



Spasticity

Lectures

CO41-001-e

Contribution of 3D gait analysis to spasticity management in adult subjects

G. Stoquart

Cliniques universitaires Saint-Luc, Université catholique de Louvain, Bruxelles, Belgium

The lack of knee flexion during the swing phase (stiff-knee gait) and the equinovarus of the foot are some of the impairments that restrict the walking ability among patients with spastic hemiparesis. Several factors are likely to explain these gait patterns. The most relevant factors of stiff-knee gait seem to be the spasticity of the quadriceps (rectus femoris, vastus intermedius), the spasticity of plantar flexors and the weakness of the iliopsoas. The quantified gait analysis can help to target the treatment. For example, the botulinum toxin type A injections in the rectus femoris alone seem sufficient to improve kinematics in patients with a knee flexion greater than 10° prior to treatment, while multi-site injections (e.g., quadriceps, triceps surae. . .) seem necessary when the knee flexion is lower than 10°. The equinovarus can also be explained by various factors (e.g., spasticity or fixed contracture of triceps surae, weakness of the dorsal flexors and eversors. . .). The use of gait analysis is really interesting, in association to local anesthetic motor blocks, to improve the effectiveness of the treatment (e.g., botulinum toxin, tibial neurotomy, tendon transfers and lengthening. . .).

<http://dx.doi.org/10.1016/j.rehab.2014.03.149>

CO41-002-e

Neuro-orthopaedic care of spasticity in 2014

T. Deltombe^a, T. Gustin^b, P. De Cloedt^c, P. Lenfant^c,
M. Fostier^c^a *Spasticity Group, Physical Medicine and Rehabilitation, CHU Dinant Godinne, Yvoir, Belgium*^b *Neurosurgery, CHU Dinant Godinne, Yvoir, Belgium*^c *Orthopaedic Surgery, CHU Dinant Godinne, Yvoir, Belgium*

The spasticity treatments are multimodal. Rehabilitation, orthosis, diagnostic and therapeutic nerve blocks and botulinum toxin type A (BTXa) injections are performed by PMR specialists while intrathecal baclofen (ITB) therapy, selective neurotomy, tendon lengthening and/or transfer and bone surgery are performed by neurosurgeons and orthopaedic surgeons.

The first step of the neuro-orthopaedic care of the spasticity is to differentiate by means of the clinical examination and of the diagnostic motor nerve

block with anaesthetics the respective contribution of the spasticity, of the paresis and of the contracture in the patient deformity. Once the responsibility of the spasticity is clearly established, a reversible treatment of the spasticity is proposed. If a permanent treatment of the spasticity is requested, neurotomy (focal spasticity) and/or ITB therapy (generalized spasticity) associated to tendon lengthening (contracture) and/or transfer (imbalance) are proposed.

The large variety of available therapeutic modalities emphasizes the need for an interdisciplinary management of the spasticity in order to perform the most appropriate treatment for our patient. Furthermore, such interdisciplinary work is mandatory if we want to establish practical therapeutic guidelines for the different deformities such as elbow flexum, spastic hand, equinovarus foot, toe claw. . .

<http://dx.doi.org/10.1016/j.rehab.2014.03.150>

CO36-001-e

Acquired deforming hypertonia and contractures in elderly subjects: Definition, prevalence, and therapeutic options

P. Dehail

Service de MPR, CHU de Bordeaux, EA 4136, Université de Bordeaux, Bordeaux, France

The term “contractures” have often been used to describe abnormal postures or joint deformities affecting the upper and lower limbs in dependent elderly subjects confined to a bed or a wheelchair. However, no standard definition has validated this term.

The lack of a standard definition explains the varying prevalence reported in the literature. According to the different authors and criteria selected, 20 to 75% of elderly institutionalized subjects would present at least one contracture on a limb. Recently, a new terminology (acquired deforming hypertonia or ADH) was suggested. ADH was defined as any joint deformity with decreased ROM and increased resistance to passive movements, regardless of its cause, which promotes functional impairments, discomfort or any other limitation in activities of daily living. According to this new definition, the purpose of the communication will be to present the results of the French ADH survey concerning prevalence of ADH in geriatric institutions, and to discuss clinical characteristics, consequences, ethiopathogenic factors and therapeutic options available to improve care management for these patients.

Further reading

Dehail P, Simon O, Godard AL, Faucher N, Coulomb Y, Schnitzler A, Denormandie P, Jeandel C. Acquired deforming hypertonia and contractures in elderly subjects: Definition and prevalence in geriatric institutions (ADH survey). *Ann Phys Rehabil Med* 2013.

<http://dx.doi.org/10.1016/j.rehab.2014.03.151>