

Sengstaken-Blakemore Tube to Control Massive Postpartum Haemorrhage

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Summary

Massive postpartum haemorrhage after Cesarean section for placenta previa is a common occurrence. The bleeding is usually from the placental bed at the lower uterine segment. Uterine tamponade has a role in the management of such patients especially when fertility is desired. We describe here a case of massive postpartum haemorrhage, which was managed, with the use of a Sengstaken-Blakemore tube. This allowed us to avoid a hysterectomy for a young primiparous patient.

Key Words: Uterine tamponade, Sengstaken-Blakemore tube, Placenta previa

Introduction

Massive postpartum haemorrhage is a known complication after Caesarian section for placenta previa. The bleeding in these cases is due to the persistent oozing from the placental site due to the inability of the lower segment of the uterus to contract adequately. In many cases, when such a complication occurs there is a predilection for a more radical approach of management which includes ligation of the internal iliac arteries and hysterectomy, when simple measures like suturing the placental bed fails. These radical measures are risky and require a skilled surgeon. Recently there has been a reemergence of the role of uterine packing in dealing with such cases especially in the young primiparous patients. We report a case of a primigravida who had a lower segment Caesarian section for bleeding placenta previa who later

developed postpartum haemorrhage and was successfully managed by using a Sengstaken-Blakemore tube as a tamponade for the lower uterine segment. This is also the first such case report in Malaysia.

Case Report

A 27-year-old Chinese primigravida was admitted to the labour ward of Hospital Seri Manjung on 18 September 1998 at 38 weeks gestation with painless vaginal bleeding. Her antenatal course was uncomplicated. On admission, her vital signs were stable. Her uterus corresponded to a term size uterus with a singleton fetus. The fetal heart was heard. An ultrasound scan of the uterus confirmed the examination findings and also revealed a posterior Type II placenta previa.

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Blood was crossed matched and the patient was sent up to the operation theatre for an emergency lower segment Cesarean section. The operation was done under spinal anesthesia. A healthy baby boy weighing 3.38kg was delivered. Intra-operatively the placenta previa was confirmed and estimated blood loss was 800ml. An oxytocin infusion (40 IU in 500ml of Hartman's solution) was commenced. After confirming that the placenta was completely removed haemostasis secured, the uterine incision on the lower uterine segment was sutured in 2 layers in the usual manner.

One hour after the Cesarean section, while the patient was still in the operating theatre recovery room, the patient was noted to have fresh vaginal bleeding again. The estimated blood loss was around 500ml. The oxytocin infusion was doubled to 80 IU in 500ml of Hartman's solution and a blood transfusion was also started. An intramuscular injection of Carboprost 250mcg was given. The uterus appeared to be well contracted but the vaginal haemorrhage continued. She lost another 500 ml of blood over the following two hours of observation. Her blood pressure was around 80/50-mmHg and pulse rate around 110 beats per minute. Her clotting studies were normal. At this stage, it was decided that she required an exploratory laparotomy.

During the relaparotomy, bleeding from the placental site was noted. A few haemostatic sutures were placed at the placental site. Bilateral uterine artery ligation was also done. The bleeding from the placental site was still persistent. In view of the age and parity of the patient, we decided to manage the haemorrhage conservatively. Uterine packing was considered as a control measure to stop the haemorrhage. To achieve adequate uterine tamponade, a Sengstaken-Blakemore esophageal varices tube was used. The gastric end was left in the uterine cavity and inflated with 200ml of normal saline. The proximal end of the tube was pushed through the cervical os and out into the vagina (Figure 1). The uterus was then sutured in the usual way.

After the operation, the Sengstaken-Blakemore tube was then pulled gently from below to ensure that the gastric balloon fitted tightly in the lower segment of the uterus.

The overall blood loss was estimated to be 2000ml. Transfusion in total, consisted of 6 units of whole blood, 3 units of cryoprecipitate and 8 units of fresh frozen plasma. Intravenous antibiotic cover was given for 7 days. The patient was monitored in the intensive care unit. Her condition was stable over the following 6 hours. There was no vaginal bleeding noted and the uterus was well contracted with the aid of the oxytocin infusion (80 IU in 500ml of Hartman's solution, running over 12 hours). The gastric balloon was then decompressed by removing 100ml of normal saline from the balloon. This was to prevent blood from accumulating above the gastric balloon in the uterine cavity. There was no bleeding noted. The tube was then removed the following morning. The patient made a full and uncomplicated recovery and was discharged after 7 days.

