

Original article:

Assessment of prolapse by Pelvic Organ Prolapse Quantification (POPQ) System.

¹Thakare Pravinkumar Yuvaraj, ²Mahale Arun R.

¹Assistant Professor in Obstetric and Gynecology, S.B.H. Government Medical College, Dhule Maharashtra.

²Professor and Head of Obstetrics and Gynecology, MIMSR, Latur, Maharashtra.

Corresponding author: Dr . Thakare Pravinkumar Yuvaraj

ABSTRACT:

Introduction: The present study was planned to studying Preoperative & Postoperative assessment of prolapse by POPQ System.

Material and Methods: Fifty cases of prolapse were assessed by POPQ system preoperatively, immediately postoperatively and after 3 months using engraved ring forceps.

Results: The average age and parity of include cases were 59 yrs and 4 respectively. The average preoperative scoring was (Aa+1.7, B+3.5, C+4, GH 5.1, PB 2, TVL 8.9, Ap+0.5, Bp+2.2, D+4.1). The average postoperative scoring was (Aa-2.94, B -3.2, C-6, GH 3.1, PB 4.2, TVL 6.9, Ap -2.9, Bp -3.2, D-6(6)). The average postoperative scoring at 3 months (Aa-2.7, B -2.7, C-5.7, GH 3.7, PB 3.76, TVL 6, Ap -2.9, Bp-2.9, D-7(6)).

Conclusion: Assessment of prolapse by POPQ system is easy to learn and practice. It provided accurate, precise and objective assessment of pelvic organ prolapse. This method makes possible comparison of results of surgery in a quantitative way. We recommend and encourage use of POPQ system as a routine.

Key words: Pelvic Organ Prolapse Quantification System , Prolapse, Ring forceps

INTRODUCTION

Uterovaginal prolapse is a common condition affecting 30% women over 50 years of age with major cause for hysterectomy and hence morbidity¹. With advancing age of the population gynecologists are likely to encounter women with pelvic organ prolapse with greater frequency. The lifetime risk for undergoing surgery for prolapse has been estimated at 11%².

Evaluating pelvic floor anatomy and pelvic organ prolapse has been at the foremost of the gynaecological evaluation since the inception of the specialty. The lack of standard terminology in pelvic floor disorders is major obstacle in performing and interpreting research³. The commonly used methods

of classifying and grading genital prolapse are qualitative and subjective with high interobserver and intraobserver variations. This absence of standardization prevents meaningful comparisons of the published series, surgical results, effective communications among clinicians and longitudinal comparison in an individual case. In 1996, International multidisciplinary committee adopted the Pelvic Organ Prolapse Quantification (POPQ) system introduced by Dr. Richard Bump⁴. This new system has also been approved by, International Continence Society (ICS), Society Gynaecologic Surgeons (SGS), American Urogynecologic Surgeons (AUGS) and recently by National Institute of Health (NIH)³.

The POPQ system provides a validated precise method of communicating the physical examination of case with pelvic organ prolapse, along with objective and site-specific system for describing, quantifying and staging pelvic supports. Since its introduction it has been formally adopted as the standard for describing prolapse by aforementioned societies. International survey shows that only 40.2% of ICS⁵, AUGS members and fewer than 50% researchers routinely used POPQ system in their clinical practice⁶. Excellent reproducibility of observations was found through inter-rater and intra-rater evaluation.⁷

As advancement of pelvic reconstructive surgery revolves around a validated system for determining the outcome of treatments, present study was carried out with the aim of studying Preoperative & Postoperative assessment of prolapse by POPQ System and to gain experience in its use.

