

STUDY ON BLOOD LOSS IN VAGINAL SURGERY FOR PELVIC ORGAN PROLAPSED BETWEEN HYDRO DISSECTION & CONVENTIONAL DISSECTION

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Abstract

Aim: The aim of the present investigation is Study on Blood Loss in Vaginal Surgery for Pelvic Organ Prolapsed between Hydro dissection & Conventional Dissection.

Material & Methods: In this record based, case series study, 92 women who underwent vaginal hysterectomy during the period 1 year 9 months at our hospital was included. Of 92 cases, NDVH was done in 35 cases, and 57 patients underwent vaginal hysterectomy with PFR. Of 92 cases, 40 cases had hydro dissection. The women who fulfilled the inclusion criteria were recruited. Written informed consent was given by all the participants included in the study. Demographic details like age, residence, socioeconomic status were collected. Medical comorbidities were noted. The preoperative prolapse staging {POP-Q} was recorded as per proforma.

Results: The blood loss was analyzed under three headings of clinically estimated, actual and average blood loss based on the formulae explained in the material section. The blood loss did not follow a normal distribution, so the difference was analyzed using the Mann-Whitney U test. We observed that the average blood loss was significantly lower in the saline compared with the no infiltration group.

Conclusion: Hydro dissection with diluted adrenaline should be practice by all vaginal surgeons to reduce the duration of surgery and intraoperative blood loss.

Keywords: Blood Loss, Vaginal Surgery, Pelvic Organ Prolapsed, Hydro dissection, Conventional Dissection

Introduction

The lifetime risk of surgery in POP is 11%-19% [1,2]. 16%-32% of hysterectomies in India were reported to be for pelvic organ prolapse [3,4]. Advanced stage Prolapse requires surgery. Vaginal hysterectomy and reconstruction with native tissue repair and McCall's culdoplasty for cases with apical prolapsed for vault fixation are considered a standard and preferred operation [5-7].

Most of these patients undergoing surgery are multiparous, belong to lower socioeconomic status and due to poor nutritional status are likely to be anaemic [7]. So, any strategy to prevent blood loss during surgery has an important long term advantage. Vasopressin infiltration has been studied in non-descent vaginal hysterectomy and found to reduce bloodloss Vasopressin is known to cause hemodynamic instability [8-10]. This becomes an increased concern if the women undergoing surgery is also hypertensive. In a survey conducted among the members of the Dutch urogynaecology society, 101 (76%) members were using hydro dissection for anterior colporrhaphy, and the majority use adrenaline alongwith either saline or local anaesthetic [11].

Procedures can be separated broadly into obliterative (colpocleisis) or reconstructive vaginal interventions, with the latter most commonly undertaken. Reconstructive interventions seek to repair the prolapse by plicating the

damaged connective tissue or fascia with sutures (colporrhaphy) and resuspending the uterus (hysteropexy) or vagina (colpopexy) to firm supporting structures such as the uterosacral (uterosacral colpopexy) or sacrospinous (sacrospinous colpopexy) ligaments, or the pubic bone or sacrum (sacral colpopexy).

Materials and Methods

In this record based, case series study, 92 women who underwent vaginal hysterectomy from during the period 1 years 9 months at our hospital were included. Of 92 cases, NDVH was done in 35 cases, and 57 patients underwent vaginal hysterectomy with PFR. Of 92 cases, 40 cases had hydrodissection. 50-60 ml of normal saline with adrenaline diluted to 1:200 was used for vaginal wall infiltration anteriorly and posteriorly.

Cases of recurrent prolapse, non-descent vaginal hysterectomy intraoperative blood loss due to slippage of ligature, conservative surgery for prolapse, abdominal vaginal repair surgery for prolapse, additional procedures like Tension-free Vaginal Tape (TVT) or sacrospinous ligament fixation (SSLF), were excluded from the study.

The women who fulfilled the inclusion criteria were recruited. Written informed consent was given by all the participants included in the study. Demographic details like age, residence, socioeconomic status were collected.

Medical comorbidities were noted. The preoperative prolapse staging {POP-Q} was recorded as per proforma.

Statistical analysis

Categorical variables like parity, menopausal status, types, and stages of prolapse, etc. were expressed in terms of frequency and percentage, and the chi-square test was used as a statistical test. All the statistical analysis was carried out at a 5% level of significance with a p-value < 0.05 considered as statistically significant.

Results

Most of the parameters like age, weight, menopausal status, and comorbidities were comparable in the two groups. However, there were a significantly greater number of women with higher parity and lower mean haemoglobin in the saline hydro dissection group, though the difference in

the mean haemoglobin between the two groups was only 0.8gm/dl. All the participants had anterior, posterior, and apical compartment defects except one woman in the no infiltration group who had only apical and anterior compartment without posterior compartment prolapse. The prolapse stage and the mean descent of all points of POPQ classification were comparable in the two groups was significantly higher in the saline compared to the no infiltration group.

The blood loss was analyzed under three headings of clinically estimated, actual and average blood loss based on the formulae explained in the material section. The blood loss did not follow a normal distribution, so the difference was analyzed using the Mann-Whitney U test. We observed that the average blood loss was significantly lower in the saline compared with the no infiltration group.

Table 1: Hydro dissection and blood loss

Size	1	2	3
Atrophic	14	0	00
Normal	10	1	00
Enlarged	9	3	00
Big	2	2	00
Total	35	5	00

Table 2: Without Hydro dissection and blood loss

Size	1	2	3
Atrophic	08	12	0
Normal	05	09	2
Enlarged	06	04	1
Big	01	02	2
Total	20	27	5

Discussion

Obesity is a known risk factor for POP. However, in our study, the mean weight of the study participants was 59.60 kg. In our study, nearly 85% of the women were from low socioeconomic status with poor nutrition and weight. Low nutritional status is likely to affect tone, elasticity, and collagen status of pelvic tissues [12] and could, therefore, aggravate prolapse in multiparous women. Anemia is a common problem above 50years of age in our country especially in low socioeconomic status because of poor nutrition. 70% of study participants in our study had hemoglobin lower than 11 gm%. The use of vasoconstrictor for reducing blood loss at non descent vaginal hysterectomy has been studied. Intra- cervical injection of vasopressin brings about vasoconstriction.

The maximum blood loss in vaginal prolapse surgery occurs while incising and dissecting the vagina from the urinary bladder in front and from the rectum behind during native tissue colporrhaphy. Injection of saline in the sub

mucosa before incision of the vagina, as done in our study, forms able b that helps in separating and identifying the

planes while dissecting the vagina. Saline in the sub mucosa reduces bleeding by pressure on small vessels.

Despite well-documented benefits of vaginal hysterectomy in terms of lower complication rates, shorter hospital stay and convalescence, and better quality of life, therefore, vaginal hysterectomy is preferred when either vaginal or abdominal route is clinically appropriate, the only formal guideline available is the uterine size guide line by ACOG which suggests that the vaginal route is the most appropriate in women with mobile uteri not larger than 12 weeks gestational age. [13,14] ACOG also acknowledges that the choice of approach should be based on anatomical condition, informed patient preference, and the surgeon's expertise and training.6

Conclusion

Saline hydro dissection significantly reduces blood loss during vaginal surgery for stage 2 or more pelvic organ prolapse involving more than one component, by approximately 200 mlin comparison to no infiltration before dissection, and it does not add to any intra-operative or post-operative complications. We recommend that it should be universally practiced for vaginal prolapse surgery.

Hydro dissection with diluted adrenaline should be practice by all vaginal surgeons to reduce the duration of surgery and intraoperative blood loss.

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