

BEAUTY AND MISERY OF ADIPOSE TISSUE

Kanakaraj Benraj¹, Stela Vudu^{1,2}, Carolina Pitereschi^{1,2}, Aristia Seremet^{1,2}, Lorina Vudu^{1,2}

¹Department of Endocrinology, Nicolae Testemițanu University

²Endocrinology Laboratory, Nicolae Testemițanu University

Introduction. Adipose tissue is an active endocrine organ. There are four types of adipose cells –white (WAT), brown (BAT), beige and pink (PAT). WAT can be subcutaneous or visceral and is seen in abundance and stored as triglycerides (TG). BAT is seen mainly in infants and helps in thermoregulation by non-shivering thermogenesis. The third kind of adipocyte, known as beige adipocyte, can appear in WAT in response to thermogenic stimulations. PAT is described as a cell with high energy storage potential. **Objective of study.** To analyze the advantages of BAT, PAT, and beige AT, and the disadvantages of WAT and its role in obesity. **Methods and materials.** Systematic literature review of the articles published in the last 10 years was conducted using the platforms PubMed and Google Scholar, focusing on advantages and disadvantages of adipose tissue. **Results.** The biggest

advantage of BAT is the presence of uncoupling protein 1 (UCP1) which plays a major role in non-shivering thermogenesis. UCP1 activates upon stimulation and heat energy is produced in adipocytes. Beige adipose tissue results from conversion of WAT to BAT under cold exposure and beta-adrenergic receptor stimulation. During pregnancy and lactation WAT converts to PAT. PAT has also the ability to transform to WAT and BAT after lactation period. WAT stores TG as reserve. Excess accumulation causes hypertrophy and hyperplasia of the adipocytes that ultimately lead to systemic inflammation due to imbalance between pro- and anti-inflammatory cytokines. **Conclusion.** Adipose tissue has anatomical, functional and genetic diversity. It is a polychromatic organ that has importance in maintaining human health. **Keywords:** brown adipose tissue, beige adipose tissue, white adipose tissue, non-shivering thermogenesis

THE EFFICIENCY OF FUNCTIONAL METHODS AND MEANS IN THE REHABILITATION OF PATIENT WITH SCOLIOSIS

Anjali Promodkumar, Alisa Tăbîrță

Scientific adviser: Alisa Tăbîrță

Department of Medical Rehabilitation, Physical Medicine and Manual Therapy, Nicolae Testemițanu University

Background. An increasing number of individuals have scoliosis. Children are 50 times more likely than the general population to suffer from scoliosis if their parents suffer from idiopathic scoliosis. It is described as a three-dimensional distortion of the torso and spine. Function and structure are the two categories into which scoliosis falls. This kind of disease can lead to severe reductions in the range of motion of the spine, excessive straining or stretching of the muscles, and impairments in respiratory function. **Aim of study.** Analysis of the latest literature data from the efficiency of functional methods and means in the rehabilitation of patients with scoliosis. **Methods and materials.** A systematic approach was employed to examine peer-reviewed articles between the year of 2020 to 2024 in PubMed, Google Scholar data base, ResearchGate, were analyzed the articles based on the keyword include rehabilitation, scoliosis, functional scoliosis. Rehabilitation of people with scoliosis largely depends on the degree of curvature. For example, Nachemson et al examined 240 patients, aged 10 to 15

years, with thoracic or thoracolumbar curves between 25° and 35°; 111 of these individuals received thoracolumbar braces, while the remaining 129 were only observed. When there was a progression of six degrees or more at any of the two radiological follow-ups, the chosen treatment (brace treatment versus observation) was deemed unsuccessful. Very low-quality evidence with contradicting results makes it difficult to determine how bracing compares to compares to other methods of rehabilitation. While some literature sources say that there is no evidence about the effectiveness of conservative treatment on scoliosis, they still have an important impact in improving quality of life, function, self-image, mental health and satisfaction with treatment. **Conclusion.** Scoliosis is a pathology of young people with significant clinical and functional deficits. Rehabilitation methods and means are indicated in individual programs depending on the degree and evolution of the disease. **Keywords:** scoliosis, rehabilitation, functioning