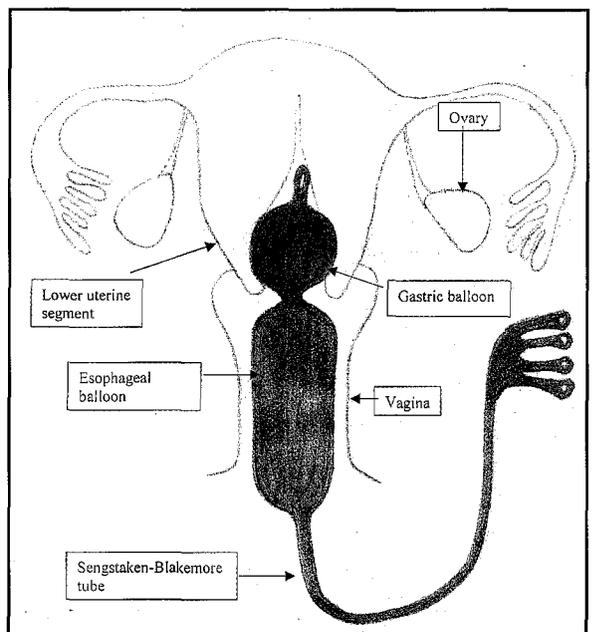


Fig 1: Sengstaken-Blakemore tube with inflated gastric balloon placed at the lower uterine segment

Discussion

The control of uterine haemorrhage by the use of intracavitary packing has been described for over a century. Traditionally, the packing was performed using several yards of gauze placed inside the uterine cavity. This technique fell out of favour, as there were fears of continued bleeding, uterine trauma, and infection associated with this procedure. The increasingly effective medical means to treat uterine atony also led to its fall from favour.

Lately, uterine packing has found its place again in the management of massive postpartum haemorrhage. The procedure can be considered for haemorrhage secondary to uterine atony, placenta accreta and placenta previa. The principle behind uterine packing is the tamponade effect it has on the bleeding surfaces of the uterine wall especially from the placental site at the lower segment of the uterus. Haemorrhage from this area is quite resistant to medical management as the muscular component in this area of the uterus is deficient.

Apart from gauze, other modalities used for these tamponade effects are the Foley's balloon¹ and the Sengstaken-Blakemore tube². Balloon tamponade is quite commonly used in controlling bleeding after a variety of gynaecological procedures such as laser ablation and evacuation of retained product of conception. In these cases, a Foley's catheter is usually used.

The volume of the immediate postpartum uterus may be too large for effective tamponade to be achieved with a Foley's catheter. A Sengstaken-Blakemore tube was used for our patient because, the gastric balloon is much larger than the Foley's catheter and this would provide a greater tamponade on the lower uterine segment. This technique should only be considered after the removal of the placenta (except in placenta accreta) and when uterine rupture and lower genital tract lacerations have been ruled out. We also emphasize here, the attention that needs to be

paid to meticulous haemostasis at surgery. The use of oxytocics and prostaglandins cannot be avoided prior to attempting this method. The tube should be left in situ for 12 to 24 hours. Some authors have advocated packing of the upper vagina to avoid expulsion of the tube³. We did not pack the vagina as the tube was well placed in the uterus. Some of the concerns with this procedure are, whether the gastric balloon should be inflated before closure of the lower uterine segment. We feel that inflation of the gastric balloon before the closure is better, compared to after the closure, as this avoids the risk of an over inflated gastric balloon bursting through the sutures at the lower uterine segment after the lower uterine segment is closed. However, care must be taken to avoid puncture of the gastric balloon during the uterine closure. The needle must not be passed through the decidua and must be confined to the myometrium. Another concern is whether the placement of the inflated gastric balloon at the lower uterine segment would impair the wound healing. This should not be a problem, as the inflated gastric balloon is only left in situ for a day.

In order to maintain uterine contractions over the balloon, oxytocin infusion (40 IU in 500ml of normal saline) is run over a period of 12 to 24 hours. Prophylactic antibiotic therapy should also be administered to minimize the risk of sepsis. The patient is closely monitored including the vital signs, fluid input-output, fundal height and vaginal loss. If the patient's condition worsens, there shouldn't be any hesitation to resort to more radical management i.e. bilateral ligation of the internal iliac arteries or hysterectomy. The following day, when the patient's condition is stable, the gastric balloon is deflated, leaving it in situ, and the patient is observed for approximately 30 minutes. If there is no further bleeding, the balloon is withdrawn.

In conclusion, Sengstaken-Blakemore tube used as uterine tamponade is an effective technique for the control of massive postpartum haemorrhage secondary to bleeding from lower uterine segment, as demonstrated in this case.

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