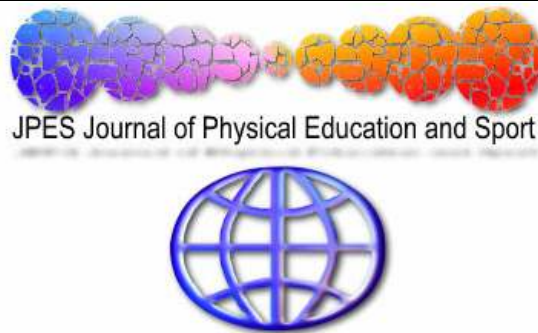




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ORIGINAL RESEARCH

THERAPEUTIC APPROACH OF THE PAINFUL LUMBO-RADICULAR SYNDROME (SDLR) IN THE LACU-SĂRAT RESORT AND THE "SC FIZITER SRL" BRĂILA PHYSICAL REHABILITATION CENTRE

Dr. Viorica Lefter ¹, Dr. Oana Andreea Cibu ²,¹Faculty of Kinetotherapy, Galati. ²Faculty of Medicine, Galati, Romania**Abstract**

Introduction. The high frequency of painful lumboradicular syndromes (SDLR) is visible in the international specialised literature, bearing upon a diversity of specialisations (orthopedics, rheumatology, neurology, brain surgery, internal medicine, physiotherapy, social assistance services). **Material and method.** The present study took place in the interval 2007-2009 and comprised 2847 clinical cases of various types of painful lumbar syndromes (44.43%) out of a total of 6517 patients admitted in our service during the three years of the study, aiming at identifying differentiated nosological entities, presenting the clinical diagnosis criteria and singling out the treatment methodologies. The study proves that a careful and competent clinical examination as well as the accurate interpretation of paraclinical results may provide diagnosis elements allowing the isolation of various distinct nosological entities out of the totality of painful lumbar syndromes, which are subsequently enumerated establishing the percentual proportion to the 2 947 S.D.L.R. cases, as well as to the methodologies of kinetic approach of these entities. 1. The lumbar disc hernia (the multi- or single-level discogen lumboradicular syndrome (phase III st. III) 34.60%. 2. The "lumbago" discogen lumbalgic syndrome (phase II) 4.66%. 3. The myofascial syndrome 39.5%. 4. The facetar syndrome 1.53%. 5. The post-surgery HDL syndrome 12.85%. 6. The lumbalgic syndrome in generalised filoritis 4.25%. 7. Lumbar pains of other origins. **The conclusions and results** of this research topic provide useful information, in view of a more certain diagnosis, accurate therapeutic orientation, adequate guiding of patients towards the suitable therapy, the kinetic approach of these entities, elements which may avoid prolonging the evolution, the useless increase of temporary work incapacity, applying precipitous treatments and patient's iatrogenisation.

Key words: lumboradicular, kineto, posture, pain.

Introduction The observations in our ambulatory services over a period of 20 years, either clinical or statistical, evince the fact that the degenerative pathology of the spine in general, and lumbar spine in particular, take the first place in the cases submitted to our clinic. By comparing this observation to the statistics of other units of recovery therapy of locomotive profile, it has been remarked that our statistics is not singular in this high incidence of the lumbar spine pathology. The high frequency of painful syndromes (SDLR) is included in the international specialised literature, bearing upon various specialisations (orthopedics, rheumatology, neurology, brain surgery, internal medicine, physiotherapy, social assistance services).

The multidisciplinary approach of the lumbar spine pathology may constitute the explanation of the many options in defining nosological entities and diverse opinions regarding the treatment methodology, medicine administration, orthopedic, surgical, hydrophysical and kinetic means.

I. Working hypothesis.

For several years, our services have been concerned with the detailed approach of SDLR, in view of analysing them thoroughly, which enabled us to single out several nosological entities, more nuanced diagnoses, in order to optimise the treatment methods (medicine, hydrotherapy, kinetotherapy).

The adequate assessment of the data provided by anamnesis, the data resulting from the objective clinical examination of the locomotive apparatus, from a clinical and functional point of view, the investigation of the psycho-emotional behaviour of each patient, have been basic requirements in assessing the best diagnosis, both anatomo-clinically and functionally speaking. In order to reach this objective, we have managed to put together a unitary system of clinical observation charts and treatment programmes for each entity.

Ignoring subjective or objective symptoms, the erroneous assessment of the diagnostic value of some of the clinical elements, deficient techniques in effecting the objective clinical examination represent a part of the factors still favouring a poor diagnosis orientation and therapeutic conduct.

Thus, the following clinical entities were isolated within SDLR:

1. Lumbar disc hernia with radicular bearing or discopathy of third phase (according to de Seze);
2. Acute or subacute lumbalgic syndrome corresponding to the second phase discopathy (de Seze);
3. Acute lumbalgic syndrome of myofascial origin;
4. Facetal syndrome (or posterior interapophisary syndrome);
5. Residual syndrom post HDL surgery;
6. DL syndrome within generalised fibrositis;
7. Other S.D.L.R. more difficult to isolate by regular clinical and paraclinical means (the syndrome of stenosis of the lumbar channel, the lateral recess syndrome, tumors, visceral problems bearing on the lumbar area, inflammatory or infectious processes in the pelvian area, etc.) (apud Lucescu) (1,5).

Material and methods

In order to write this paper, 6617 patients admitted to our care were studied clinically and paraclinically within the period 2007-2009, out of whom 2947 patients with SDLR i.e. 44.43% were retained as significant for the purposes of the present study.