MATERIAL AND METHODS

We recruited 50 cases of prolapse from gynecology OPD of our teaching hospital. After establishing proper rapport and informed consent with cases, a detailed history and clinical examination was completed and the operative procedures were recorded in the proforma. The POPQ system measurements were recorded in recording grid preoperatively, immediately postoperatively and after 3 months. (Table 1-3)

The instruments necessary to perform the examination are, Sim's speculum and ring forceps engraved with 1 cm marking (photograph-1). Systematic examination was performed anteriorly, superiorly, posteriorly and at the external introital surface. It is mandatory to have the case strain forcefully while the examiner evaluates each portion of vagina to avoid underestimating. The amount of

prolapse (i.e. Aa, Ba, Ap and Bp) were measured with Sim's retractor retracting the opposite vaginal wall while the measurements were obtained with the graduated ring forceps. (Fig. 1,2,4&5) Sim's speculum was placed into the vagina and withdrawn as the case strained down. Point C and D were then measured with reference to the hymenal ring with graduated ring forceps.(Fig. 3&6) TVL was measured at rest, by digitally replacing the vaginal apex to its normal anatomic position and measuring the depth with ring forceps.(Fig. 9)

After that Genital Hiatus (gh) and perineal body (pb) measurements are put in recording tic-toe-grid.(Fig 7,8) Once the site specific measurements were obtained, cases were assigned to one of five ordinal stages of pelvic support noted in the proforma. The technique of examination is shown in photographs. All cases were called for follow up examination after 3 months of surgery.

RESULTS

1. Seventy percent of the cases were reported from the age group of 51-70 yrs and fifty eight percent were postmenopausal.
2. Other than symptom of something coming out from vagina (100%), 74% Case had urinary complaints, 34% had defecatory complaints.
3. Mean parity was 4.
4. As per POPQ system the preoperative mean status of Aa was +1.7, the status of Ba was +3.66, C was +4.1, gh was 5.1 cm, pb was 2.16 cm, tvl was 8.96, the status of Ap was +0.5, Bp was +2.2, D was - 4.1. i.e. Aa +1.7, Bp +3.66, C +4.1, gh 5.1, pb 2.16, tvl 8.96, Ap +0.5, Bp +2.2, D -4.1
5. Eighty eight percent cases were treated by hysterectomy with repair and 12% were treated by uterine conservation with repair.

6. The postoperative status of genital tract was: Aa -2.94, Bp -2.94, C -6, gh 3.13, pb 4.16, tvl 6.9, Ap -2.9, Bp -2.88, D -8(6)
7. The postoperative point D diagnosis could be assessed in 6 Cases (who underwent uterine conservation). It was 8 as a mean for these 6 cases.
8. The status of genital tract after 3 month were; Aa -2.72, Bp -2.74, C -5.76, gh 3.7, pb 3.76, tvl 6.7, Ap -8, Bp -2.74, D -7(6).

DISCUSSION

Richard Bump² in 1996 introduced a system called as Pelvic Organ Prolapse Quantification system (POPQ) system that could make out minor differences in degree of prolapse between two cases as it quantified genital tract prolapse, in centimeters. This system standardized the terminology for pelvic organ prolapse and pelvic floor disorders. Before the introduction of this system no consistent, standardized and verifiable system to describe prolapse existed. This enabled clinicians to compare the extent of prolapse at two observations, made on the same case or on different cases, at same center or different centers and by same clinician or different clinicians.

There are few reports^{7,8} in literature that impresses the advantage of this new system to overcome interobserver and intraobserver variation. However other studies⁹ praise the older method for its simplicity and criticizes the POPQ system for its complexity. This research uses, POPQ system preoperative, immediate postoperative and 3 months after operation with chief purpose of gaining experience with this new method. This has also enabled to get varied observation about this condition of female genital tract prolapse. The average age for prolapse in this study is 59 years. Swift et al¹⁰ suggest

that there is 12% increase in the incidence of severe pelvic organ prolapse with each year of advancing age, or roughly a doubling of the incidence for every decade of life, like several other studies, we found advancing age and childbirth to be significant risk factors for the eventual development of pelvic organ prolapse.

