

Female pelvic medicine and reconstructive surgery practice patterns: IUGA member survey

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Abstract

Introduction and hypothesis The purpose of this study is to describe the current practice patterns of the International Urogynecological Association (IUGA) members regarding the diagnosis, evaluation, and surgical management of stress urinary incontinence (SUI) and pelvic organ prolapse (POP).

Methods A 30-item internet-based survey was sent to IUGA members. Response to the survey was voluntary, and subjects answered questions regarding demographics, the evaluation of POP and SUI, including urodynamics (UDS) testing, preferred management of POP and SUI, and the application of mesh in reconstructive surgery.

Results Three hundred and thirty-four IUGA members responded to the survey; most of the responses were from Europe (40 %) and North America (23 %). After the FDA safety communication regarding serious complications of using transvaginal mesh, 45 % of responders reported decreased use of mesh, while 31 % reported that it had no effect or that they did not use mesh for transvaginal prolapse (23.6 %). Regarding the evaluation and treatment of SUI, 51 % of responders would perform urodynamics (UDS) before surgical correction of uncomplicated SUI and 78.5 % of responders would perform UDS if no urine leakage was demonstrated on examination. The preferred method of treatment for SUI is midurethral sling (MUS), regardless of prior treatments (65.1 %), concomitant surgeries (74.5 %), or

examination findings (50.8–92.6 %). Regarding POP repair, the preferred approach for apical (61 %) and posterior (99.4 %) prolapse repair is vaginal.

Conclusions Most respondents use a vaginal approach for POP surgery. The FDA safety communication regarding serious complications related to the use of transvaginal mesh for prolapse surgery led to a global decrease in the employment of mesh for POP. Synthetic midurethral slings are predominant in the current treatment of SUI. Despite new recommendations, many responders still perform UDS for uncomplicated SUI.

Keywords IUGA · Practice patterns · Survey · Pelvic organ prolapse · Stress urinary incontinence

Abbreviations

FDA	US Food and Drug Administration
IUGA	International Urogynecological Association
POP	Pelvic organ prolapse
SUI	Stress urinary incontinence
UDS	Urodynamics

Introduction

Female pelvic medicine and reconstructive surgery (FPMRS) is a rapidly evolving area of medicine. There is limited information regarding the current practice patterns of FPMRS and its global variation. Rapid and important developments have occurred in the last decade in the field of FPMRS, but their effects on practice patterns are as yet unknown. The creation of a board certification in the United States and the improvement in the design of randomized and long-term studies has led to improved education and training in the field of FPMRS. The spread of new technologies, such as robotic surgery, is

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modifying the practice of medicine globally. However, the rapidity in which new techniques and technologies have been adopted has led to complications. In 2011 the FDA issued warnings regarding the safety of transvaginal mesh owing to concerns over its complication rates [1].

The objective of the study is to describe the current practice patterns of the International Urogynecological Association (IUGA) members regarding the diagnosis, evaluation, and surgical management of stress urinary incontinence (SUI) and pelvic organ prolapse (POP). Secondary objectives are to study the trends in evaluation and treatment of UI and POP compared with the 2002 survey and to study the effect of the FDA warning regarding vaginal meshes on practice patterns [2].

Material and methods

A 30-item internet-based online survey was sent to IUGA members over a 6-week period. Response to the survey was voluntary and anonymous. The survey was based on a previous IUGA survey, which was modified to reflect current practice patterns. Prior to global distribution the survey was sent to all research and development IUGA committee members for revision and assurance that it reflected the global practice of female pelvic surgeons. It was not meant to encompass all practice patterns, but the most common ones. The survey explores three areas of practice: urodynamics, urinary incontinence, and pelvic organ prolapse (POP). It was piloted on 2 female pelvic medicine and reconstructive surgery (FPMRS) fellows and 3 FPMRS surgeons, and it took less than 10 min to finish.

The IUGA office (Washington DC, USA) emailed the member a cover letter from the principle investigator requesting participation and assigned a unique number to each participant. The email contained a hyperlink to an Internet-based survey website, Survey Monkey®. The research team was blinded to the names and any identifiers. To increase the response rate to the survey, several methods from the Cochrane guidelines on electronic surveys were employed, including using a white background, avoiding the word “survey” in the email subject line, employing the IUGA logo, ensuring that the survey was short, providing a lottery (randomly computer-picked number), and prize (iPad) for a selected participant, and by resending three follow-up emails with the link to the survey [3].

