

Massive Pelvic Hemorrhage During Gynecologic Cancer Surgery: "Treated with Packing" A Case Report

JİNEKOLOJİK KANSER CERRAHİSİ ESNASINDA GELİŞEN MASSİF PELVİK KANAMA: "PELVİK TAMPON İLE TEDAVİ" BİR VAKA SUNUMU

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Summary

Objective: The aim of this study was to discuss the use of pelvic packing as a last step in a case of massive pelvic hemorrhage which is occurred during surgery for ovarian cancer.

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Material and Method: Pelvic packing was used to control massive pelvic hemorrhage occurred during surgery for ovarian cancer.

Findings: Massive pelvic hemorrhage occurred during surgery, with unsuccessful try of hypogastric artery ligation, was controlled by the use of pelvic packs.

Conclusion: Pelvic packs can be used successfully in cases with massive pelvic hemorrhage during surgery for gynecologic malignancies as a lifesaving method.

Key Words: Pelvic hemorrhage, Packing

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Özet

Amaç: Bu çalışmada, over kanseri nedeniyle opere edilen bir hastada gelişen massif pelvik kanamayı durdurmak için en son çare olarak başvuru pelvik tampon kullanımı irdelenmiş ve tartışılmıştır.

Çalışmanın Yapıldığı Yer: Yüzüncü Yıl Üniversitesi Tıp Fakültesi, Kadın Hastalıkları ve Doğum Anabilim Dalı, Van, Türkiye.

Materyel ve Metod: Over kanseri nedeniyle opere edilen bir hastada gelişen massif pelvik kanamayı durdurmak amacı ile pelvik tampon kullanılmıştır.

Bulgular: Over kanseri nedeniyle opere edilen ve massif pelvik kanama gelişen ve hipogastrik arterin bağlanması ile kontrol altına alınamayan hastada pelvik tampon kullanımı ile kanama kontrol altına alınmıştır.

Sonuç: Jinekolojik maligniteler nedeniyle yapılan operasyonlar esnasında ortaya çıkan durdurulamayan massif pelvik kanamaların kontrolünde pelvik tampon kullanımı hayat kurtarıcı bir yöntemdir.

Anahtar Kelimeler: Pelvik kanama, Tampon

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Massive hemorrhage was defined as infusion of more than ten units of blood and replacement of more than one total blood volume. Massive pelvic hemorrhage during surgery for gynecologic malignancies is unusual and potentially fatal (1). It should be anticipated as a potential complication in any patient undergoing radical pelvic surgery for gynecologic malignancy, especially in patients with advanced ovarian cancer and prior radiation therapy (1). The pararectal fossa, cardinal ligament, and presacral and paraaortic areas are the most frequent troublesome intraop-

erative bleeding sites during extended hysterectomy (2). A systematic approach to the management of intraoperative bleeding is crucial to a successful outcome. Initial management generally begins with identification and ligation of individual bleeding vessels. Direct compression and hypogastric artery ligation can also be used. A mixture of 50 ml cryoprecipitate and 50 ml of topical thrombin (fibrin 'glue') has also been described as useful in achieving hemostasis (3). Finally pelvic packs may be necessary to control profound venous bleeding and complete the surgical procedure. In this situation pelvic packing allows hemostasis to occur by a normal clotting mechanism of the involved venous plexus (4). This report documents operative factors and morbidity in gynecologic oncology patient treated with packing during surgery to control massive intraoperative bleeding.

