SECONDARY POSTPARTUM HAEMORRHAGE

by

SWEETY TANDON,* M.S. and SAROSH FRAM JALNAWALLA,** M.R.C.O.G.

Secondary postpartum haemorrhage, which continues to be a hazard for obstetrical patients, requires knowledge of the underlying pathology on the part of the attendant for its successful management. Haemorrhage in the puerperium is one of the most distressing complications and difficult to manage. Various writers state that the time of occurrence of bleeding is from minimum of twenty-four hours to fourteen days. Our belief is that in many instances the same factors are present from a few hours to as long as six weeks or more postpartum, i.e. retained placental piece, submucous fibromyoma, an overlooked haematoma, carcinoma cervix, rupture and inversion of uterus and choriocarcinoma. Gainey *et al* 1955, William *et al* 1961 and Dewhurst 1966, reported that the commonest cause of late postpartum haemorrhage was altered uterine physiology, variouly listed as subinvolution of placental site, deciduoma or syncytial endometritis.

The physiology of involution of placental site has been described by Goodall in 1909, Teacher in 1927 and Williams in 1931. They showed that necrosis of any retained decidua is complete by seventh postpartum day and that the subsequent detachment of decidual slough is completed by the twelfth day. At this time, the raw surface of uterus is relined by cells proceeding from the fundi of the glands. By the 21st postpartum day, the uterine endometrium has been completely regenerated except at the placental site. Abnormalities of decidual involution and separation are factors in late postpartum haemorrhage.

Involution of placental site is a totally different process. Immediate haemostasis following delivery of the placenta is effected by contraction of the uterus compressing the blood vessels. This is maintained by retraction of muscle bundles with clotting and thrombosis in blood vessels. The fore-going immediate process is followed by the sequential events in arteries and veins described by Goodall in 1909. The fibrous tissue of media and adventitia undergo hyaline degeneration, the elastica interna becomes swollen and degenerated. The hyaline of the muscle coat then invades the elastica interna and the vessel lumen, replacing blood clot. The ultimate result is obliteration of lumen by hyaline substance. Recanalization completes the process.

In the veins, which have no definite elastica interna, all the walls contain

*Registrar.

**Obstetrician & Gynaecologist.

Dept. of Obst. & Gynec. Irwin Hospital, New Delhi.

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elastic fibres intermingled with fibrous tissue. In the postpartum period the fibrus tissue swells and becomes hyalinized, thus reducing the lumen of vein which is filled with clot. In normal involution, the hyaline in the vein wall is later reconverted into elastic tissue. Epethelialization of placental site by the endometrium, described by Williams, is completed about the sixth week by an undermining process that extrudes the vessels of placental site which protrude polyp-like from the surface. Normal involution will accomplish this by the end of six weeks. According to Rutherford and Hertig (1945), postpartum non-involution of the placental site has been reported as late as 9 weeks. Local and systemic diseases do not seem to alter the schedule of involution of placental site.

The pathogenesis of this grave puerperal complication is at present conjectural. Any explanation is of necessity, based upon altered physiology rather than associated pathology. According to Gainey, *et al* (1955), William B. Ober and Hugh Grady (1961) and Dewhurst (1966), cases of postpartum haemorrhage in which no placental tissue, submucous myoma or puerperal infection were found, were cases of subinvolution of placental site. Subinvolution of placental site is characterized by delayed postpartum haemorrhage, abrupt in onset occurring at any time, maximally during the 2nd week of puerperium. The uterus is larger by 12 to 14 weeks size than expected, soft and boggy, the cervical os is patulous and blood trickles or pours from it. Histopathological examination of curettings showed an admixture of amorphous debris, thrombotic material, degenerating decidua, regenerating endometrium and leucocytic infilteration, conspicuous in many cases, haemosidrin phagocytosis, and endometria both poliferative and secretory. The regenerated endometrium was not normal in most cases. Glandular tortuosity and cystic dilatation were common. The significant lesion in all cases was altered blood vessels, presumably arteries. The vessels were large, thick walled, dilated and tortuous. Thickening was due to hyaline material in vessel walls replacing most of the muscle coat. Admixed with this material was a collar of large, pale cells, believed to be decidual new vessels with their own intima and media formed inside pre-existing thrombosed vessels, usually by 6 to 8 weeks.

Material and Method

In a review of 7000 deliveries at Irwin Hospital, eleven patients had secndary postpartum bleeding, severe enough to require active therapy, giving an incidence of 0.15%. Of these, five had retained placental pieces, one had fibroid uterus, four had no clinical findings and one patient had withdrawal bleeding due to oestrogens. Three of these cases are discussed briefly. We were able to manage all the cases conservatively or by curettage. In none of our cases we had to resort to hysterectomy.