Initial analysis utilized descriptive statistics to describe respondents’ demographics and their practice patterns in FPMRS. The Statistical Package for the Social Sciences (SPSS) program provided by Survey Monkey® was utilized to perform the statistical analysis.

Results

A total of 334 (13 %) IUGA members responded. Respondents were primarily gynecologists or urogynecologists (95 %). The highest rate of response occurred in the first 3 weeks (86 %), with 57 % responding in the first week, 14 % in the second week, and 5 % in the third week. The majority of responders were academicians (59 %) with 47 % practicing in Europe and 26 % practicing in North America (Table 1).

Urodynamics

Regarding the evaluation of SUI, 51 % of responders would perform UDS before surgical correction of uncomplicated SUI, while 79 % of responders would perform UDS if no urine leakage was demonstrated on examination. Furthermore, 87 % of responders would perform UDS before surgical correction of SUI in patients with mixed urinary incontinence. Prior to surgical repair of POP 27 % of responders would only perform a physical examination to rule out SUI, while 34 % of responders would perform UDS as well.

Table 1 Demographics

	<i>n</i> (%)
Specialty	
Urogynecology	183 (56)
Urology	16 (4.9)
Obstetrics/gynecology	128 (39.1)
Gender	
Male	206 (61.9)
Female	127 (38.1)
Age	
<40	66 (19.9)
40–55	182 (54.8)
>55	84 (25.3)
Practice setting	
Academic	159 (58.7)
Private	112 (41.3)
Practice location	
North America	78 (23.4)
Latin America	41 (12.3)
Europe	133 (39.8)
Asia	39 (11.9)
Oceanic/Australasia	26 (7.8)
Africa	17 (5.1)
Fellowship trained	
Yes	198 (60.6)
No	129 (39.4)

Stress urinary incontinence

Trans-obturator mid-urethral sling (TOT; 52 %) was preferred over retropubic mid-urethral sling (TVT; 37 %) for simple SUI, unless it was being performed after failure of the initial procedure (8 vs 57 %). In patients with intrinsic sphincter deficiency (ISD), the majority of responders preferred TVT (67 %) versus TOT (25 %), pubovaginal sling (3 %), Burch (2 %), or transurethral bulking (1 %). However, if the patient had ISD, but no urethral hypermobility TVT and transurethral bulking were preferred (40 and 36 %; Table 2). The preferred types of bulking agents were polyacrylamide (Bulkamid®; Contura International A/S, Soeborg, Denmark) (36 %) and polydimethylsiloxane (Macroplastique®, Uroplasty, Inc., Minneapolis, MN, USA; 35 %; Fig. 1). However, in North America, where polyacrylamide is not available, calcium hydroxyapatite (Coaptite®, Boston Scientific, Marlborough, MA, USA; 40 %) was utilized slightly more frequently than polydimethylsiloxane (33 %).

Pelvic organ prolapse

Regarding POP repair, the preferred approach for apical (61 %) and posterior (99 %) prolapse repair is vaginal. Similarly, 93 % of responders prefer vaginal hysterectomy for POP. The preferred methods for treatment of apical vault prolapse via the vaginal approach were sacrospinous ligament suspension (59 %), uterosacral vault suspension (24 %), and mesh kits (14 %). The preferred method for anterior prolapse repair is anterior colporrhaphy (81 %), with 80 % of responders preferring to use native tissue rather than a synthetic or biological graft. For posterior prolapse repairs 98.8 % of responders prefer to use native tissues rather than a synthetic or biological graft. As many as 88.5 % would not perform a prophylactic anti-incontinence procedure during POP repair in cases without evidence of SUI. When anti-incontinence procedures are performed TOT (39 %) and TVT (26 %) are the preferred techniques to prevent de novo SUI after POP repair.

Preferred treatment for vaginal enterocele repair was McCall culdoplasty (41 %), site-specific repair (28 %), obliteration of the cul-de-sac (23 %), and Moschowitz (7 %). Seventy-eight per cent of respondents use pessaries for POP (positive answer for: always, frequently, and sometimes). The use of pessaries was varied, with 43 % of all respondents replying frequently; however, when analyzed by specialty 51 % of urogynecologists, 6 % of urologists, and 34 % of gynecologists replied frequently (Fig. 2).