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Case Report

A 62-year-old woman was hospitalized to our clinic with preoperative diagnosis of adnexial mass. She was postmenopausal for eight years. In her medical history, an urologic operation had been performed to excise a mass in the urinary bladder before eight years ago. Abdominal and vaginal examination revealed a palpable mass in size of approximately 35 cm. CT scan of the abdomen showed thin walled, smooth surfaced cystic mass, expanding from inferior part of liver to pelvic cavity, including nodular and hypodens areas (Figure 1). Ovaries were not visualized and minimal ascites was detected. The value of serum CA-125 was 39.9 U/ml (reference value, < 33 U/ml). Complete blood count revealed a microcytic anemia (hemoglobin level, 7.6 gr/dl; mean corpuscular volume, 75.4 fl) that was the result of the iron deficiency. Two units of packed red blood cells were transfused. Liver function test, urea level, and electrolyte levels were within reference ranges, except for albumin level of 2.8 gr/dl (reference range, 3.4-4.8 gr/dl). On cystoscopic examination, villous and papillary mass like a tumor was visualized on the floor of the urinary bladder. Biopsy was also performed during cystoscopic examination (pathology, grade:1 transitional cell carcinoma).

Laparotomy was performed through a midline incision. 30x35 cm sized cystic mass was originating from right ovary and extending up to inferior part of the liver. It was excised totally and sent for frozen section analysis. Malignancy evidence was shown in specimen. Radical hysterectomy was planned. Hysterectomy, bilateral salphingoophorectomy, partial omentectomy and partial pelvic lymph node dissection were performed. Hemorrhage from pelvic floor and presacral plexus couldn't be controlled by traditional surgical methods and bilateral hypogastric arteries were ligated. Also right common iliac vein was ligated because of traumatic laceration. Although these procedures



Figure 1. CT scan of the abdomen showed thin walled, smooth surfaced cystic mass, expanding from inferior part of liver to pelvic cavity, including nodular and hypodens areas (AO: Pelvic mass).



Figure 2a. Lumbosacral magnetic resonance image scan showed abscess between L5-S1 vertebras in sagittal plane (a: Prevertebral abscess).



Figure 2b. Lumbosacral magnetic resonance image scan showed abscess between L5-S1 vertebras in coronal plane (a: Prevertebral abscess).

couldn't control massive pelvic hemorrhage and finally roll gauze in sizes of 3 meters length and 5 cm width was placed on bleeding site to fill up pelvic cavity totally and end of it was removed through a low lateral abdominal incision. During operation, seventeen units of whole blood had been transfused to patient.

Postoperatively patient was monitored and managed in the intensive care unit, the combination of double antibiotics and aggressive intravenous hydration were given. Blood component replacement therapy was also given. On the third day of operation, 1 meter of roll gauze was removed slowly and on the fourth day, it was removed totally with continued hemostasis at the bedside. Data from intensive care unit are presented in Table I. Patient was ex-

Table 1. Transfusions and postoperative data

Intraoperative transfusion	ICU stay (days)	ICU transfusions		Transfusions after pack removal	Total hospital stay (days)	Status and Survival (Months)
Whole blood		Whole blood	FFP			
17	5	4	2	None	165	Dead (9)

Transfusions are in units
ICU, intensive care unit; FFP, fresh frozen plasma.

cluded from intensive care unit on the fifth day of operation.

Swelling and increased heat of right leg was developed at the fifth day of operation. Doppler ultrasonography showed total thrombosis in saphaneous vein of right leg. Anticoagulation therapy was started. After 25 days, doppler ultrasonography was repeated and it showed blood flow in saphaneous vein.

Wound infection was developed and resulted in opening of incision. Wound healing was provided by resuturation for two times under local anesthesia. Gluteal abscess was developed due to infection of decubitus ulcer on the right gluteal area and 500 cc prullant material was surgically drained at sixtyth day of operation. At the postoperative eightyfourth day, transurethral tumor resection was performed by urologist under general anesthesia. The pathology of ovarian mass was atypical proliferated transitional cell carcinoma.

First course of chemotherapy (combination of paclitaxel and carboplatin) was given. When patient rehospitalized for second course of chemotherapy, she complained with back ache, pain around right gluteal area and right knee. Lumbosacral magnetic resonance image scan showed abscess between L5-S1 vertebras (Figure 2a-2b). Total bone sintigraphy showed dispersed osteoblastic activities at parasternal areas, right sacroiliac articulation and right ridge of sacrum.

