De regulă însă, la eşaloane inferioare, antrenorii îndeplinesc şi funcţii de coaching, neavaând la dispoziţie echipe interdisciplinare de specialişti -directori tehnici, coordonatori, fizioterapeuţi, psihologi, nutriţionişti, etc. Din acest considerent este de optat ca în formarea profesorilor-antrenori să fie incluse şi cunoştinţele necesare îndeplinirii unei astfel de funcţii. Aspectul se referă la o pregătire psihologică cu mult peste nivelul comun fiecărui pedagog care să fie capabil a capacita şi motiva sportivii.

Unii specialişti consideră competiţia o compensare simbolică a vicisitudinilor vieţii, un mecanism de echilibrare emotivă. Teoriile motivaţiei recurg la explicaţia conduitei pe baza factorilor psihologici ce pot fi raportaţi la unele procese psihice cum sunt trebuinţele, tendinţele, impulsurile, dorinţa de a invinge obstacolele, nevoia de performanţă, satisfacerea unor nevoi estetice, ocuparea unui loc în societate, etc.

Motivele practicării sportului de performanţă sunt complexe şi plurinivelare, exprimând personalitatea sportivului pe care antrenorul o inf1uenţează.

Putem spune ca există motive ce au la bază:

- nevoi motorii -nevoia de mişcare, de a cheltui energie;
- nevoia afirmării de sine; căutarea compensatiei -surmontare, substituire, echilibrare;
- interesul pentru competiţie -nevoia de succes, de a compara cu alţii, de a se opune altuia, dorinţa de neprevăzut, plăcerea tensiunii concursului;
- dorinţa de a câştiga -de posesiune, glorie, recompensa materială, patriotism, dorinţa de succes;

Motivele participării în activitatea competiţională pot fi :

- intrinseci -plăcerea produsă de activitatea respectivă, nevoia de afirmare, compensaţiile, etc. ;
- extrinseci -recunoaşterea valorii, recompense, curiozitate, satisfacţii de alt natură.

Activitatea sportivă de mare performanţă nu este fundamental dăunătoare. Ea necesită însă abordări atente sub aspect educativ pentru creerea unor condiţii corespunzatoare, astfel încât ei să aibă o dezvoltare liberă.

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RECOVERY NEUROMOTOR OF DYPLEGIA IN SPINA BIFIDA CYSTICA

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Key words: spina bifida, recovery, kinesitherapeutical methods, results.

Abstract:

Pathophysiologically regarded, these affections occur in any area of the spinal cord on the posterior mediane line, but most commonly in the lower lumber and sacral areas. Medically and socially speaking, meningomyelocele becomes a real problem, especially when commonly associated with serious neurological damage (motor, sphincterian, trophic defects), alongside with hydrocephallus and other ongoing malformations. The incomplete closure defect of the neuralspinal tube are almost exclusively occuring in the median posterior section of the backspine, undoubtedly leading to different forms of posterior spina bifida cases.

The spina bifida as dysraphic malformation of the neural central system includes from the gravity aspect, the following anatomical- clinical forms:

1. *Meningocele (* the neural tube is unclosed and the neural tissue is exposed);
2. *Spina bifida cystica- meningomyelocele* (vertebral defect with the spinal cord protrudence);
3. *Spina bifida occulta* (vertebral arch defect with local medial, cutaneous and sub-cutaneous modifications)

The spina bifida cystica or meningomyelocele, are consecutive con-genital malformations of a

neural tube closure defect along with its neighbouring mezenchymal formations, allowing the protruding of the spinal cord (meninges, neural tissue), with or without tegumentary damage.

Pathophysiologically regarded, these affections occur in any area of the spinal cord on the posterior mediane line, but most commonly in the lower lumber and sacral areas. Medically and socially speaking, meningomyelocele becomes a real problem, especially when commonly associated with serious neurological damage (motor, sphincterian, trophic defects), alongside with hydrocephallus and other ongoing malformations. The incomplete closure defect of the neuralspinal tube are almost exclusively occuring in the median posterior section of the backspine, undoubtedly leading to different forms of posterior spina bifida cases.

The main dysraphic affections known as spina bifida, are:

1. Spina bifida occulta, a closure defect presenting the split of the vertebral arch, usually having its soft covering parts within normal limits.
2. Spina bifida cystica covers the meningocele and the meningomyelocele under different anatomical forms.

The MM (meningomyelocele) incidence is calculated at 1 to 4 cases per 1000 live births (Nirmel & Chapman 1987). The MM classification according to the located area is: cervical thoracic, lumbar, and lumbar sacral areas. The maximum incidence is at the lumbar sacral areas, and the minimum incidence occurs in the thoracic area.

According to the tegumental aspects of the malformed neural tube, there could be three forms of spina bifida to be classified:

1. the open forms of spina bifida
2. the closed forms (the covered ones)
3. the complicted forms.