Table I

Painful lumbar syndrome (SDL)

	No of patients	% of SDL	% of total patients
Disc hernia (phase III discopathy)	1017	34.60	15.38
Acute and subacute lumbago (phase II discopathy)	137	4.66	2.07
Myofascial syndrome	1161	39.50	17.54
Facetal syndrome	43	1.53	0.69
Residual syndrome post HDL surgery	378	12.85	5.72
D.L. syndrome in generalised fibrositis	125	4.25	1.90
SDL of unknown origin	77	2.61	1.16

Distribution of SDL entities (table I).(fig.1,fig.2.)

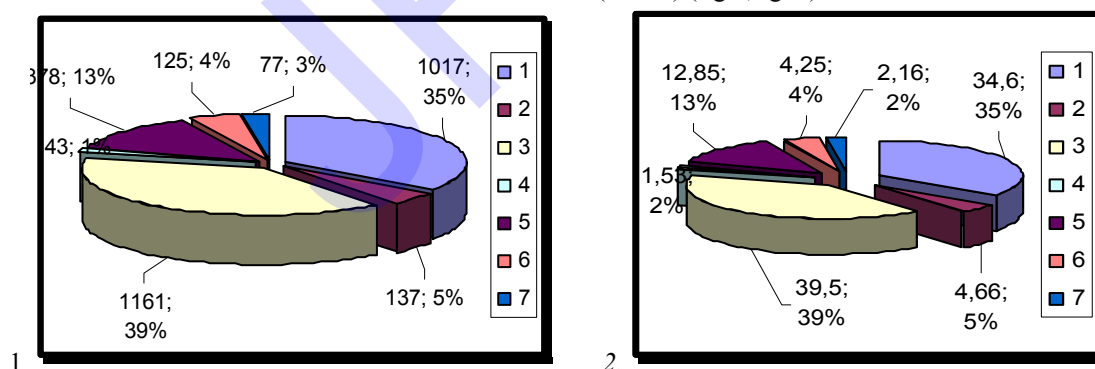


Figure1. Distribution of SDL entities % out of the total no. of admittances

Figure 2. Distribution of SDL entities % out of the total SDL

We shall proceed to presenting each nosological entity from the point of view of the clinical criteria used, diagnosis, treatment methodology and post-therapeutic results.

1. Lumbar disc hernia with radicular bearing. The diagnosis criteria within this type of SDLR are the typical ones: vertebral syndrome; dural syndrome; radicular syndrome; myofascial syndrome; neuropsychic syndrome; interpretation of lumbar X-rays, RMN, CT; the check-up of the diagnosis criteria by the therapeutic test (the fast-improving responses lead to diagnosis re-evaluation). Performing a careful clinical exam when the patient is admitted, according to a unitary and rigorous technique, repeated during the patient's stay in hospital, allowed

the precise decision on a diagnosis of HDL in a number of 1017 patients out of the total of 6617 admitted during the three years of the study. Table II shows the statistical data referring to the anamnesis aspects of these patients with lumbar illnesses. The data recorded within our research topic are not different from those in the specialised literature: HDL mainly affects men (70.51%), mostly within the age group 31—50 (72.08%), but there were no significant differences in the incidence of HDL related to the two groups of jobs — static or dynamic. The table shows that there is a long period of time between the first signs of the disease and the decision to get admitted (77.77% of the patients got admitted after a period of 1—3 months from the start of the condition and only 14.65% were admitted early, i.e. under 1 month). It is to be noticed that the therapeutic attitude in the ambulatory service (inadequate and procrastinating) ignored a basic therapeutic principle, according to which such patients in full crisis should be confined to bed rest, at an early stage.

We have also opted for a conservative and armed expectative treatment in the case of 291 admitted patients (28.61%), exhibiting radicular pareses — paralysees, as we considered the optimum moment for surgery had already passed. The neurologic deficit of these patients was differentiated function of the degree of radicular conductivity into: *slight* (presence of integumental dysfunctions, of ROT); *moderate* (manifested by pareses of the affected muscles in which the muscular testing revealed functional muscular values of 2 or 3, according to the known evaluation scale); *severe* (presence of paralysis with values under 2). The treatment methodology was instituted in a differentiated manner, related to the existent clinical form, the illness' evolutive stage and the stage objective. In point of therapy with an immediate methodological and practical value, there are three main groups of patients: 1. in acute crisis; 2. in post-acute stage; 3. in subchronic stage of clinical remission. Depending on this stage differentiation, differentiated methodologies and consequently stage objectives were envisaged.

a) The presence of the acute radicular syndrome had as a main objective the alleviation of pain, which imposed a sparing methodology involving compulsory bed rest on a hard plane, postures of relaxation, and tension release during the entire period of intense algia (6—10 days) association of medicine administration, adapted to the objective clinical state and psychoemotional behaviour: sedatives only (151 patients = 14.84%), painkillers and A INS (174 patients = 17.10%) and corticotherapy (ACTH and/or cortisone) for 44 patients = 4.32%). All patients in acute crisis (some in hyperalgetic crisis) also benefited from supporting bed therapy consisting in sedative massage, electrotherapy (interferential, laser, ultrasounds with local or segmental topography). An efficient method of diagnosis and implicit alleviation of discoradicular conflict was found to be akinetic kinetotherapy (posturation) in positions of muscular relaxation with a muscle trope and radiculotrope antialgic objective; the next step is targeted kinetotherapy (after the exclusion of negative side effects), which is a painstaking method, requiring trained personnel and only useful under supervised conditions in specialised units.(2,3)

Acute pain of the spine (relaxing postures)

Posturation in DD, the feet are fixed on a wall, stool, so that the thigh and the calf should form a right angle.