After the FDA safety communication, 45 % of providers reported a decrease in the use of mesh, in 31 % there was no effect, and 23.6 % did not use mesh. These findings were consistent when analyzed by location (Fig. 3). Thirty-nine per cent of gynecologists and 57 % of urologists decreased the usage of mesh as a result of FDA announcement. Currently, 7 % of respondents use transvaginal mesh for primary prolapse repair and 58 % for recurrent prolapse repair. Grafts are used in anterior colporrhaphy (20 %) and the preferred method of paravaginal defect repair is vaginal (80 %).

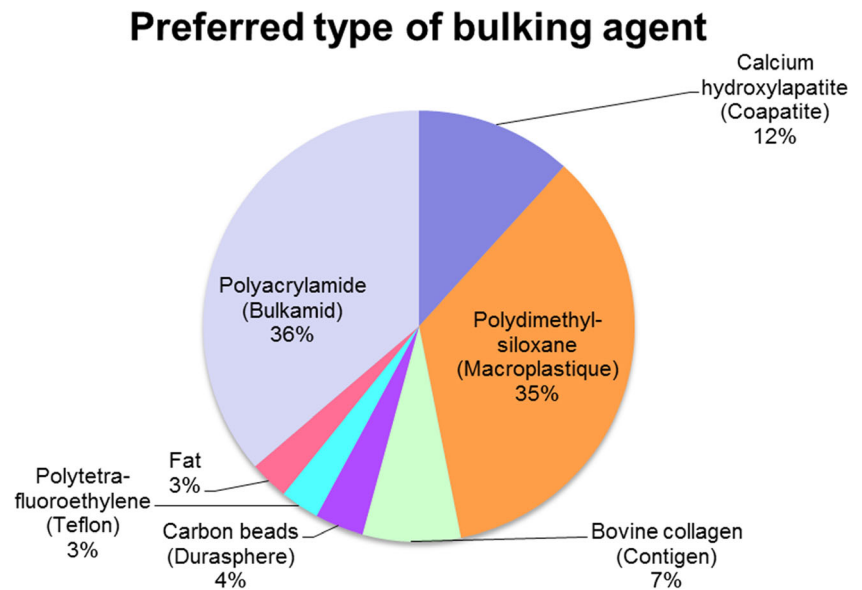
Specialty comparisons and emerging trends

Differences exist between the practice patterns of urogynecologists and gynecologists according to the survey. A larger percentage of urogynecology responders consisted of women (42 vs 34 %) and those younger than 55 years of age (80 vs 66 %) compared with gynecologists. Urogynecologists tended to utilize UDS (61 vs 40 %) more commonly compared with gynecologists. Additionally, with regard to surgical procedures, urogynecologists tended to perform more TVTs (43 vs 30 %), more robotic surgeries (17 vs 4 %), and more uterosacral vault suspensions (30 vs 16 %) than gynecologists. For the treatment of uncomplicated SUI, urogynecologists and gynecologists utilized the TOT in similar proportions (50 vs 52 %). However, for the treatment of intrinsic sphincter deficiency (ISD) 75 % of urogynecologists used TVT vs 55 % of gynecologists.

Table 2 Preferred treatment of stress urinary incontinence

	Burch (%)	TVT (%)	TOT (%)	Suburethral sling (%)	Single-incision sling (%)	Bladder neck needle suspension (%)	Kelly plication (%)	Urethral bulking (%)
No ISD, no hypermobility	2.73	36.67	51.82	0.91	6.67	0.61	0.3	0.3
ISD and hypermobility	2.47	67.28	25	2.78	1.23	0.31	0	0.93
ISD, no hypermobility	4.33	39.94	10.84	6.19	1.55	0.93	0.31	35.91
Secondary treatment after failed initial procedure	10.97	57.37	7.52	6.27	0.31	0.63	0.63	10.97
Proven SUI with concomitant POP surgery	2.79	28.48	46.13	1.55	4.95	0	3.1	0
De novo SUI with concomitant POP surgery	3.05	26.10	38.98	1.36	5.42	2.37	10.51	0.34

