side of the body is systematically larger than its antimere, or an unpaired structure characteristically is located to one side of the midline. Facial clefts are an example of directional asymmetry (Harris 2002). The pattern of cell movements is directed by the pattern of gene expression, which determines cell surface properties and motility. The left-right anatomical asymmetry of the vertebrate body is foreshadowed by left-right asymmetry in the pattern of gene expression in the early embryo (Alberts et al. 2002). On the other hand, a left-right asymmetry in mesiodistal dimensions in subjects with unilateral clefts suggests a fluctuating asymmetry. The concept is that the same genetic and environmental factors control growth of the left and right structures of the body; reduced homeostasis causes differences in size and shape of the bilateral structures (Harris 2002). Fluctuating asymmetry affects permanent teeth in patients with cleft lip and palate. Microdontia, hypodontia, hyperodontia, atypical tooth buds are the symptoms most frequently recorded (Stahl et al. 2006). Asymmetry is more advanced in the cleft area, reflecting low regulatory control during development.

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Normal and pathological aspects of the temporomandibular joint

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The temporomandibular joint (TMJ) is a synovial sliding-ginglymoid joint. It consists of the mandibular fossa and the articular tubercle (on the undersurface of the squamous part of the temporal bone), and the condyle (supported by the condylar process of the mandible). A fibrous disk divides the joint cavity into the superior and inferior compartments and is a structure with an important functional role: it provides a passive movable articular surface accommodating the translatory movement made by the mandibular condyle. The pathology of TMJ includes disk dislocations, quite frequent in young ages. There are many pathological situations in the TMJ functionality, one of them being the disk displacement with or without repositioning. All the conditions that allow the articular ligaments elongation and disk narrowing are involved in its etiology. One of the most common causes for that is the trauma, with two possibilities – micro and macro trauma. The elongation of the articular ligaments reduces the disk capacity of turning back simultaneously with the condyle, during mouth closing, so that at the end of the movement, the disk will be positioned more anterior, and the condyle will be in contact with the posterior part of the disk. As time will go by, the later will get thinner, the anterior position being accentuated and at the end of the mouth closing movement the condyle will lose its relationship with the disk, so that the mouth opening movement will be blocked. The authors present a case of a female patient diagnosed with a class II div 2 malocclusion, who came to the Department of Orthodontics and Dento-Facial Orthopedics because of a reduction of the mouth opening movements. The patient was diagnosed with a disk dislocation without reduction. She underwent a treatment that aimed first the relocation of the disk, followed by orthodontic treatment.

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