Although the chief complaint was something coming out from vagina, 3/4th of cases also had urinary complaints and 1/5th cases had defecation problems. This is because pelvic floor supports lower urinary tract, lower gastrointestinal tract along with genital tract. Although menopause is important precipitating factor for genital tract prolapse, faulty methods of conducting labor and lack of puerperal rehabilitations are important precipitating factor for preponing the age incidence of prolapse. In this study 42% case were premenopausal. In traditional systems, cervix is the main marker point for assessing the stage or degree of prolapse. But in the new system there are six marker points and three longitudinal measurements used for the assessing the extent of prolapse. This makes many clinicians perceive new method as a complex one. But a deliberate effort of not using the older methods and using only the newer method makes one appreciate that even the new method is simple. This is our experience.

Therefore, with a small time commitment to learn the system, and a minimal time to document the examination, the gynecologists evaluating pelvic organ prolapse cases should be able to learn and use this system with minimal efforts. This is our experience. In this work, POPQ System assessed the uterine prolapse preoperative, immediate postoperatively and after 3 months of surgery. This enabled us to know the extent to which surgical repair could reposes the prolapse. Although this was

possible with older system, the older system did not comment on the effect of surgery at various levels. POPQ system can comment on 8 to 9 measurements after surgical repair of prolapse.

It was observed that genital hiatus was lengthened in prolapse and perineal body was shortened.(Fig. 10-13) After recording all measurements, they were semiquantitatively converted into stages. It was observed that majority of the cases had stage III and stage IV prolapse. It was also observed that majority of the cases had all compartment prolapse simultaneously.Immediately after surgery, POPQ system measurements were taken. It enabled us to know how much correction was satisfactorily done during surgery. (Fig. 14) Majority of the points were reduced to its normal position after surgery. Genital hiatus was decreased in size with correction, and perineal body increased in size.

Eighty six percent cases had excellent results of surgery immediately after operation. Simple postoperative inference is, with surgical correction we had reduced prolapse from stage III, stage IV to stage 0. So, POPQ system comments on the effect of surgery at various levels. It was observed that 3 months after surgery the genital hiatus (gh) became slightly wider, the perineal body (pb) reduced slightly. The other measurements also showed tendency towards slight descent and this was expressed in centimeters. Overall 82% cases had

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excellent results of surgery; these cases had no prolapse of any quantity at 3-month check up after surgery. 12% cases had good results, these cases had stage I prolapse according to POPQ system at 3 months check up surgery, 6% cases had moderate benefit of surgery, and they had stage II prolapse at 3 months check up. At 3 months check up no case had stage III or stage IV descent of the vagina or vault. (Table 4)

CONCLUSIONS

1. This study made us conversant with the use of new system for assessment of prolapse and enabled us to compare the result of our surgery in a quantitative way.
2. Although looks to be a tedious method, the POPQ system after being applied to first few cases is simple and easy, as experienced by us.
3. Ability to compare preoperative and postoperative state was a very gratifying experience.
4. We suggest and encourage use of POPQ system as a routine to make out uniformity of reporting future prolapse cases.

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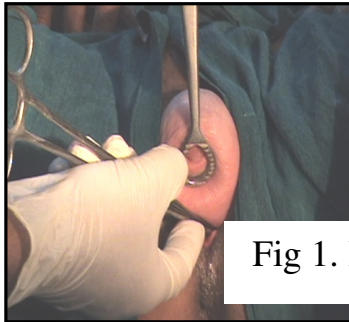