Fig. 1 Preferred type of bulking agent



Discussion

The purpose of this survey was to provide a summary of current practice patterns of IUGA members when addressing common female pelvic medicine scenarios, to compare current practice patterns with practice patterns of IUGA members 12 years earlier, and to evaluate the effect of the FDA warnings regarding transvaginal mesh. Although we had a low response rate from IUGA members, the responses for each region followed a pattern similar to membership distribution: Europe 39.8 vs 39.89 %, North America 23.4 vs 12.3 %, Asia 11.9 vs 14.74 %, Latin America 12.3 vs 17.68 %, Africa 5.1 vs 7.54 %, Oceania 7.8 vs 7.77 % (response rate vs membership rate). The low response rate to electronic surveys is not surprising and is similar to that of other surveys [4]. In addition, the percentage of IUGA members who do not perform pelvic reconstructive surgery is unknown. The estimated number of gynecologists and urogynecologists who are IUGA members

according to a recent study is 1,324 [4]. To our knowledge, our survey with 334 responses from female pelvic reconstructive surgeons represents the largest survey response in the field thus far.

The initial IUGA survey (152 responses) in 2002 had a dissimilar distribution of respondents, with Europe (51 %) and North America (35 %) contributing the majority of responses, and only 14 % of responses arising from elsewhere in the world. A larger percentage of women (38.1 %) responded to the current survey compared with the initial survey (19 %). This may reflect a new trend of women who are currently more interested in the field of female pelvic medicine and reconstructive surgery than in the past. The treatment of stress incontinence has shifted in recent years, with the initial survey showing a predilection for the Burch colposuspension as a primary and secondary surgical treatment for normal pressure urethral SUI (44 and 41 %), while the current survey revealed that 2 % of respondents were

Pessary use for pelvic organ prolapse

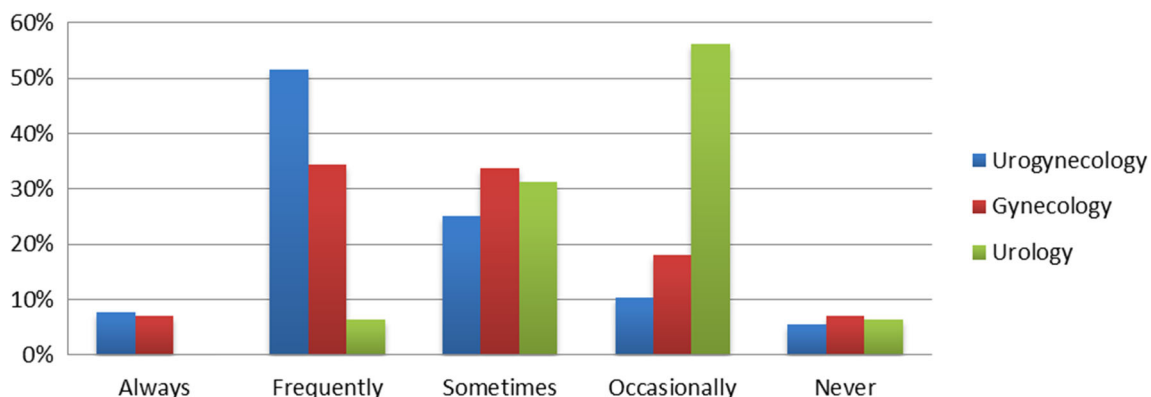
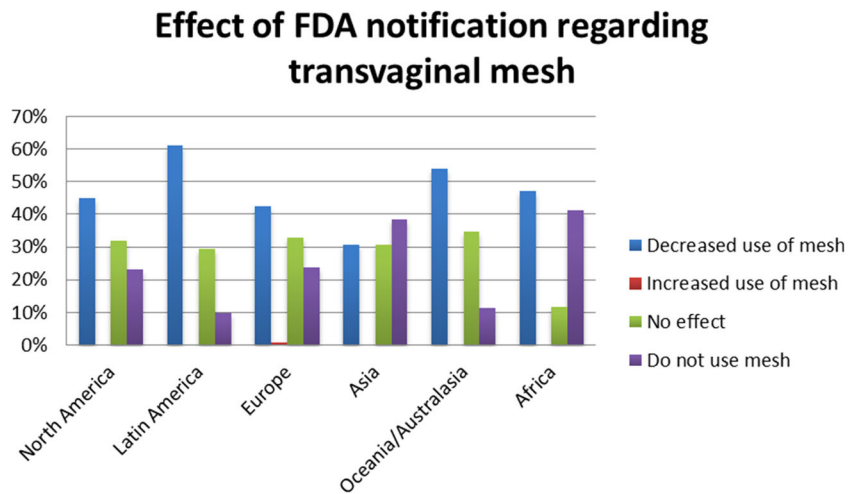


