

Short Report

THE CIRCULAR STAPLER AND GYNECARE PROLIFT SYSTEM USAGE FOR THE SURGICAL TREATMENT OF HEMORRHOID DISEASE ACCOMPANIED WITH PERINEUM PROLAPSE

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Hemorrhoid disease is frequently found man pathology (extend to 118-120 cases in 1000 of adult people) (P.Godeberge, 2000; G.I.Vorobiov, 2001 et al.). In pelvic floor prolapsed women the frequency of concomitant hemorrhoid disease is increased to 60-70%, as it appears because of rectum connective and muscular tissue laxity according to mechanical theory and become one of the manifestations of pelvic prolapse. The combined prolapse has to be removed simultaneously. Variable opinions exist about surgical techniques choice for this pathology treatment (M.Kahn, S.Stanton, 1998; V.Ryvkin et al., 2001 et al.).

The aim: to improve the anatomical and functional postoperative results in patients with combined posterior prolapse and to evaluate feasibility, intraoperative complications, short-term follow-up results of GPS and PPH simultaneously usage.

Materials and Methods

For prolapse diagnostics the following procedures have been performed: dedicated questionnaire, digital rectal and vaginal examination, RRS (with straining according to Parks), defecography, ultrasound and magnetic resonance imaging (performed to diagnose mm. levator ani and recto-vaginal aponeurosis (Denonvilliers' fascia) damage, anorectal function testing, using multifunctional computer system Polygraf ID. 22 patients (mean age 43,3 years; range 39-55 years) underwent Gynecare Prolift System (GPS) emplacement for recto-vaginal septum plastic and transanal mucosal incision with circular stapler using PPH system for hemorrhoid simultaneously treatment. The indications for this operation consider being: rectocele of II-III degree, according to ICS (POPQ) with mm. levator ani rupture or atrophy, Denonvilliers' fascia rupture, perineum descending, rectum mucosal prolapse, hemorrhoid of III and IV Degree. The results had been compared with control group (35 patients, mean age 46,4 years; range 32-65 years) underwent levatoroplasty, hemorrhoidectomy according to Milligan's and Morgan's technique and rectal mucosal incision. The results of surgery techniques had been estimated, using the following criteria: the painful syndrome intensity, the frequency of purulent complications, the frequency of erosions and granulomas in patients underwent mesh-plasty, the dyspareunia appearance in distant follow-up period, rectocele and perineum descending anatomical correction (due to

defecography data), voiding normalization, continence normalization (in patients incontinent before surgery).

Results

The painful syndrome was more intensive the patients of the control group, which were associated with ano-rectal wounds after hemorrhoidectomy and transanal mucosal incision and was independent of the recto-vaginal septum reconstruction method. The most of purulent complications had been revealed in the ano-rectal wounds of the control group too, 5 (14,2%). There was one (2,9%) suppuration in the vaginal wound after levatoroplasty and one (4,5%) after mesh implantation with no necessity in mesh removal. Vaginal erosion 1(4,5%) and granuloma 1(4,5%) appeared in the patients of the investigational group. The dyspareunia appearance in distant follow-up postoperative period had been noted in 2(3,8%) patients of the control group because of excessive vaginal narrowing after levatoroplasty. Rentgenological disappearance of mucosal prolapse and hemorrhoid disease symptoms removal has been achieved in the both groups. But the functional results were better in the group with mesh and circular stapler used. So, the voiding normalization marked 25(71,4%) patients of the control and 21(95,4%) of the investigational group. The patients' subjective sensations of voiding improved had been confirmed by impartial data of anorectal manometry. Estimation criteria were better in the patients with mesh implantation and PPH usage comparably with control group: first sensation - 26,6±2,1ml and 28,4±2,3 ml; maximum tolerable volume (ml) - 73,9±3,1 and 78,9±3,1; rectal compliance (ml/mmHg) - 5,3±0,9 and 7,3±0,9. The same data have been shown by balloon test. There were 19(86,4%) patients had been able to expel a 150ml-balloon in the investigational and 23(65,7%) patients in the control group. But it was not found out any difference in recto-anal inhibitory reflex analysis in patients transanal mucosa' incision and PPH procedure underwent. About in 50% of the patients' perineum descending had been diagnosed by means of defecography. After surgery examination shown the normalization of pelvic floor location (-3,3 ±0,3cm in the rest and -5,1 ±0,4 cm in straining effort) and anorectal angle configuration (115,2 ±5,7° in the rest and 152,1 ±3,3 ° in straining effort) mainly in women undergone PPH and mesh using for rectovaginal septum correction. The last can be accounted by vagina' pull up with the mesh' arms to the sacrospinal ligaments. The data in the control group were: -4,3 ±0,3 cm in the rest and -8,9 ±0,4 cm in straining effort and 132,3 ±7,1° and 169,8 ±6,4° accordingly. In the normal's anorectal border locates above 3 cm from pubococcygeous line in the rest, and in the straining effort falls down less than 3 cm. In the normal's anorectal angle value amounts 99,9±1,5° in average in the rest and 135,5±2,2° in straining effort. At least the half of

the patients with anatomical perineum descending were 1st – 2^{sd} degrees incontinent. Anorectal manometry and pudendal nerve terminal motor latency test showed the gradual improvement of the continence after pelvic floor level and configuration reconstruction. Postoperatively (6-12 month follow-up) the pressure in the internal anal sphincter region (mmHg) became $31,1 \pm 2,9$ and $35,9 \pm 3,9$; in the external anal sphincter region (mmHg) $43,9 \pm 3,7$ and $49,1 \pm 4,8$; pudendal nerve terminal motor latency test (msec) marked $2,71 \pm 0,29$ and $2,11 \pm 0,21$ in the patients of the control and investigational groups accordingly. In normals: pressure in the IAS region – $39,4 \pm 2,7$ mmHg; EAS – $53,5 \pm 3,7$ mmHg; pudendal nerve terminal motor latency test $-1,95 \pm 0,21$ msec. It can be explained by pudendal nerve traction stopping. The further bio-feedback therapy and pudendal nerve electro stimulation improved the continence. The patients themselves had estimated the postoperative results as: good, satisfactory and not satisfactory. The control group data were 7(20%) good, 17(48,6%) satisfactory, 11(31,4%) no satisfactory. The most of good and satisfactory results have been pointed by patients had undergone

mesh implantation and PPH: 7(31,8%) – good, 13(59,1%) – satisfactory, 2(9,1%) - no satisfactory.

Conclusions: In plural character of pelvic posterior segment prolapse, including rectocele, rectal mucosal prolapse and hemorrhoids, the combined operation is necessary. The use of circular stapler according to Longo's procedure permits to make the prolapsed mucosal incision and remove hemorrhoid prolapse simultaneously; to avoid the intensive painful syndrome and inflammatory complications typical for transanal mucosal mobilization and incision. Traditional levatoroplasty is not enough for rectocele reconstruction in case when this pathology is caused by mm. levators ani atrophy or rupture and rectovaginal fascia multiple damages. The prolene mesh transplant is very useful in those situations. The GPS using permits to standardizes, to make easier the surgery procedure and to avoid technical complications. Besides these prolene implants and PPH combined using are effective in perineum descending syndrome treatment. But the relatively high rate of vaginal erosions, granulomas, purulent complications force to limit this method using and employ it by limited indications.