1) The open forms of the spina bifida are the ones the malformed spinal cord protrudes freely on the surface of the body, so called open spina bifida .

2) The closed (covered) forms are those in which the normal or modified but not ongoing teguments cover the developmental defect of the neural tissue and the vertebral channel.

In this particular case, three subforms stand out:

-myelocistocele, in which only the spinal cord and the central channel protrude, and the spinal fluid accumulates in the channel, deepening it;

-myelocistomeningocele, in which the fluid accumulates both in the main channel but also at the soft meningenes level;

-meningocele, the light form of cystic spina bifida, in which the fluid accumulates in the free space with no medular participation.

3) The complicated forms, be it ulcerated or split are given by the thin covering teguments, which produce a spontaneous continuous or traumatic solution. In the ulcerated forms, the covering teguments of the malformations are macerated, usually by the permanent local irritation of the urine and by lying down on the back; afterwards, they ex-ulcerate and secondarly get infected.

The local signs are manifesting at the moment of birth by a variably sized tumefaction, situated on the posterior mediane line. The clinical aspect depends on the clinical form. The covered forms have a tumoral aspect with normal or modified teguments, and an abnormal pilosity. The size of the formation differs, ranging from a wall nut shape till a monstruous fetus headlike mass.

The open forms manifest through a regularly minor, more flattened tumefaction of a variable width, presenting the spinal vascular mass oozing the surface with LCS leaking (cerebral spinal fluid). Around, the cystical, hyperpigmentation or cutaneous angioma., the same as in closed forms. Open forms of split spine have a greater frequency at births.

The neurological signs consist in motor sensitory disorders (hard to controll in babies), trophic and sphincterial of a variable intensity, sometimes reaching complete medular spliting or pony-tail syndroms.

Motor disorders manifest under the form of light or obvious, normally flacid paralysis but especially dystal, at the lower limbs. In the concerned areas, muscular atrophies can be felt. As to sphincterial disorders concerning the annal sphincter, they could be: the presence of wide open annus, the absence of the annal reflex and occasionally rectal prolapse.

The most frequent acquired malformation for the spina bifida is hydrocephalus. In postoperatory situations, hydrocephalus does not show in babies with normal pre-operatory ventricular system.

MM are sometimes accompanied by other dysprahic malformations, such as meningoencephalocelus or the dermal sinus. They can also be accompanied malformations which usually take place outside the central neural system, such as: congenital crooked leg, congenital cocs-phemural sprain, urinary apparatus malformations, etc.

The positive diagnosis is considered at birth, establishing the aspect and the position of the malformation in the same time with the clinical form . The neurological signs have a discreet evolutionary tendency, especially as to the motor disorders, as the EMG data showed. The EMG study allowed emphasizing the motor disorders after several months where it could not be therapeutically intervened.

The prognosis depends on the location, the width of the lesion and epecially on the anatomical elements of the malformation. The envelopped forms with meninges alone have a good functional prognosis. The sphincterial disorders, especially the urinary ones, are the hardest to influence, which predispose to repeated or chronical urinary infections, affecting the kidneys also and endangering the vital prognosis.

The meningomyelocele treatment is extremely complex and long lasting and consist in surgical, orthopedical and urological treatment, motor and sphincterial re-education and in local care- hygienic and antiseptic treatment. It aims to keeping the patients alive and to improve their general condition, to a later integretation in the society and an assurance of a even more independant existence.

The orthopedical treatment is applied both in the case of the extremeties de-formations and the co-existent bone congenital malformations. A traditional or surgical orthopedical treatment will be performed, followed by a motor re-education.

The urinary disorders represent the main physical and psychological disability of such patients.

The motor and sphincterial re-education treatment must be applied as quick as possible and represents an ongoing endeavour for the rest of their existence. The treatment falls into physiotherapy, kinesitherapy and hydrotherapy.

The presentation of the case

M.A. of female gender is found at birth with an orange-sized tumour formation, located in the lumbar sacral area, with a vicious position of the lower limb in talus-valgus. The diagnosis was *lumbar meningomyelocele* and the child was operated later, at the age of 6 months. After the operation, a subsequently formed fistula of cerebrospinal fluid was found, which spontaneously closed. On the background of growing up and physical development, a major psycho-motor delay was noticed, which sharply compells the immediate kinesitherapeutical intervention.

He is introduced to the Delfin Day Centre of Bacau at the age of 8 months old, in order to attend program of kinetotherapy aiming to facilitate the forming and assimilation of several basic movement schemes needed to produce the necessary everyday execution of various motor acts. The movement schemes represent the automatism background of the movements. Once he has been taken up, a functional diagnosis (functional impotence, sphincterial disorders) was established, proceeding to the evaluation of the initial defficiency. The survey was acomplished by using combined evaluation tests:

1. Evaluation of motricity global at the baby;
3. The functional motor level evaluation by Tardieu.
2. Examination sheet (articulary result and the muscular testing) for the locomotory apparatus
4. Psycho-diagnosis methods by applying Denver II test;
5. Robanescu examination sheet surveying the functional evolution.