Fig. 2 Pessary use for pelvic organ prolapse

Fig. 3 Effect of the FDA notification regarding transvaginal mesh



performing the Burch procedure as a primary SUI treatment and 11 % of respondents were utilizing it as a secondary treatment. Currently, fewer grafts are used in anterior colporrhaphy (20 %) compared with the initial survey (37 %), and the preferred method of paravaginal defect repair has shifted from abdominal (65 %) to vaginal (80 %). While the preferred methods for abdominal and vaginal enterocele repairs have not dramatically shifted, the levator plication technique (26 vs 3 %) and graft augmentation (11 vs 1 %) for posterior colporrhaphy have fallen out of favor [2].

In a more recent survey in 2011 of 294 general gynecologists, the majority of respondents did not feel comfortable with the management of ISD, recurrent stress incontinence after failed surgery, or handling the complications of vaginal mesh surgery. Additionally, there was a trend toward older gynecologists offering Burch colposuspension, uterosacral vault suspension, and colpocleisis compared with a younger cohort [5]. This may be a reflection of the FPMRS accredited fellowship and board certification.

A randomized controlled trial evaluating the post-operative results of stress incontinence surgery found that preoperative UDS did not improve outcomes compared with office evaluation alone [6]. However, according to our survey, 51 % of responders would still perform UDS before surgical correction of uncomplicated SUI. The American Urological Association (AUA) guidelines gave UDS before uncomplicated SUI treatment a grade C rating with no evidence that UDS would improve outcomes; however, UDS may provide additional information for counseling and treatment decisions [7].

A randomized trial investigating whether the transobturator approach for mid-urethral sling placement was inferior to the retropubic approach found that an objective cure was equivocal; however, there was a significant difference in the adverse events profile, with the TVT reporting more significant events [8]. However, a 3-year follow-up study revealed that the retropubic approach was superior to the transobturator approach when treating ISD [9]. Consistent with the literature,

our survey found that most respondents preferred the transobturator approach for stress incontinence, but when treating ISD did prefer TVT.

A difference was noted in the use of pessaries between specialties, with urogynecologists being more likely to frequently use pessaries than gynecologists or urologists. However, a 1998 survey distributed to general gynecologists determined that 86 % do prescribe pessaries, while a survey distributed at the AUGS (American Urogynecological Society) meeting in 1997 revealed that 78 % of respondents tailored the pessary placed depending on the defect [10, 11]. However, both of these surveys were performed in over 16 years ago. A recent survey of IUGA and British Society of Urogynecology (BSUG) members showed that most urogynecologists consider shelf/Gellhorn pessaries effective first-line treatment for non-sexually active patients with POP [4].

In 2011 the FDA published a public health notification regarding the serious complications associated with the transvaginal placement of surgical mesh in repair of pelvic organ prolapse. Our survey revealed that the majority of responders decreased their use of mesh, and this finding was consistent across all locations.

Weaknesses in our study included the limited scientific validity that is inherent in a voluntary survey, the distribution of the study in English, which may not have been the respondent's primary language, and the inability to verify responses. However, we believe that this survey provides valuable insight into the global practice patterns of female pelvic surgeons.

Conclusion

The practice patterns of IUGA members have changed over the last 12 years. Currently, the vaginal approach is preferred for hysterectomies as well as apical and posterior prolapse repairs, and the majority of responders preferred the use of

native tissue for anterior or posterior prolapse repairs, while synthetic mid-urethral slings dominated the current treatment of SUI. The FDA safety communication regarding serious complications related to the use of transvaginal mesh for prolapse surgery led to a global decrease in the employment of mesh for POP in female pelvic reconstructive surgery. Despite new recommendations, many responders still perform UDS for uncomplicated SUI. This could be an area of research in the future.

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