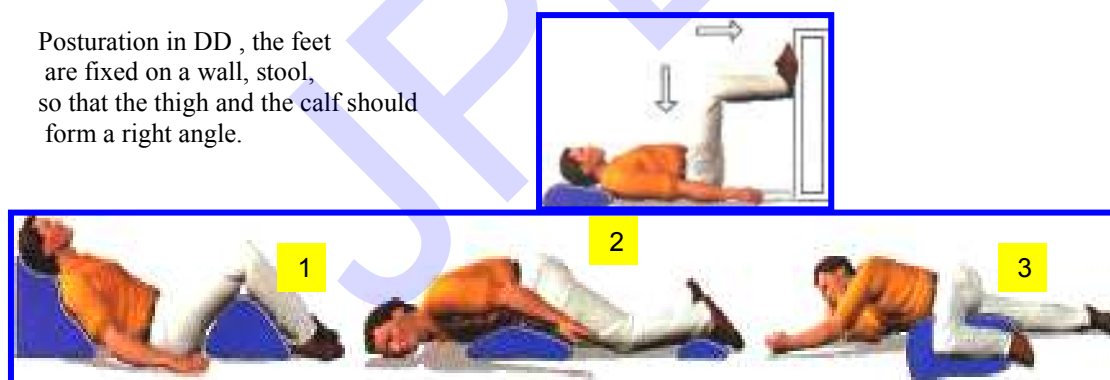


Figure 3. 1. Posturing in DD with a pillow under the head and a pillow under the knee (semiflexion)

2. Posturing in DV, arms alongside the body, with a pillow under the abdomen

3. Posturing in DL, the painful leg with a bent knee, supported by a pillow

b) For patients admitted with post-acute radicular syndrome or those admitted in crisis but evolving towards a post-acute stage, the specific methodology of our service was applied, i.e. hydrotherapy (using water and sapropelic mud in The Lacu-Sarat lake). We introduced or continued the electrotherapy procedures with antalgic, musculotrope, neurotrope, vasculotrope objectives (low, average and high frequency currents) known in all physiotherapy services. The effects of relaxing or correcting postures were used in the clinical cases requiring objectives of such a nature. Some kinetotherapy procedures were introduced, having a preventative role in postural or muscular deficiencies, or recovering at an early stage the existent or potential muscular deficiencies, without charging the lumbar spine. The moment of kinetotherapy introduction into the treatment methodology requires judicious decision power, a lot of clinical experience and highly competent kinetotherapy

nurses. In our services, we managed to organise the implementation of kinetotherapy individually and in a personalised manner, both at the patient's bed and in the kinetotherapy cabinets, on an individual basis. The strict observance of kinetotherapy norms, effected by qualified nurses and under constant medical supervision led to eliminating rush maneuvers with acutisation risk and favoured the stabilisation of the mobile lumbar segment, facilitating the passage to the next step.(2,3)

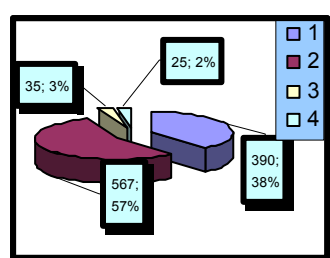
HDL with radicular bearing

- 1) *No. of patients* 1 017 = 34.60% out of SDL and 1.36% out of total admittances.
- 2) *According to gender*: women 300 (29.49%) ; men 717 (70.51%)
- 3) *According to profession* : static 390 = 38.35% ; dynamic 567 (55.75%); retired 35 (3.45%); housewives, /students 25 (2.45%)
- 4) *According to age* : under 20 3 = 0.30%; between 21-30 = 10.12% - 103; between 31-40 - 445 = 43.76%; between 41-50 238 = 28.32%; between 51-60 149 = 14.65%; over 60 29 = 2.89%
- 5) *Period start -admittance* :-under one month 149 (14.65%);between 1-3 months 791 = 77.77%; over 3 months 77 = 7.58%
- 6) *Therapeutic conduct up to admittance*: not treated : 203 = 19.95%; physically treated in ambulatory service 170 = 16.74%; medically treated in ambulatory 349 = 34.31%;treated in various hospitals 295 = 29%
- 7) *According to clinical form*: irritative 248 (24.39%); irritative-compressive 478 (47.7%); paretical-paralysing 291 (28.61%)
- 8) *According to the affected radix*: radix L3 = 13 patients 1.27% out of which paretical 3; radix L4 = 52 patients = 5.11 % out of which paretical 8;radix L5 = 398 patients = 45.53% out of which paretical 161; radix SI 480 patients = 47.20% out of which paretical 96 ; radix L5 and SI 9 patients = 0.89%.(Fig.5)Table 2.

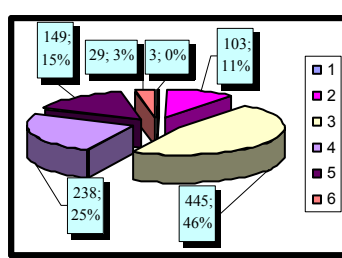
Table II

Clinical signs clinice	Affected radix					Total bolnavi	
	L3	L3-4	L4	L5	L5-	nr.	%
• Vertebral syndrome	4	6	6	7	-	23	2,26
• Cifosis	6	30	182	236	4	458	45,04
• cifoscoliosis	1	3	4	4	-	9	0,89
• scoliosis	-	2	26	24	-	54	5,21
• Vertebral svndrome slight	2	13	245	209	5	464	46,60
• moderate	5	13	60	47	1	126	12,40
• severe	7	34	242	247	6	536	52,70
• Neurological signs slight	1	5	161	186	2	355	34,9
• moderate	3	10	112	82	-	207	20,35
• severe	8	34	191	296	9	238	52,90
• Lasegue sign	2	8	157	102	-	269	26,45
• Negative over 60%	-	-	3	-	-	3	0,30
• moderate (45 - 50°)	4	26	57	50	-	137	13,47
• severe (sub 45°)	7	22	158	163	4	354	34,5-
• controlateral	2	2	131	130	3	268	26,36
• Myofascial syndrome 318 bolnavi 31,26%	-	1	117	137	2	258	25,37
	1	1	110	108	-	220	21,63