Patient complained with gross hematuria when she came for third course of chemotherapy. Ultrasonography of urinary system showed bilateral grade 2 pelvicalyectasia. Cystoscopy was performed and partial obstruction of urethral orifices was visualized. Bilateral urethral catathers were inserted. After that, third course of chemotherapy was given. Following that, fever ocured and triple antibiotics management was started. But fever was not disappeared. Septic shock signs were developed. The possible infection focus of urethral catathers were pulled out. Cardiopulmonary insufficiency ocured relating to septic shock and she died after nine months of operation.

Discussion

The control of massive hemorrhage with packing is not a new idea. Some surgeons, such as Parente and associates have found the Logothetopulos pack to be of assistance

in compressing the retracted, bleeding vessels in the pelvis (5). It may be used at the time of either abdominal or vaginal surgery for compression of bleeding vessels that cannot be controlled by other means. The pack can be left in place with perineal traction for 24 to 48 hours until the bleeding has ceased. The free end of the pack can be pulled out easily through vaginal vault instead of brought out from abdominal wall.

The anatomy of the presacral venous plexus and the sacral basivertebral veins has been well described (6). Trauma to these veins involves the distal partion of the vertebral venous system. This region is devoid of valves and acts as a large blood capacitance reservoir. Also, many communicating anastomotic veins lie between the vertebral venous system and the inferior vena cava (6). Since blood flows between the systems bidirectionally, because of the lack of valves, the highest hydrostatic pressure is evident at the ruptered distal presacral veins which have suffered from operative trauma (6). Rupture of even a small presacral or lateral pelvic vein may result in massive bleeding, shock, or death. Several techniques have been described to achieve hemostasis in the event of massive pelvic hemorrhage, including ligation of internal iliac arteries, thumb tacks, occluder pins, angiographic arterial embolization, fibrin glue, and pelvic packing. Angiographic arterial embolization and fibrin glue are not available in our clinic. Ligation of the anterior division of the hypogastric artery will provide sufficient control of the arterial supply to to the pelvic viscera where most bleeding arises and avoid the risks associated with ligating the posterior division of the hypogastric artery (2). Unfortunately, in many clinical situations, the pelvic anatomy may be significantly distorted by hematoma, edema, and surgical trauma, making isolation of the anterior trunk of the hypogastric artery difficult (2). In these cases where hemostasis must be achieved, ligation of the main trunk of the hypogastric arteries acceptable despite the risk of other complications associated with ligating the entire hypogastric artery supply (2). Several authors have reported an increased frequency of fistula formation as a result of impaired tissue perfusion, or pain in the buttocks due to decreased circulation to the gluteal arteries (2). Despite these risks, hypogastric artery ligation may be a lifesaving technique and should be considered when other methods to control pelvic bleeding have failed. In our patient, to control massive hemorrhage during surgery, hypogastric arteries

ligated just below the hypogastric bifurcation. The development of presacral and gluteal abscess in our patient may be related to that.

In the literatures, applied packs in to pelvic cavity to control massive hemorrhage were pulled out by a second operation or vaginal route (1,7). In our report, pack was pulled out at the bed of the patient without continued bleeding. In this way complications of general anesthesia caused by a second operation which may affect the patients can be avoided. Obesity, large pelvic mass, adhesions, malignancy and prior radiation therapy are high-risk factors allows the surgeon to prepare for the possibility of intraoperative bleeding. In some instances the presence of specific risk factors may lead to alternative surgical modes of managing a particular clinical problem. We concluded that pelvic packing is effective in controlling massive pelvic hemorrhage, eventhough this method may cause some unwilling complications.

Between 1994 and 2000, 26 patients undergoing surgery for gynecologic malignancy performed in our clinic. We experienced massive intraoperative pelvic hemorrhage in only one patient requiring intraabdominal packing.

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