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## Case Report

## USE OF NOVEL LOCAL HEMOSTATICS IN OBGY

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**ABSTRACT:** Surgical hemorrhage is a surgeon's nightmare. Surgical homeostasis has conventionally been achieved by suturing, pressure packing and cauterization (use of energy source). We are sharing our experience of using novel local hemostatic like fibrin sealant, flowable gelatin-thrombin preparations and structured non-woven oxidized regenerated cellulose in obstetrics and gynecology available in our institute ESI PGIMSR, Andheri, Mumbai.

### Introduction

Surgical homeostasis has conventionally been achieved by suturing, pressure packing and cauterization (use of energy source). We are sharing our experience of using novel local hemostatic<sup>[1,2]</sup> like fibrin sealant (Tissel<sup>®</sup>, Evicel<sup>®</sup>)/ Flowable Gelatine-thrombin preparations (Floseal<sup>®</sup>- haemostatic matrix, Surgiflow<sup>®</sup>- Flowable gelatine matrix) and structured non- woven oxidised regenerated cellulose (Surgicel SNOW<sup>®</sup>) in obstetrics and gynecology available in our institute ESI PGIMSR, Andheri, Mumbai.

### CASE 1: SACROSPINOUS FIXATION

Sacrospinosus fixation is a well-known procedure for prophylaxis / treatment of Pelvic Organ Prolapse. We have done 40 successful cases of sacrospinosus fixation over the last 2 years. After surgery a potential space, deep in true pelvis, along the lateral pelvic wall is created. Before closing the vagina we recommend the use



Figure 1: Sacrospinosus fixation

of fibrin sealant /Flowable gelatine-thrombin preparations introduced to fill the space and seal of little capillary hemorrhages. It takes care of both primary & secondary hemorrhage. Tight vaginal packing should be done as a final additional measure to ensure good night sleep.

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## CASE 2: URETERIC INJURY DURING TOTAL ABDOMINAL HYSTERECTOMY

45 years old, parous patient came to us with metriopatheia hemorrhagic for 3 years leading to anemia. Premenstrual dilatation and curettage was done and histopathology showed Cystic Glandular Hyperplasia. She was posted for Total Abdominal Hysterectomy. Intraoperatively, there were extensive adhesions on the right lateral pelvic wall

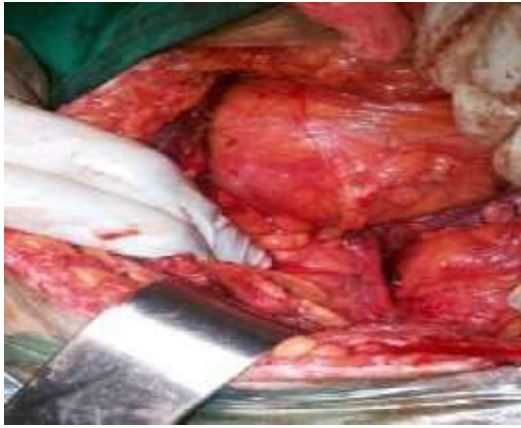


Figure 2: Uretero-neo-cystostomy

old P.I.D. During dissection and clamping of uterine clamp, profuse hemorrhage was encountered. In an over-enthusiastic approach stemming from panic, multiple and frequent stitches were taken for hemostasis too close to the ureter, ending up damaging it. The case was managed in collaboration with the urologist. A Percutaneous Nephrostomy followed by a second step procedure, uretero- neocystostomy was done. Flowable gelatine- thrombin preparation could have been used during hysterectomy, possible saving the ureter thus obviating the need for the second procedure. At the time of surgery, damage to vessels causes alarming hemorrhage pelvic cavities fill quickly, obscuring everything. Panic application of sutures and desperate use of cautery, easily damages surrounding structures.

Local hemostatic agents stop bleeding and seal cavities without harming the neighboring structures.