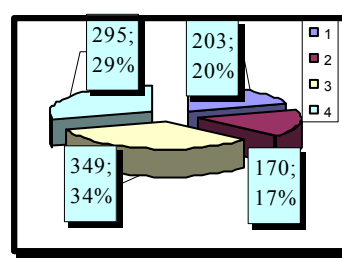
Treatment : sedatives only 151 = 14.84%; painkillers and AINS 174 = 17.10%; ACTH-cortisone 44 = 4.32%



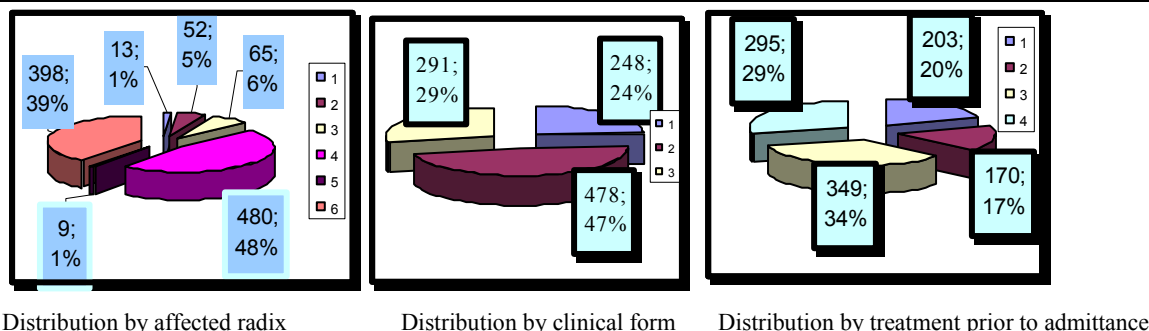
Distribution by profession



Distribution by age



Distribution by addressability interval



Distribution by affected radix

Distribution by clinical form

Distribution by treatment prior to admittance

Figure 5.

c) SDL with algia in subchronic stage (in clinical remission) present from admittance or evaluated under this stage during hospitalisation – a much larger, more demanding therapeutic complex was applied, aiming at removing the residual pain, flexibilisation of the retracted muscular and ligamentary structures, resuming muscular and postural balance, and in the peculiar cases represented by pareses and paralyses we aimed at recovering the distal motor deficiency. The therapeutic means applied were hydrotherapy with water and mud (38°—20°), electrotherapy procedures targeted locally and regionally, hydrokinotherapy with patients in similar stages, individual kinetotherapy, as well as collective kinetotherapy in the CFM hall (with homogeneous groups) having programmes of exercises of careful, gradual physical demands on the lumbar spine. Williams I, II, III. (Fig 7.) (2,3)

The therapeutic programme, instituted in all the three clinical situations, was well tolerated on the whole. The average hospitalisation period was 15-18 days. The post-therapy results may be grouped as follows:

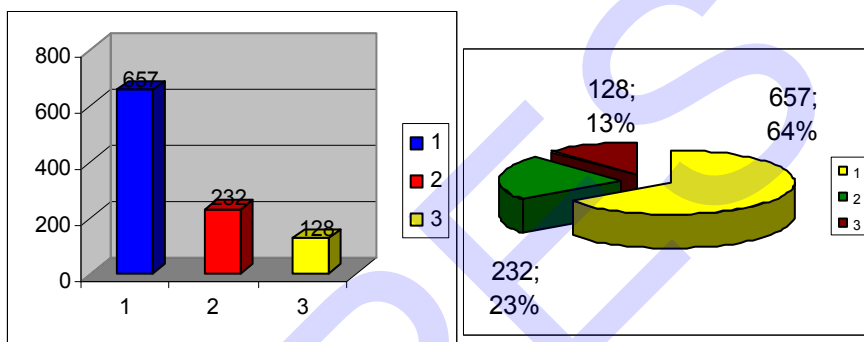


Fig.6 . Graphical distribution of results

- good and very good results = 657 patients = 64.50%
- average results = 232 patients = 22.80%
- poor results = 128 patients = 12.60%.

As for the these 128 patients, for whom the first stage treatment was unsatisfactory, a new clinical balance was carried out, leading to the conclusion that 28 patients were definite candidates for surgical intervention.

In the case of 100 patients, the clinical balance did not show elements constituting a certain recommendation of surgical intervention and thus it was decided to include them in the group of patients with surgical recommendation as a last resort. (table 2.).

Observation of our clinic of over 20 years has evinced the possibility of reducing the disco-radicular conflict, by temporization, taking advantage of the chance of a slow recession of this disco-radicular conflict, if these patients are re-admitted. In this sense, the patients were granted a period of home rest of 2—3 weeks, after which they were re-admitted for a new treatment stage of 3 weeks (table 3.).

HDX with surgical recommendation in the extreme (out of 1017 patients)

1. No. of cases 100 = 9.83%
2. Gender - men 71 = 71%; women 29 = 29%
3. Profession: static 17; dynamic 72; retired 3; housewives and pupils 8
4. Age : under 20- 2 = 2%; between 21 - 30 - 10 = 10%; between 31 - 40 — 5.2 = 52%; between 41 - 50 - 23 = 23%; between 51- 60 — 10 = 10%; over 60 = 3%
5. Duration up to hospitalisation: under one month 21 patients; one month — 31 patients; 2 months — 30 patients; 3 months — 11 patients; over 3 months 7 patients.

