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RISK FACTORS FOR PELVIC ORGAN PROLAPSE (POP) PROGRESSION IN A RETROSPECTIVE COHORT OF SYMPTOMATIC WOMEN ACTIVELY SEEKING TREATMENT

Hypothesis / aims of study

There is minimal data on progression of POP in symptomatic women [1]. At our institution, many patients may wait months or years for surgery. We describe the natural evolution of POP in this group of patients comparing the patients who developed progression with those that did not progress, and evaluating risk factors for progression. We hypothesized that many symptomatic POP patients who have long delays prior to surgery will have clinically significant progression over time. The aim of this study is to describe the evolution of vaginal support in these patients and to identify risk factors associated with progression and/or regression of POP.

Study design, materials and methods

A retrospective cohort from patients at an urogynecology unit was evaluated between July 2008 and June 2013. Women with symptomatic POP having 2 or more POP-Q examinations in follow-up (still awaiting surgery or prior to surgery) were included. We analyzed multiple outcomes aimed at describing anatomical progression/regression between time of initial POPQ exam and last POPQ exam including incidence of: change in POPQ stage, change of ±2 cm in leading edge, change of ±1 cm in leading edge, change of ±2 cm in individual POPQ points, and change in leading compartment [2]. The chi-square test was used to determine significant differences between proportions. Additionally, odds ratios and 95% confidence intervals were calculated to determine the likelihood of progression/regression in POPQ stage and leading edge for patients having their last POPQ exam <12 or >12 months after their first POPQ exam. Independent t-test was used to determine significant differences in demographics that may result in potential bias between the two groups.

Results

391 patients met the inclusion criteria. Mean age was 61.2±10.3 years, mean new born maximum weight was 3768±613 grams, median parity was 3 (interquartile range [IQR]=2-4) , mean BMI 29.3±4.6 and median follow up was 9.9 months (IQR=7.8-13.8). Of the 391 patients 79 (20.2%) experienced a change in POPQ stage (regression or progression). 59.6% and 16.9% experienced change of ±1 cm and ±2 in leading edge respectively. Odds ratios of progression/regression in POPQ stage and leading edge for patients having their last POPQ exam <12 or >12 months after their first POPQ exam are describe in table 1. No difference was found between progression/regression or leading edge between apical and anterior compartments. However it was noted that the incidence of progression in leading edge by at least 2 cm was significantly higher in the anterior compartment than the posterior compartment (16% vs 2%, respectively, see Figure 1). Analysis of changes in individual POPQ points revealed that point C was significantly more likely to progress >=2 cm than point Ba (see Figure 2). Additionally, subanalysis of patients that experienced a change in leading compartment showed that in the majority of patients (64%) the change was from the anterior to apical compartment (See Figure 3).

Interpretation of results

There is an 84% increased risk of having a change in POPQ stage after 12 months compared to before 12 months. Patients whose leading compartment at baseline is the anterior compartment are significantly more likely to have progression than those whose leading compartment at baseline is the posterior compartment. About 10% of patients will have a change in leading compartment. Of these patients, a change from anterior-to-apical compartment is significantly more common than a change between any other two compartments.
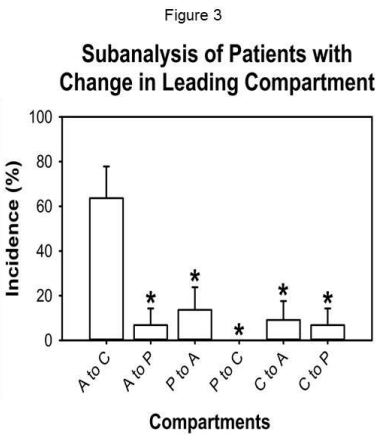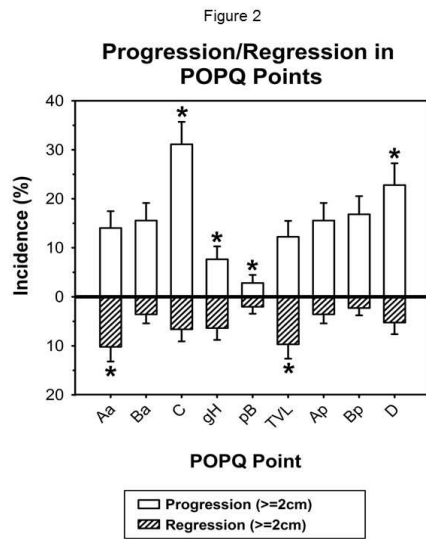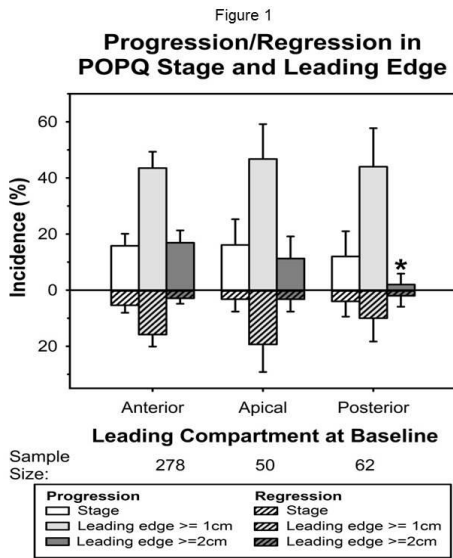
Concluding message

POP changes are highly prevalent in patients actively seeking treatment. This information could be relevant to give better prognostic information to the patients, help public health policy planning and to compare the natural evolution of symptomatic pop with surgical and other treatments.

Table 1. Likelihood for Change in Outcome after 12 months compared to before 12 months

Outcome	%(n)	Follow-up Time >12 months vs <12months	
		OR	95% CI
Change in POPQ Stage…………………….	20.2 (79)	1.84*	1.11-3.04
Progression in POPQ Stage…………...	15.3 (60)	1.38	0.79-2.42
Regression in POPQ Stage……………	4.9 (19)	3.35*	1.29-8.71
Change in Leading Compartment………...	11.3 (44)	1.05	0.55-2.02
Change in leading edge of >=1cm………...	59.6 (233)	1.67*	1.08-2.57
Progression leading edge of >=1cm…..	44 (172)	1.27	0.84-1.93
Regression leading edge >=1cm………	15.6 (61)	1.57	0.9-2.73
Change in leading Edge >= 2cm…………...	16.9 (66)	1.80*	1.06-3.08
Progression leading edge >=2cm……..	14.1 (55)	1.64	0.92-2.93
Regression leading edge >=2cm………	2.8 (11)	2.25	0.68-7.53

Note: There was no difference in age, newborn mx weight, parity, or BMI between patients with follow-up after 12 months compared to those before 12 months. Asterisks indicate significant difference.

Figure 1
Progression/Regression in POPQ Stage and Leading Edge

Figure 2
Progression/Regression in POPQ Points

Figure 3
Subanalysis of Patients with Change in Leading Compartment

References
1. Barber et al Int Urogynecol J 2013 Nov;24(11):1783-90
2. Bradley et al Obstet Gynecol 2007;109:848–54