## CASE 3: INVASIVE VESICULAR MOLE-OBSTETRICHYSTERECTOMY

G<sub>2</sub>P<sub>1</sub>L<sub>1</sub>, 25 years old, with 12 weeks gestation with previous LSCS had a partial vesicular mole came with bleeding PV. After a confirmation USG and pre-operative investigations she was posted for surgical evacuation. Massive hemorrhage was encountered during evacuation. Pressure packing and uterotonics could not control it. Exploratory laparotomy was lifesaving procedure. Intra-op mole was deeply invading up to the serosa of lower uterine segment; hence an obstetric hysterectomy had to be performed. Post hysterectomy there was extensive oozing from the pelvic bed. Flowable gelatine was used to control hemostasis of the surgical bed which was a fragile friable tissue. Surgical sutures are of no use in multiple small oozes. Cautery can only damage tissue further. Flowable gelatine<sup>[3,4]</sup> flows smoothly over the oozing points forming a local clot and sealing bleeding points. However, few points still remained raw and oozing. Additionally, structured non-woven oxidized regenerated cellulose was kept which adheres to the surgical site making a snug pack.

## CASE 4: POST LSCS BROAD LIGAMENT HEMATOMA

G<sub>2</sub>P<sub>1</sub>L<sub>1</sub>, 27 years old, previous LSCS patient was taken for emergency LSCS in view of scar tenderness. Intra-operative difficulty was encountered due to obesity. After LSCS with bilateral tubal ligation, patient

developed distension of abdomen and had severe abdominal tenderness.



Figure 3 (a) & (b): Invasive vesicular mole USG was showing a mass suggestive of intra-abdominal hematoma. Patient was explored and a large football size (15x12 cm) broad ligament hematoma was seen on the left side. The hematoma was evacuated and left internal iliac ligation was done. A massive cavity with multiple raw oozing sites remained. Flowable gelatine-thrombin preparation was used on the raw and edematous hematoma bed for complete and excellent homeostasis mimicking a pro-coagulant pressure pack.

#### **CASE 5: SURGICAL STAGING LAPAROTOMY OF OVARIAN CARCINOMA**

A lady, 53, came with vague distension of abdomen, indigestion and a huge solid pelvic mass reaching up to umbilicus. Imaging and raised tumour markers suggested malignant

ovarian mass. During staging laparotomy, the transverse colon was garlanding the mass and was adherent to the mass through its length. A good degree of surgical fineness enabled bowel adhesions to be separated leaving both bowel surfaces and deep pelvic spaces oozing extensively. None of these areas are suitable for stitches or cautery, many not even seen clearly. Staging laparotomy ended with a huge raw oozing peritoneal surface. Flowable gelatine application allowed us to close the abdomen without a drain, homeostasis having been completely achieved.

#### **CONCLUSION AND RECOMMENDATIONS:**

Local hemostatic been shown to control bleeding in multiple intra-operative scenarios and surgical disciplines.<sup>[5,6]</sup> However, limited data is available its use in obstetrics and Gynaecology.

- Careful dissection of adhesions, blunt rather than sharp dissection is less harmful.
- An experienced surgeon has eyes at the tip of his/her fingers. Well trained fingers are quicker to sense damage than insensitive scissors
- Wide spread oozing is not amenable to stitches and cautery and in-fact cause more damage than good to the surrounding structures.
- Simple packing can control more hemorrhages than many surgeons would like to believe.
- These novel local hemostatic not only help in hemostasis without damaging nearby structures but also work as sealant/glue and aid in wound healing
- Pelvic cavities being deep, the ease of these spread of these agents and liquid consistency is of benefit in the specialty of OBGY.

• A word of precaution: Hemostats promote local clotting and as such great care is needed to ensure they do not enter the vasculature.

The increased cost of surgery is off-set by the reduced morbidity and hence the length of hospital stays. We conclude our write up by quoting "Diseases that harm should get treatments that harm less."

*Acknowledgement:* We want to thank Dr. Meenakshi Mathur (Dean, ESI-PGIMSR, Andheri) and Dr. Nirupma Sachdeva (MS, EMHA, Andheri) for their assistance in this publication.

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Source of Support: Nil, Conflict of Interest: None declared.