6. Therapeutic conduct up to hospitalisation: not treated 26 patients; physical treatment in ambulatory service 18 patients, medicine administration in ambulatory service 35 patients; hospital treatment 21 patients.
7. Radicular affection: -radix L4 = 5 patients; radix L5 — 49 patients; radix SI = 46 patients.
8. Clinical form: 1.irritative 22 patients L5 = 13 patients, SI = 9 patients; 2.irritative compressive 35 patients L4 = 4 patients,L5 -7 patients,SI = 26 patients;3.paretical -43 patients -L5 -29 patients,SI = 14 patients
9. Functional lumbar blockage -severe = 69 patients;moderate = 24 patients; minor = 7 patients.
10. Lumbar scoliosis: present = 84 patients; absent =16 patients.
11. Lumbar cifoscoliosis = 35 patients.
12. Lasegue sign : severe = 57 patients; moderate = 34 patients; minor = 9 patients.
13. Results: 6 patients operated; 94 patients improved, out of which 27 slightly improved.

At the end of the therapeutic programme in the second stage a new clinical evaluation was performed, thus sending 6 patients to the neurosurgery service, the remaining 94 patients manifesting obvious clinical improvements, excluding the surgical recommendation.

2. Lumbar discopathy of second phase

This acute or sub-acute painful lumbar syndrome is frequently generated by a muscular and ligamentary instability of the motor lumbar segment, or triggered by disc protruding phenomena. In current practice, in the ambulatory service, the incidence of this nosological entity is quite high. The clinical picture of this syndrome may produce diagnosis confusion and therefore erroneous therapeutical orientations, i.e. exaggeration or minimisation of symptom importance. The quick identification of this nosological entity which usually has a self-limitative character in the current medical practice represents one of the main conditions for the orientation towards a simple treatment methodology, thus avoiding polypragmatis (the exclusion of rush cortisone therapy) or other aggressive methods. (2,3)

The diagnosis criteria in this type of SDL may be grouped into the information collected in anamnesis (repeated lumbar pain crises of short duration), the objective clinical examination (minor static and dynamic vertebral lumbar syndrome, with scarce pseudo-algic elements, negative Lasegue sign, no neurological signs), positive therapeutical test (quick favourable results) following a simple therapy. After the triage of 2940 patients with SDL we focused on 137 cases (4.66%) of SDL (table IV).(Fig. 7.)

Acute/ subacute lumbalgia through discopathy phase II

1. No. of patients: 137 patients = 4.66% of SDL and 2.07% of the total no. of patients admitted in 3 years.
2. Gender of patients:men = 1.03 patients = 75.18%
3. Age groups: under 20 -1 patient = 0.73%; 21-30 years-old - 22 patients = 16.05%;31-40 years-old- 64 patients = 46.71%;41-50 years-old - 48 patients =35.03%;51-60 years-old 2 patients =1.48%
4. Characteristic professional activity: static-45 patients = 32. 4%;dynamic- 65 patients = 47.46%; unemployed- 26 patients — 18.97%;retired = 1 patient (0.73%)
5. Duration up to hospitalisation: under 10 days = 34 patients = 24.81%; 0-20 days = 38 patients = 27.77%; 21-30 days = 45 patients = 32.84%; over 31 days= 20 patients = 14.58%
6. Treatments in ambulatory conditions: no treatment = 30 patients 21.89%; medicine prescription = 58 patients = 42.33%; physical and medical treatment = 49 patients 35.78%
7. Subjective symptoms: low lumbalgias = 88 patients = 64.23%; lumbar-sacral pains (uni- or bilateral) 49 patients 35.77%.
8. Objective symptoms :

I.Alterred vertebral static posture by: a) reduction or removal of lumbar lordosis 99 patients (72.26% 0. b) minimal lumbar scoliosis 39 patients (27.74%);

II. Altered dynamics -limited fore-flexion 93 patients (67.95%); limited flexion and extension 44 patients (32.05%)

III.Paralumbar muscle contraction – 76 patients = 55.47%

IV.Absent Lasegue sign for 100%

V. Absence of neurological signs in the lower limbs in 100%

9. Results obtained:

- improvement 100% after 10 days of treatment 57 patients = 41.60%
- after 15 days of treatment 80 patients =58.40%.

Out of the total number of admitted patients, only 34 showed a clinical manifestation of acute lumbar suffering, which imposed a sparing treatment methodology (bed rest in relaxing posture, simple medication with ordinary sedatives and painkillers) for 6-7 days.

The remaining 66 patients manifested clinical symptom pertaining to the subacute stage or clinical remission, their treatment being oriented from the very beginning towards major immediate objectives: lumbar stabilisation, recovery of the static and dynamic lumbar balance. The treatment methodology consisted in using a wide range of therapeutical means (hydrothermotherapy, electrotherapy, individual or homogeneous group kinetotherapy) . (4)

3. Painful lumbar syndromes of myofascial origin

The painful symptoms localised in the lumbo-sacral area (uni- or bilateral) –with or without aspects of pseudoradicular pain, accompanied by a vertebral lumbar syndrome under a static and/or dynamic aspect, are very frequently encountered in balneary resorts, polyclinics (physiotherapy, rheumatology, neurology, orthopedics) and even in hospital environments. The muscles in the lumbar-sacral area and the corresponding fasciae undergo — under special circumstances — morpho-functional alterations (recently evinced by studies of standard and electronic myoscopy), generating pain of a repetitive character, with multiple localisations, which may well affect other levels of the spine, not just the lumbar-sacral segment.