Subsequently the initial evaluation, a major mioarthrokinesical deficiency was outlined. Therefore a 4 months delay between the chronological and the biological age was established. As the patient was undergoing the process of growing up and regarding the recovery treatment had to be ceaselessly followed, the periodical repetition of this complete evaluation was considered every three months.

The goals of the kinesitherapeutical program are:

- the systematization of the activity stages in order to avoid the appearance and fixation of the lower limbs in vicious positions and acquiring basic motor skills;
- simultaneously conducting the hip joints movements with the knees and ankles movements;
- forifying the body musculature in order to acquire and maintain some correct positions of the head, shoulders, vertebral column.

The treatment which was applied in the Betania Day Centre of Bacau concerns the development of the mioarthrokinesical apparatus function in lower limbs particularly and in body generally , preventing the apperance of the axial or backspine deviations, the recovery and the increase of the articular mobility, the force and the muscular resistance improvement, receding the sensitivity and the vascular-trophic disorders in lower limbs.

The recovery treatment was fallen into 4 sessions per week, 45 minutes each, also including phototherapy, the help and intervention of the multifunctional toys and the elements of neural-motor re-

education, all allowing and facilitating an analytical and overall kinesitherapeutical approach of the individual through interesting means to maintain their preoccupation and increase their co olaboration.

Means and Merthods

A. Hydrotherapy with significant importance in increasing the blood circulation, stimulating both the nerves and muscles improve globale motricity:

- Lower showers (sprinkles): the patient sits on a small chair, the legs in a recipient filled with water; up to 10 sprinkles with water are performed , the first, quick and with plenty of water on both legs, begining with the toes and ending a little above the knees; the following sprinkles are weaker.
- Walking on wet grass- dewed, rained, or just watered, is an option for barefoot walking. The patient is placed in the walker and guided on the grass.
- Walking on wet rocks; this exercise is again executed in the walker, under which a box filled with wet rocks has been placed; pedalling exercises are executed. The exercise itself lasts 3-5 minutes.

B. Phototherapy enhances the local tonicity. Bioptron lamp was used working on direct polarised light on the lumbar sacral areas, having as effects the increase of energetical activity of the cellular membrane. The regenerative processes are activated, the oxygen absorption increases. By forming the adinozyntriphosphate in mitochondria, the energetical potential of the cells rises. The polarised light exerts an undivided influence on the electric field of the cell, positively modifying the cell's membrane activity, favoring the substances exchange and the regenerative processes.

C. Kinesitherapy. Means and methods.

a) Stimulation inducing massage on the posterior side of the calf and the anterior side of the thigh and relaxation inducing massage on the anterior side of the calf and the posterior side of the thigh. Tegumentary stimulations: brushing, tapping, pressing (articular compresions, heel hammering and other points).

b) Passive exercises executed in all regards and movements axes in the lower limbs as to correctly learn and execute the movement scheme, to improve the articular motility, the muscular elasticity and trophicity, to avoid contractions and detensions, preventing the diformities taking over.

c) Active movements which can occur as reflex, such as streching out the arms in the preparations to jump reflex, the backspine strech in the Landau reflex, balance reactions to stabilize the positions, etc.

d) as facilitating elements, streching exercises were used and applied, strech-reflex.

The first activities closely supervised by the kinesitherapeutist were inducing and educating the rolling forward and the crawling, moving on to sitting up. Once the balance reactions established, the preparations for the jump reflex is stimulated.

Consolidating this reflex made the moving on to on all fours possible.

Results and conclusions

1. After 8 months of recovery treatment in our centre using the abovementioned methodology , the morpho- functional results show a significant improvement of all studied parameters.
2. The motor deficiency in spina bifida cystica needs a long time complex treatment, even everlasting and family supported, having considerably improvement possibilities.
3. Kinesitherapy plays a decisive role, and the more our program is more priorily established , adequate and individualized, the more the individual stands greater chances to re-integrate in the society.

RECUPERAREA NEUROMOTORIE A DIPLEGIEI DIN SPINA BIFIDĂ CHISTICĂ

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Cuvinte cheie: spina bifidă, recuperare, mijloace kinetoterapeutice, rezultate.

Rezumat

Spina bifidă apare în orice punct al coloanei vertebrale pe linia mediană posterioară, dar sediul de predilecție este regiunea lombară inferioară şi lombo-sacrată. Fiind însoțite deseori de leziuni neurologice grave (motorii, sfincteriene, trofice), pe lîngă asocierea frecventă a hidrocefaliei şi a altor stări malformative concomitente, meningomielocelele ridică un tip de probleme atât din punct de vedere medical cât şi social, Defectele de închidere ale tubului neuronal spinal se observă aproape exclusiv în regiunea mediană,