B-Lynch Transverse Compression Suture for PPH Placenta Previa Bleeding

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INTRODUCTION

Postpartum hemorrhage (PPH) is a serious condition. Fourteen million cases of PPH occur worldwide each year, with a case-fatality rate of 1%; this is a total of 140,000 women.[1] It is well established that atonic uterus is a major cause. However, in some cases bleeding from placenta previa can be a serious cause. Currently, nothing is assured to control such bleeding when the placenta separates from the lower segment. Since the description of the Brace suture in 1997 by B-Lynch et al,[2] it seems as though compression suture can be helpful. There is no reason why transverse compression cannot be considered to treat bleeding from placenta previa. We have used this method since 2006 with successful outcome and we hereby, describe the method. Demonstration movie[3] can be seen at http://www.cblynch.co.uk/b-lynch-transverse-compression-suture/

TECHNIQUE

The operating surgeon stands on the right side of the patient, exteriorise the uterus and compresses the lower segment transversely whilst an assistant checks the vagina that bleeding is controlled. This is test of compliance of the procedure. He uses the suture material 1 vicryl 70 mm ½ circle needle mounted on a 90 cm vicryl suture. He uses the needle blunt ended to puncture the uterus 3 cm above the upper margin of the incision posteriorly and behind the vascular bundle with the uterus tilted towards him. The needle is retrieved through the cavity of the uterus and pulled inferiorly with the suture material lying on

Prof. Christopher B-Lynch with the model used

the posterior wall of the uterine cavity. The needle then perforates the posterior wall of the uterus 3 cm below the inferior margin of the caesarean incision and exits behind the vascular bundle of the same side of the uterus retrieved and runs on the surface of the lower segment below the incision margin parallel to it and taking a 1 cm bite of tissue for stabilization running to the other side. The needle then perforates the posterior side of the uterus behind the vascular bundle entering the uterine cavity. The suture is allowed to ascend lying freely on the posterior wall of the uterine cavity and exits 3 cm above the upper margin of the caesarean incision exiting posteriorly and behind the vascular bundle to meet the suture from the other side.

It is essential that the ureters are identified by palpation or visual observation after the bladder is displaced inferiorly and held by traction. Any observed bleeding should be dealt with in the usual way. At the end of the suture application and before tying the knots, the lower segment is compressed again transversely whilst the suture is held to ensure that bleeding ceased by swabbing the vagina again. If all is satisfactory, the lower segment incision is closed in the traditional way by the 1 or 2-layer technique as appropriate. The lower segment is compressed again, whilst both limbs of the suture is milked through with sufficient tension to maintain haemostasis. The suture is then tied to ensure the tension is maintained.

During the period of 2006-2010, 12 patients, were treated by this method and followed up to 2014, three have been pregnant with normal placenta

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position and normal delivery. One was delivered by caesarean section without any sign of irregularity of the lower segment. One patient was sterilised by laparoscopy showing no sign of abnormal isthmus or bladder distortion. We feel very strongly that this method is new and effective in the management of placenta previa PPH.

Figure 1. This picture demonstrates the occlusion of the vessel that supply the lower segments, uterine at the top and vaginal artery below.

Figure 2. This picture demonstrates occlusion of the vessels that supply the lower segments on the opposite side

COMMENT

Bleeding from placenta previa can be serious and life threatening. In order to facilitate this demonstration of transverse compressed sutures, the authors have used an appropriate model of the uterus and appendage plus the vascular distribution on the lateral side of the uterus. By following the description in the text, two important observations are made. Firstly, the transverse compression is carried out manually and vaginal bleeding monitored to test compliance of the described procedure. Secondly, the bladder is displaced as much as possible inferiorly thus allowing the ureters to descend with it. In our experience the ureters are not visually or by palpation present at the site of uterine puncture therefore never in danger of trauma. The patients followed up gave us sufficient reassurance that it is a safe procedure.

Figure 3. This picture demonstrates occlusion of vessel to the lower segment and transverse compression at the end of the procedure

DISCLOSURE

The authors report no conflicts of interest in this work.

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