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Case Report

Broad Ligament Hematoma Following Vaginal Delivery –A Rare Entity

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Abstract

Pelvic hematomas are common occurring in delivering the baby but spontaneous broad ligament hematoma following vaginal delivery is rarely seen and less than 100 cases are reported in literature. This article reports a rare case of broad ligament hematoma following vacuum delivery in 22 years Para1 lady with history of postpartum collapse 3 hours after delivery.

Keywords: *Broad ligamenthematoma, Collapse, Conservative management, Hemoperitoneum.*

Introduction

Pelvic hematoma is collection of blood in area between pelvic peritoneum and perineal skin. If the hematoma is localized above levator ani then it is termed broad ligament hematoma/ supralevator hematoma. In broad ligament hematoma, the blood goes to the natural cleavage lines of connective tissue and fascia of broad ligament, as a result, a large amount of blood is collected before shock becomes evident. Hence, high degree of suspicion should be present in cases of maternal collapse with abdominal pain.

Case Presentation

22 years Mrs. Shah Para1 at 7 hour postpartum was referred for maternal collapse. Patient had vacuum delivery for poor maternal effort in a government hospital after 8 hours of labor. Following delivery of 2.6 kg healthy male baby, placenta was delivered and episiotomy was repaired. After 2 hours of delivery, patient started complaining of dizziness, weakness while standingand pain abdomen. At 3 hours post-delivery, patient went into shock. Immediatelyshe was resuscitated, catheterization done and referred to our center.She arrived after 3 hours of maternal collapse. At the time of admission, patient was conscious and ill looking but GCS was 15/15. She was pale, PR was 130 bpm and feeble, BP was 70/50mmHg. On per abdomen examination, uterus was deviated to right and bulge of 10 x10 cm extending from right iliac fossa to hypogastrium was noted which was tender. However, uterus could not be properly demarcated from the mass. In per speculum examination, no bulges or discoloration of vagina was present and cervix could also not be visualized. In per vaginal examination, cervix could be felt in right fornix and bulge was present in anterior and left fornix. trasonography done confirmed hematoma extending from left iliac fossa to hypogastrium around 10x10 cm in size with apparently normal

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postpartum uterus deviated to right. She was started on 1 pint whole blood, investigation sent and exploratory laparotomy was started under General anesthesia. Hemoperitoneum of 1200ml and clots of 1000 gm was noted. The hematoma had extended in the leaves of broad ligament and was extending upto prevesical space. Uterus was pushed posteriorly and towards the left side by the hematoma. The uterus was exteriorized and extension of hematoma was assessed. The hematoma had involved left broad ligament and was extending from pararectal fossa to prevesical area. No retroperitoneal extension was noted. On exploration, bleeders were noted from the left side of lower uterine segment and vagina, probably descending branches of uterine artery. Hemostasis was secured with vicryl 1 and catgut 1 in figure of eight fashion. Abdominal drain was kept. After laparotomy, speculum examination was done again. This time, cervix could be visualized and there was no tear in cervix or vagina.

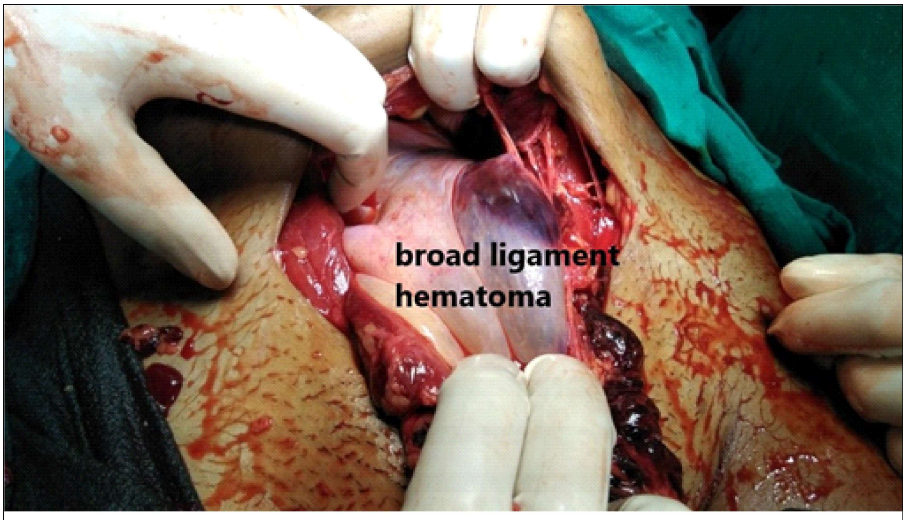

Figure 1: Broad ligament hematoma.

Her investigation, at the time of admission revealed Hb 6 gm%, aPTT raised by 1.5 times (45 sec). Rest of her investigation was normal. Post operatively, she received 3 pints whole blood and 2 pint fresh frozen plasma. At 12 hours of operation, patient was started on liquid diet. She recovered uneventfully and was discharged on 5th post op day.

Discussion

This case has come to our attention as this is a case of spontaneous supralevator hematoma and there are only few cases in literature. In one study done by Zahn Christopher in 1990, they have cited the incidence of puerperal hematoma as 1/309 to 1/1500 and the incidence of large hematomas as 1/4000 vaginal deliveries but has not specified the incidence of supralevator hematoma [1]. Puerperal hematomas has been classified as vulvar, vulvovaginal, paravaginal and retroperitoneal hematoma [2] or as vulvar, vaginal, vulvovaginal and subperitoneal [1].Generally, broad ligament hematoma is noted during cesarean section due to rupture of branches of uterine and vaginal vessels [3]. But the finding of spontaneous supralevator hematoma in vaginal delivery is rare and if present are associated with uterine rupture. In one of the case reported, the broad ligament hematoma was noted following spontaneous vaginal delivery with cervical tear extending upto lower uterine segment [4]. However no such extension were present in our case. The probable cause in our case could bevacuum application.The conditions where vacuum delivery could cause supralevator hematoma are if the head was not engaged prior to application of vacuum or if cervix was not fully dilated but the exact cause for the hematoma cannot be elucidated in our case. Spontaneous broad ligament hematoma could be caused by coagulopathy which was not present in our case.

Puerperal hematomas are found to be increased in primigravida as present in our case. It is also proposed that too vigorous uterine massage as in the therapy of postpartum hemorrhage can cause hematomas due to rupture of vessels in broad ligament [5]. Ultrasound is not helpful in small sized broad ligament hematoma rather MRI is advisedbut in cases like ours where the hematoma was large, diagnosis could be made with the help of clinical findings and ultrasonography.

Management of supralevator includes resuscitation. During the time of resuscitation, if ongoing expanding hematoma is suspected then surgical interventions are considered but if the hematoma is not expanding then conservative management is recommended [6]. In a case report by by Kovo et al in 2006, a broad ligament hematoma was noted following spontaneous vaginal delivery in29 year Gravida 5 Para4 and which was managed conservatively as the vitals was stable. Post 2 months of diagnosis, that 10x 10 cm hematoma had resolved [7].

In our case, exploratory laparotomy with ligation of bleeders was done. Other procedure for surgical management includes devascularisation of uterus with internal iliac artery ligation or hysterectomy [8]. In centers where interventional radiology is available, embolization can also be attempted.

Conclusion

High degree of suspicion for puerperal hematoma should be kept in mind in case of maternal collapse with no obvious vaginal bleeding. Conducting a coordinated vaginal delivery with appropriate selection of candidate for vacuum delivery could have averted this life threatening event.

Conflict of Interest

None

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