Fig 1. Point Aa

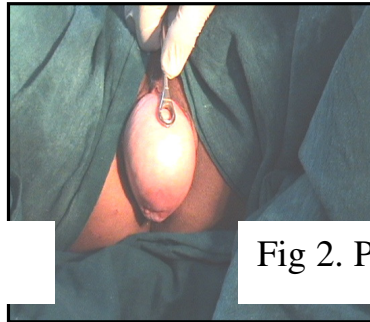


Fig 2. Point Ba



Fig 4. Point Ap

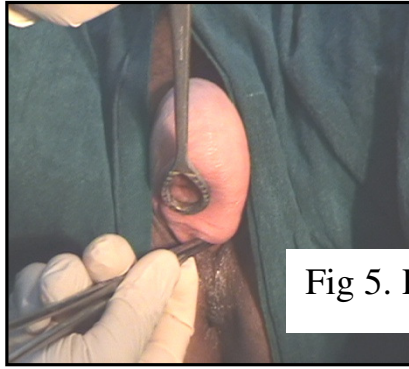


Fig 5. Point Bp



Fig 6. Point D

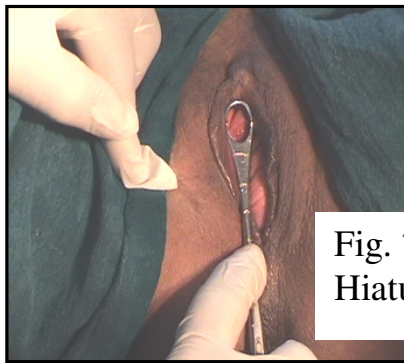


Fig. 7. Genital Hiatus (gh)



Fig 8. Perineal Body (pb)

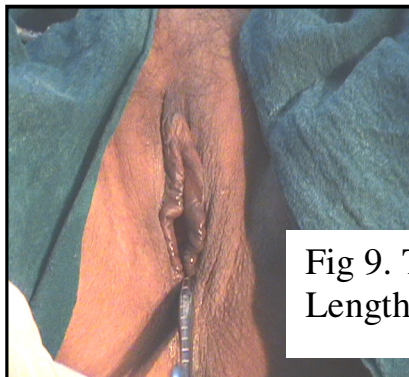


Fig 9. Total Vaginal Length (tv1)

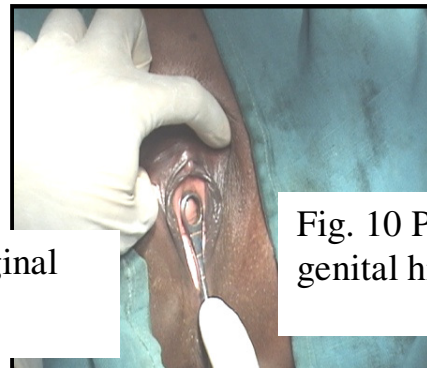


Fig. 10 Preoperative genital hiatus (5cm)

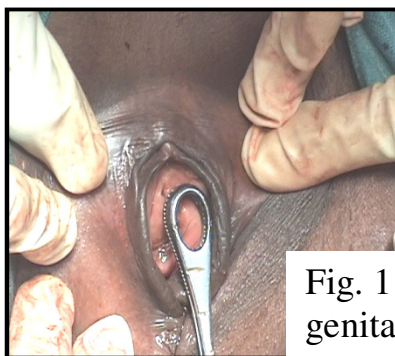


Fig. 11 Postoperative genital hiatus (3cm)

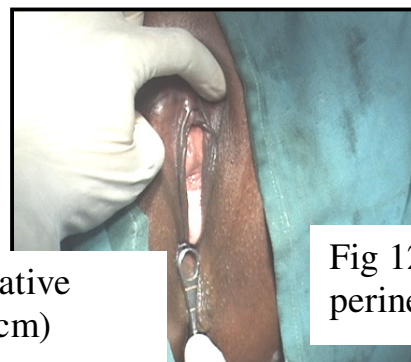


Fig 12. Preoperative perineal Body (3cm)

Table .Comparison of stages of prolapse cases

Sr.no	POPQ Stage	Preoperative	Postoperative	After 3mths
		Number (%)	Number (%)	Number (%)
1	Stage 0	0 (0)	44 (88)	41(82)
2	Stage I	0 (0)	6 (12)	6(12)
3	Stage II	6 (12)	0 (0)	3 (6)
4	Stage III	25 (50)	0 (0)	0 (0)
5	Stage IV	19 (38)	0 (0)	0 (0)
	Total	50 (100)	50 (100)	50 (100)

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