted only until the abdominal bulge is still visible. The exhale accompanying the flexing of the abdominal muscles allows to minimize the intra-abdominal pressure during exercise (8, 10, 11). Exercise ends with a slow lowering of the head to the ground and relaxation of the muscles during the inhale. Nobel (8) recommends using the above pregnancy exercise twice a day for up to 10 repetitions in a series. It is supposed to prevent the enlargement of the stretch and lead to the improvement of the resting tension of the abdominal muscles.

Prognosis:

Each person is different and is characterized by individual differences in the sense of tissue and pain. Each of us has a different motivation, other habits. Both biological factors influence the prognosis - degree of disengagement, skin elasticity, ability to regenerate, lack of obesity tendency as well as the degree of patients' compliance with the recommendations of the physician and physiotherapist. The experience of the work of physiotherapists with patients shows that young, active women after childbirth achieve the intended therapeutic effect more quickly than people who developed a simple abdominal muscle due to poor lifestyle and obesity. The overall prognosis is good. To a large extent, depend on the size of the hernia and the willingness of the patient to exercise. In some cases, advanced surgical separation of the rectus abdominal muscle requires surgical intervention.

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