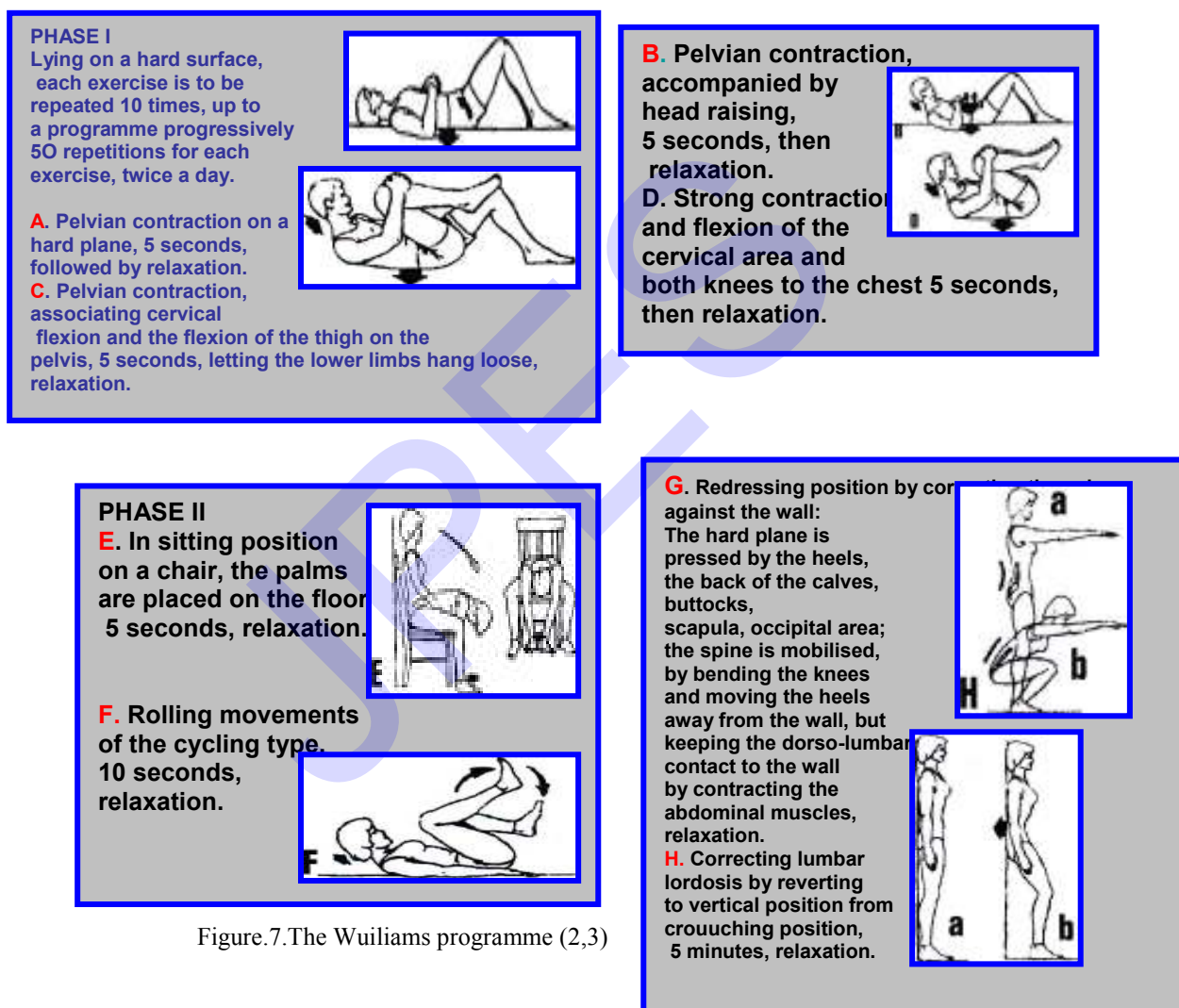


Figure.7.The Wuiliams programme (2,3)

The primary origin of these alterations may be multiple: the capsule of the inter-apophysary joints of the spine affected by degenerative processes, pathological vertebral discs (discarthroses, relapsing discopathies, multiple-level discopathies), laminectomies, arthroses of the sacral-iliac joints, pelvian torsions, lower limbs inequality, musculo-ligamentary dysfunctions (in which the structural hyperlaxeness plays an important role), etc. The myogelosis areas, the "Trigger"* points may undergo intermittent activations, triggered by mechanical factors (overstrains, trauma, muscle strains by prolonged isotonic activities), various discriniae, (hypothyroidism, hyperthyroidism, latent spasmophilia), pychoemotional factors (recent studies emphasize the role of depressions,

even minor ones) , etc. In this context, the nosological attribution of lumbar pains requires the clinician to perform not only a careful clinical examination (careful, complete loco-regional palpation , the evaluation of static and dynamic alterations, muscular-articulatory review), but also a vast conception of the functional pathology of the spine. Table IV shows a synopsis of the data characterising this type of SDL(2,3,7)

Myofascial syndrome

1. *No. of cases*: 1 161 (17.4%) of the total of 6 514 patients admitted to the clinic, out of whom 2940 (39.50%) with S

2. *According to genre* : men 619 = 53.34%, women 542 = 46.66%

3. *According to age* : 20-30 years-old 54 patients = 4.6%; 31-40 years-old 276 patients = 23.76%; 41-50 years-old 357 patients = 30%; 51-60 years-old 400 patients = 34.45%; over 60 years-old 75 patients = 6.5%

4. *According to profession* : dynamic 728 patients = 62.70%; static 237 patients = 20.32%; housewives 81 patients = 6.9%; retired 115 patients = 9%.