Case Reports

Case 1

Mrs. X., 27 years of age, gravida 1, was admitted to Irwin Hospital at full term. Her past history was negative, labour was

uneventful and she had a spontaneous natural delivery. Placenta was delivered spontaneously. Total blood loss was not more than 80 cc. No oxytocic was given. The postpartum course was uneventful until the eighth day. On eighth day she had a bout of fresh bleeding. She was treated conservatively. She had again another fresh bout after 24 hours. Per-vaginal examination was then done. Uterus was found to be 12 weeks size, external os admitted tip of finger easily; adnexae were normal. On digital exploration of uterine cavity no placental tissue could be obtained. Uterus was then curetted. Bleeding was controlled. Patient continued to have slight trickling of blood till next day. Syntocinon drip, 10 units in 500 cc., was started at 4.45 P.M. Bleeding stopped and the drip, therefore, discontinued. Again at 1.30 A.M. on next day she had a sudden large bout of bleeding. Uterus re-explored under general anaesthesia. The cavity was empty but the walls of the uterus were relaxed. Syntocinon, 20 units in 500 cc., started again; bleeding stopped. Syntocinon drip was slowly tapered off. Patient did not bleed thereafter until the time of her discharge i.e. eighth days later.

Investigations done during the bout of bleeding were, clotting time 3 minutes, bleeding time 3 minutes, clot retraction—time—3 minutes.

High vaginal swab showed staphylococcus pyogenes sensitive to chloromycitin.

Histopathological report: Gross pathology—fleshy looking cylindrical strips, largest 2.5 cm. long.

Microscopic examination revealed fragments of decidua which were partly necrotic along with few pieces of endometrium showing proliferative phase.

Case 2

Mrs. Y., 24 years of age, gravida 1, admitted to Irwin Hospital at term; had outlet forceps delivery. Placenta delivered spontaneously; she had no post-partum haemorrhage; no oxytocin was given. Estrogens were given for five days to stop lactation. On 8th post-partum day she started fresh bleeding. Pervaginal examination revealed well involuted uterus, os was closed. She was kept on conservative line of treatment, that is rest and calcium gluconate. Bleeding stopped after four days. She was not given any oxytocic.

Case 3

Mrs. Z., 24 years of age, gravida 1, was admitted to Irwin Hospital at full term with fibroid. Labour was uneventful. She had spontaneous natural delivery. Placenta delivered spontaneously. She had no post-partum haemorrhage; no oxytocic was given. During post-partum period from 4th day she started running temperature. On 6th day she had a bout of bleeding. On vaginal examination, uterus was found enlarged to 14 weeks size with fibroid attached on left side of uterus. External and internal os were open. Uterine cavity was explored. A bulge of fibroid felt on left uterine wall, blood clots removed. No placental tissue was felt. She was given antibiotics and methergin. Bleeding stopped within 24 hours.

High vaginal swab showed presence of staphylococcus pyogenes infection.

Discussion

Case 1

Although pathological reports gave little evidence of infection the fact that the patient had a febrile reaction after curettage suggests the possibility of underlying infection, as was described by Benjamin and Tennery. But H. close Hesseltime, who removed uterus for various conditions during puerperium, found persistence of bacterial flora until the placental site had healed, but no case had bleeding. In this case sudden bout of haemorrhage 30 hours after curettage may be explained by flaring up of infection by bacterial action dissolving out clots and necrotic tissue. Second exploration and syntocinon drip helped in stoppage of bleeding by contracting the muscle bundles and thus in-

directly closing the mouths of open blood vessels. Another possible explanation of the second bout of bleeding may be disturbed psychology, as also described by Walter and Thomes.

Histopathological findings were not in favour of subinvolution of placental site. This patient had more bleeding after curettage. We are not in agreement with Gainey and William who do curettage as a routine in cases of secondary postpartum haemorrhage, if no placental tissue is found.

Case 2

There was no evidence of infection or retained placental tissue. Most probable cause was oestrogen withdrawal bleeding, as also noticed by William *et al* (1961) and Dewhurst (1966). According to them stilboestrol or other oestrogens used to suppress lactation often lead to mild bleeding a few days after delivery. Occasionally such bleeding is profuse. Furthermore, stoppage of bleeding by conservative treatment is strongly in favour of withdrawal bleeding. Oestrogen threapy may also have been responsible for indirectly causing subinvolution of placental site due to absence of suckling reflex following cessation of lactation.

Case 3

In this case of definite fibromyoma of uterus, bleeding may have been due to subinvolution of placental site as the placenta may have partially or completely developed over the fibroids or it may have been due to infection as the patient was running temperature.

Summary

Incidence of secondary postpartum haemorrhage in Irwin Hospital is given—being 1:636 or 0.15%. Three cases are reported and discussed. Conservative management was successful in all cases. Subinvolution of placental site, a less known entity, is considered an important cause of secondary postpartum haemorrhage. This may follow infection, oestrogen withdrawal bleeding or may be due to placenta growing over fibroids.

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