

## ABNORMAL SPINAL CURVATURE AND ITS RELATIONSHIP TO PELVIC FLOOR DYSFUNCTIONS

### Aims of Study

In literature numerous essays have evidenced a non univocal correlation between pelvic and lumbosacral statics.(1,2) Abnormal spinal curvature and in particular a loss of lumbar lordosis represents a significant element of risk for the development of genital prolapse (3.2 times more probable against controls) (3) ; women with an advanced uterovaginal prolapse present a rectilinearization at lumbar spine level (4) ; also the degree of thoracic kyphosis seems to turn out higher in women with prolapse (13.0°) against control (8.1°) (5).The scope of this observational cross study is to investigate the correlation between the alterations of lumbosacral statics (hypo or hyperlordosis) and the pelvic floor dysfunctions associated to presence of muscular insufficiency of anus elevators and/or urinary incontinence and/or genital prolapse in a wide sampling of women in fertile and/or postmenopausal age.

### Methods

In the present study have been examined 276 consecutive patients afflicted with benign gynecological pathology, gone under observation for the first time during 1 year (February 2002- February 2003).All cases have been subjected to anamnestic evaluation, complete urogynecological work-up, physiatric visit to outline possible skeletal alterations and evaluation of articular mobility of the vertebral column.Cases with genital prolapse of upper-middle degree (> 2 acc. ICS) have been subjected to radiographic surveying in latero-lateral projection of pelvis and lumbosacral column (with goniometric measurement of the angles of opening of the pelvis and lumbar lordosis).The data have been entered into a specific software and statistically analyzed.

### Results

The sample of examined women has an average of 54.95 ±12 years old (range 26-84) and an average of vaginal parts of 1.86 +/- 1.2; 50.7% of the cases are in menopause from 13 +/- 8.1 years at the time of investigation. The 34.4% of patients (95/276) presents a genital prolapse of high medium degree (superior to 2 for the front portion and/or center and/or posterior) and in the 64.2% of cases (61/95)urinary incontinence (clinical or hidden) is associated. In the total sample, urinary incontinence with/without prolapse < 2 is present in 50% of cases (138/276). The curves of distribution per age, parity and hormonal state in the total of the sample and in the various groups of study and control are reported .In the total studied sample, hyperlordosis in 37% of the cases, rectilinearization in 27% and a normal postural attitude in the remaining 35% have been observed. The incontinent women with hyperlordosis are 31.1%, 22.0%with rectilinearization of the lumbar column and 46.7% without alteration of lumbosacral statics. The patients with medium/serious prolapse with or without IUS present a superimposable trend, with a reduced percentage of cases with normal lumbosacral statics (28.3 and 29.4) comparing against the controls and an increased prevalence of cases with hyperlordosis (40.0% and 41.2%). (Tab.1)

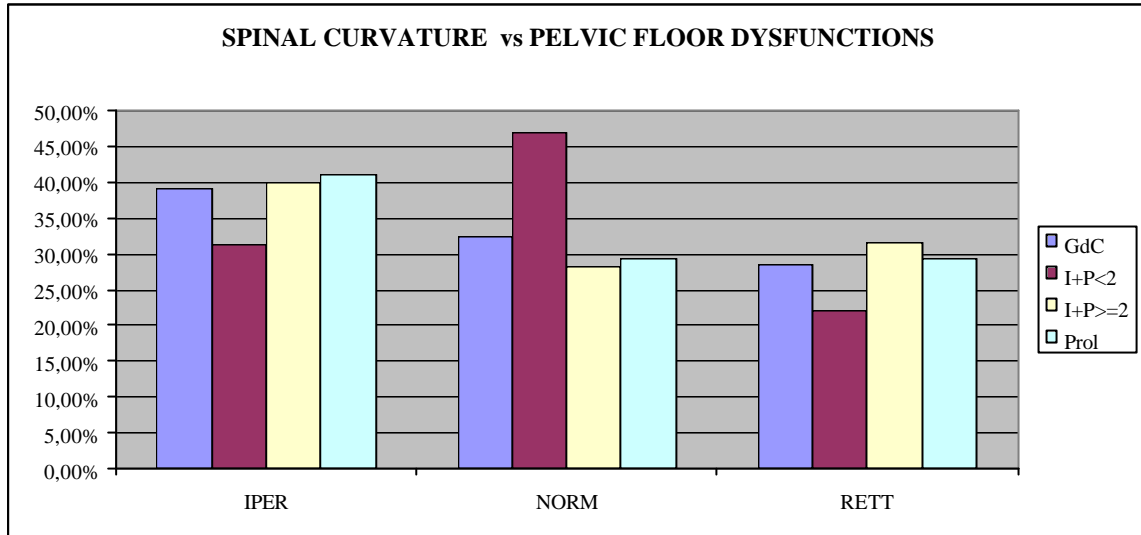
### Conclusions

The results of the study are still preliminary and limited.

The studied cases do not present superimposable anamnestic, hormonal and age characteristics: the groups of study (incontinent and with genital prolapse) turn out to have an age and a medium parity meaningfully higher than the group of control, from which they differ also for different hormonal conditions. Such trend is significantly more obvious in cases with genital prolapse of medium/serious degree (with or without IUS). Nevertheless, the patients with pelvic floor dysfunctions have a lumbosacral statics in physiological limits in a superimposable percentage (36.8% vs 37.0%).The patients with medium/serious genital prolapse represent the group with the greater percentage of alterations of pelvic statics, but

they divide to the same extent among the cases with hyperlordosis and cases with rectilinearization of pelvic statics.

The collected results seem by the way excluding -even if with the methodological limits of the adopted data-collection method- that in the single groups studied there may be that tight correlation described by other authors between postural attitude and the related associated dysfunction of pelvic floor.



Tab. 1 : relationship between spinal curvature and pelvic floor dyfunctions. (GdC : control group ; I : U.I. ; P or Prol. : genital prolapse )