5. *The duration of the ailment*: under 1 year 177 patients = 15.25%; 1-5 years 239 patients = 20.58%; 6-10 years 425 patients = 16.60%; over 10 years 320 patients = 27.55%; scoliosis-168 patients = 14.37%; cifoscoliosis 147 patients = 12.57%

6. *Alterations of lumbar mobility*: severe 21 patients 1.8%; moderate 641 patients = 55.24%; light 489 patients 42.11%

7. *The Lasegue sign*: absent 794 patients = 1.8%; slightly positive-3 67 patients = 31.60%

8. *Locomotive apparatus of hyperlax type* 24 patients = 20.90%

9. *Lumbar dysfunctions* flexion 325 patients = 28%; extension -419 patients = 38%; mixed 272 patients 23.51%

10. *Muscular dysfunction: muscular refractions* = lumbar extensors ; ischias = 492 patients = 42.37% adductors thigh. *muscular hypotonia* –abdomen; buttocks = 333 patients = 29%

11. *Presence of myogeloses* 319 patients = 27.50%

12. *Presence of active Trigger points*: lumbar-sacral-gluteal 477 patients =41% ; in row 169 patients = 14.50%; multiple 101 patients = 8.7%

15. *Character of lumbar pain* : acute 124 patients = 10.76%; subacute 733 patients = 63%; chronic 304/ 25.32%

16. *Presence of infection centres*: 166 patients = 14.30%

17. *Presence of radiological alterations of*: spondilosis 327 patients = 28.10% ; discarthrosis 160 patients =13.80%

18. *Therapeutic results*: excellent 752 patients = 64.70%; good 321 patients = 27%; mediocre 88 patients = 7.5%

The clinical statistics provides a view to the frequency of lumbar-sacral- gluteal pain (over 70% of the patients) and the pseudo-radicular symptoms, originating in the activated "trigger" points, located in the middle gluteal muscle and the tensor muscle of the fascia lata, mimicking a clinical situation of L5 radicular ailment. It was not a rare occurrence that trigger points in a row (14.5%) or multiple (8.7%) were signalled.

The alterations of vertebral static posture were found in all patients, but in a moderate or minor degree. No severe dynamic dysfunction of the spine were found, and the Lasegue sign was never significantly positive, without the presence of objective signs. The tricky character of these symptoms often generate confusing diagnoses, leading to their overevaluation, or overdiagnosis, viz. the inclusion of this group of patients as major discopathies, weighing a lot in their therapeutic orientation.

The main therapeutical objectives are: alleviating pain, hypothermisation of the myogelosis states, and the trigger points, flexibilisation of the retracted muscles, toning the hypotoned muscles, recovering the mobility of the inter-apophysary joints, static posture rebalancing. The balneary and physical means applied generally and locally were completed by local targeted infiltrations with xiline and cortisone, approaching some intensely active trigger points or in myogelosis nuclei resistant to physical therapy. In order to modify the general reactivity, hydrothermotherapy procedures and underwater showers were used, proving extremely useful. Here are a few exercises used.

Exercises for the toning of the back and abdominal muscles

1. The patient lies in DD, bends his knees, strains his abdominal muscles and pushes his spine into the floor. He counts down to 5 and then relaxes his muscles. Then the two exercises are connected. 2. Similar position: the arms are along the body. The head is lifted, touching the chest with the chin, then the upper body is lifted in sitting position. Then the initial position is resumed. The effort is higher if the hands are clasped by the chest. Similar position: the legs are put together and the knees are pulled close to the left shoulder. Concomitantly the head and the upper body are lifted so that to touch the right hip with the hands. The muscles are relaxed and the exercise is symmetrically repeated on the other side. (fig.8,9)



Figure.8,9

3. Similar position: the pelvis is lifted and the buttock muscles are tensed. The body is in straight line. The muscles are relaxed. The effort will be higher if at the same time a leg is extended. The exercises should be started after the spinal pains has subsided. The warm-up consists of extension exercises, followed by exercises for the strenghtening of abdominal and dorsal muscles, ending in relaxation. The output is better if the exercises are performed daily. The purpose of the exercises is the fortification of the muscles supporting the spine and the improvement of the spinal flexibility. The exercises should not cause or heighten the pain. **Extension exercises**

1. The patient is placed in DD, lifts an extended leg and grips it by both hands under the knee, trying to pull it as high as possible. The exercise is repeated with the other leg. (Fig.10)

2. The patient is placed in DV, the upper body is lifted and the forearms provide the support. (Fig.9)

The pelvis is close to the floor all through the exercise.



Fig.9,10



Figure 11

Exercises for the prevention of spinal pain (2,3,6)

The patients should be mobilised as soon as possible by procedures of hydrokinetotherapy in the swimming pool, individual and collective kinetotherapy, as well as the imposition of small self-mobilisation programmes with simple sets of exercises performed in the ward several times a day; it was noticed that these procedures were very useful even in modifying the patient's behaviour towards his condition. After a hospitalization of 15-17 days very good results were obtained in 64.70 % cases, good results in 27% and mediocre in the rest of the cases.



Figure 12.



