Changes in physical activity after abdominal sacrocolpopexy for advanced pelvic organ prolapse

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OBJECTIVE: The objective of the study was to describe changes in physical activity 1 year after sacrocolpopexy for pelvic organ prolapse.

STUDY DESIGN: This was a prospective cohort of 301 randomized trial participants.

RESULTS: Compared with baseline, 1 year after surgery, 36% increased, 18% decreased, and 47% did not change preoperative exercise intensity level. In contrast, women were more likely to reduce (24%) than increase (11%) the frequency of major effort activities, like heavy lifting. Of 99 women who reported preoperatively that prolapse interfered substantially with doing exercise or recreation, house/yard work, or work outside the home, 83 (84%) reported no substantial interference 1 year later. After surgery, women reporting substantial interference from prolapse or treatment had similar rates of interval treatment for stress incontinence or prolapse as women not reporting substantial interference.

CONCLUSION: After sacrocolpopexy, one third of women increased exercise intensity, few increased major effort activities, and most reported that prolapse no longer interfered with activities.

Key words: exercise, pelvic organ prolapse, physical activity, sacrocolpopexy

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There are scant data about the impact of pelvic organ prolapse, or its treatment, on physical activity. We previously reported that the frequency of mild, moderate, or strenuous exercise did not differ by prolapse stage in women with pelvic organ prolapse planning sacrocolpopexy but who did not have symptoms of stress incontinence.[1] However, 27%, 19%, and 8% of women stated preoperatively that prolapse substantially interfered with exercise or recreation, housework or yard work, and work outside the home, respectively. Compared with women with less symptom distress, women with greater symptom distress were more likely to report that prolapse interfered with household or yard work, recreation, and employment. Because regular physical activity has many benefits, including improved psychological well-being, lower death rates, and lower risk of developing coronary heart disease, stroke, hypertension, and diabetes,[2] it is important to ascertain whether repair of pelvic organ prolapse results in increased physical activity.

The aims of this prospective study of women 1 year after sacrocolpopexy for pelvic organ prolapse were to: (1) determine the change from baseline in the proportion of women who report participation in recreational exercise and strenuous physical activities, (2) determine the postoperative change in interference from either prolapse or its treatment with ability to do housework, work outside the home, or participate in exercise or recreation, and (3) to describe factors that contribute to current interference with physical activity, such as physician instructions, fear of prolapse recurrence, recurrent prolapse urinary leakage, or other medical problems.

Materials and Methods

Participants included women who enrolled in and completed 1 year follow-up in Colpopexy and Urinary Reduction Efforts (CARE), a randomized trial designed to evaluate whether a standardized modified Burch colposuspension, when added to abdominal sacrocolpopexy to treat pelvic organ prolapse (POP), improves urinary stress continence in subjects without preoperative

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TABLE 1
Physical activity questions

1. During the last 3 months, on average, how often each week do you usually do the exercises below (state number of days per week):
   a. Strenuous or very hard exercise (you work up a sweat and your heart beats fast), for example, aerobics, dancing, jogging, or tennis.
   b. Moderate exercise (not exhausting), for example, biking, using an exercise machine, easily swimming, brisk walking.
   c. Mild exercise, for example, bowling, golf, walking slowly.
2. During the past 3 months, has your pelvic prolapse or its treatment interfered with your ability to do housework or yard work?
   Response categories for questions 2-4:
   a. None of the time
   b. Some of the time
   c. Most/all of the time
   d. No longer do these activities
   2A. Which 1 of the following contributed to this reason?
   Response categories for questions 2A-4A:
   a. My doctor advised me not to do these activities.
   b. I am afraid my condition will recur if I do them.
   c. Leakage of urine keeps me from doing them.
   d. Recurrent prolapse keeps me from doing them.
   e. Other medical problems keep me from doing them.
3. During the last 3 months, has your pelvic prolapse or its treatment interfered with your ability to perform your job outside the home the way you would like?
   3A. Which 1 of the following contributed to this reason?
4. During the last 3 months, has your pelvic prolapse or its treatment interfered with your ability to participate in the exercise or recreation that you would like to?
   4A. Which 1 of the following contributed to this reason?
5. During the past 3 months, how often did you perform physical activities that required a major effort, such as lifting heavy furniture, shoveling snow, or lifting people or objects weighing more than 25 pounds?
   a. Never
   b. Less than once per month
   c. Once per month
   d. 2-3 times per month
   e. Once per week
   f. More than once per week

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symptoms of stress urinary incontinence.[3] The CARE trial was performed through the Pelvic Floor Disorders Network sponsored by the National Institute of Child Health and Human Development (one of the National Institutes of Health). Each clinical site, subsites, and the data coordinating center received institutional review board approval for this trial, and all subjects provided written informed consent.

Participants completed a standardized assessment before surgery and 1 year later that included validated instruments to assess pelvic symptoms and severity (Pelvic Floor Distress Inventory),[4] condition-specific life impact (Pelvic Floor Impact Questionnaire), and general health-related quality of life (Short Form-36).[5] Pelvic organ prolapse was assessed using the Pelvic Organ Prolapse Quantification System (POP-Q)[6] with subjects in lithotomy position during maximal Valsalva effort.

To assess physical activity, we asked questions related to work and household and recreational activities (Table 1). The item regarding the impact of working outside the home (Table 1, question 3) was addressed only to women who reported such work. To assess current exercise level, we used a modified version of the Godin Leisure-Time Exercise Questionnaire[7] (Table 1, question 1), which asked women how often during the last 3 months they regularly did strenuous, moderate, or mild exercise. Specific activity examples were provided for each exercise level. Responses were not restricted to 1 exercise category. We dichotomized a priori the response to major effort activities (Table 1, question 5) based on a frequency of at least 2-3 times per month (vs less frequently). We defined substantial interference from prolapse when women reported that prolapse interfered "most/all of the time" with activity or that they were "no longer able to do these activities."

The Fisher's exact test was used to compare proportions. Changes between baseline and 12 months were assessed by McNemar's test. A $P < .05$ was considered significant.

Results

Of 322 women enrolled in the CARE trial, the 301 that completed data collection at both baseline and 1 year are included in this ancillary study. At baseline, 39 women (13%) had stage II, 203 (67%) stage III, and 59 (20%) stage IV POP. There were 13% below age 50 years, 26% between 50 and 59 years, 38% between 60 and 69 years, and 23% 70 years or older. Education level was high school or less in 139 (46%) of women. One hundred nineteen women (40%) reported surgery for prolapse or incontinence before the sacrocolpopexy.

One year after surgery, women were more likely to report a higher level of exercise ($P < .001$); 107 (36%) increased their preoperative exercise intensity, whereas 54 (18%) decreased and 140 women (47%) were unchanged. (Table 2). A minority (16%) participated in strenuous activity both before and after surgery.

In contrast to the observed shift toward increased recreational exercise levels 1 year after surgery, women were more likely to reduce than increase the frequency of major effort activities after surgery: 72 (24%) and 33 (11%), respectively ($P < .0001$). The remaining 196 women (65%) maintained their baseline frequency of major effort activity: 130 (43%) less than 2 or 3 times per month and 66 (22%) more frequently.

Of the 99 women who reported before surgery that prolapse interfered substantially with their ability to do ex-