Figure 13

5. Residual syndrome post HDL surgery

The issues raised by the residual pathology after performing surgery for HDL constituted the objective of a research topic in our clinic within the period 2007-2009. It focused on objectives of utmost importance regarding: the inventory and more precise definition of individual types of "post-laminectomy sequellae", the elaboration of an accurate recuperating balneary and physical treatment methodology, the evaluation of post-therapy effects, the study of prophylactic possibilities in this condition. The present study comprises 378 patients, representing 5.71% out of the total number of patients admitted in hospital during the past three years, and 12.85% out of the total SDL. Table VI shows a synthesis of the data resulting from the study of the clinical treatment charts. (Table VI)

Operated H.D.L.

1.No. of patients: 378 = 5.71% out of the total of 6 614 hospitalised patients = 12.85% out of the total number of lumbalgias: 2 940 2.Gender: men 226 patients = 59.78%;women 152 patients = 40.22%

3.Age groups: under 20 -1 patient = 0.37% ;20-29 - 9 patients -2.38%;30-39 - 86 patients – 22.75%; 40-49 - 132 patients – 34.92%; 50-59 - 117 patients -30.85%; over 60 - 33 patients – 8.73%

4. Profession: static 108 patients -28.57%; dynamic 141 patients -37.30%; retired (on medical grounds) 99 patients – 26.20%; retired (on age grounds) 30 patients -7.93%.5.Radicular sequellae: absent - 34 patients – 9.00%; irritative 131 patients – 34.65%; compressive 67 patients -17.72%; paretic 125 patients -33.08%; horse tail 21 patients -5.55%

6.Affected radix: absent - 24 patients – 9.00%; L3 5 patients – 1.32%; L4 21 patients - 5.55%; L5 178 patients- 47.08%; SI 101 patients – 26.73%; biradicular 39 patients – 10.32%; centrolateral 2 patients – 0.52%

8. *Lumbar vertebral syndrome of residual static type*: absent 82 patients 2 – 21.69%; delordosation 224 patients – 59.28%; scoliosis 57 patients – 15.07%; cifosis 7 patients – 1.85%; hyperlordosis 8 patients – 2.11%

9. *Lumbar vertebral syndrome of residual dynamic type*: absent 32 patients – 8.46%; light 180 patients – 47.62%; moderate 157 patients – 41.54%; severe 9 patients – 2.38%

10. *Predominant residual syndrome*: vertebral 202 patients = 53.44%; radicular 176 patients = 46.56%

11. *Active algic lumbar areas*: of the "trigger" type 230 patients – 60.85%; of the myogelosis type 33 patients – 8.73%; absent 115 patients – 30.42%. *Surgery for DHL*: twice -56 patients -14.81%; three times -3 patients – 0.79%

Associated obesity in women 73 total = 154 patients = 40.94%; -men 81. *Recuperatory treatment* effected prior to hospitalisation: yes 140 patients = 37.03%; no 238 patients = 62.97%. *Drug treatment applied in our service*: absent - 287 patients = 75.92%; sedative 57 patients = 15.08%; antalgic and AINS 34 patients = 9.00%; corticoid -0.

Sequellae post HDL surgery are delineated as follows: residual radicular syndromes = 344 = 91%; vertebral syndromes of static type = 296 = 78.30%; residual dynamic vertebral syndromes by adaptive lumbar shortening-retraction -346 – 91.53%.

The therapeutic objectives were :

- combatting painful muscular lumbar spasm;
- recovering the suppleness of paralumbar soft tissues;
- correcting the static-postural unbalance;
- recovering the appropriate movement control;
- improving the neuromuscular tone;
- recuperating the possible motor radicular deficiencies;
- behavioural education for the prevention of relapses.



The therapeutic programme included a vast range of balneary and physical procedures: hydrothermotherapy (analgetic hiperemisant, decontracting), individual kinetotherapy at the C.F.M. hall and in the pool,

targeted electrotherapy, massage, sanitary education and simple psychotherapy.

The very good therapeutic results refer to correcting dysfunctional vertebral syndromes, either static or dynamic, as well as the clinical elements of the myofascial type.

Positions of spinal protection in daily activities

1. When the orthostatic position is held for a longer duration, it is recommendable to support a leg on a higher easement.
2. The weight is to be carried as close to the trunk as possible, balanced in both hands.
3. In orthostatic professional activities, the entire body should be oriented towards the performed activity.
4. The weight is to be lifted from the crouching position. (Fig.14)(2,3,6)



Figure.14.

Favourable results were also obtained in the case of sequellar radicular ailments of the irritative-compressive type. Functional progress was made in the case of paretic syndromes, weaker results being registered in patients with paralysees, horsetail syndromes, epiduritis, patients in whom the persistent repetition of balneary physical programmes represent a clear justification either for repeated hospitalisations, or repeated treatments in specialised resorts.

CONCLUSIONS

1. Carrying out the present research topic was imperative due to the high frequency of cases generated by the painful lumbar syndromes confronting specialists and kinetotherapists.
2. The diversity of the clinical forms exhibited by these painful lumbar syndromes frequently leads to difficulties of diagnosis and therapeutic orientation.
3. The highly accurate isolation of the type of painful lumbar syndrome constitutes the basic premise for a good triage of cases in order to decide on the competent medical staff towards whom the patients should be oriented (ambulatory, hospital, balneary resort) and on the treatment methodology.

4. Under the circumstances of our services, the precision of diagnosis, the adequate setting of treatment objectives, the selection of methodology, the accurate application of therapeutic means have combined in obtaining good and very good results in most cases (on average 65-75%). The present study also results in the conclusion that, out of the approximately 100 patients with surgical recommendation in the extreme for HDL, 94 patients avoided surgery by the therapeutic strategy of temporization (by being re-admitted to hospital).

5. Kinetotherapy is an integral part of the therapeutic programme of SDLR, and thus it cannot only be conducted by the kinetotherapist, but by an entire team, depending on the stage and clinical form.

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