

ACUTE INVERSION OF UTERUS IMMEDIATELY AFTER CHILDBIRTH

(A Case Report)

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Inversion of uterus is a rare condition and is one of the most serious complications in obstetrics. The incidence of puerperal inversion as reported by different authors varies between one in 17,000 to 200,000. McCullagh (1925), in England, has reported it as 1 in 1,23,000 deliveries. Das, (1940), found the incidence as 1 in 23,127 deliveries in India. Childbirth is the commonest predisposing cause and the essential prerequisites are atony of the uterus with cervical dilatation. In the presence of atony of the uterus any pressure on the fundus of a soft gravid uterus or traction on the cord in order to expell the placenta may cause inversion.

CASE REPORT

S. M., aged 23 years, primigravida, at full term of pregnancy, was admitted in the Lady Dufferin Victoria Hospital, Calcutta, in early labour on 17-10-68 at 6.40 p.m. Her general condition was normal on admission. On examination, vertex was found to be fixed. Foetal heart sounds were regular. Vaginal examination revealed that the cervix was partially taken up, one finger loose, membranes were intact and pelvis was adequate. Her labour progressed well and she delivered a healthy female baby, weighing 5 lb. 12 ozs., at 4.45 p.m. on 18-10-68. Duration of the second stage of labour was two hours. Prophylactic methergin injection was not

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given with the birth of the anterior shoulder of the baby. At 5.00 p.m. fundal pressure was applied by the attending nurse to expell the placenta and suddenly the whole uterus was inverted and came out of the vulva, taking much of the vagina along with it. The accoucheur on duty diagnosed the case and found that the placenta was attached to the uterus and the membranes were markedly distended with blood. Her blood pressure dropped to 80/40 mm of mercury, with a pulse reading of 130/minute. The attending doctor gave her an injection of $\frac{1}{4}$ th gr. of morphine and one ampoule of methergin intramuscularly. She started fluid drip and informed the Senior Doctor (Resident Medical Officer). It was found then that the patient was conscious, complaining of little pain. On examination, she was found to be in a profound state of shock. The whole uterus along with the placenta and membranes were hanging outside the vulva and there was a good collection of blood inside the membranes. As the patient was in severe shock and contraction of uterus had occurred after methergin injection, immediate replacement could not be undertaken as it might have proved fatal. Resuscitative measures were taken by starting dextravan with Decadron drip and Veritol injection intramuscularly. Blood transfusion was given. The patient was kept warm. On examination, the placenta was found to be almost separated spontaneously. The remaining portion was separated manually along with the membranes. Slight oozing occurred from the endometrial surface. After gentle pushing of the inverted uterus inside the vagina and after instillation of penicillin, a sterile vulval pad was applied. The foot end of the bed was raised. Blood transfusion with 4 mgm. Decadron was started at 6.30 p.m. Injection Morphine $\frac{1}{4}$ th gr. was repeated

at 10.00 p.m. The patient was catheterised; only 1 oz. of high coloured urine was drawn. Her general condition showed improvement from 7.00 a.m. on 19-10-68 after transfusion of 1800 cc of whole blood. After 8.30 a.m. on 19-10-68, her B.P. improved and was 105/70 mm of mercury, pulse 116/minute. A decision of replacement of the inverted uterus under general anaesthesia was taken.

Manual replacement was tried once under general anaesthesia but the attempt failed. Then O'Sullivan's (1945) technique of hydrostatic replacement was conducted with dramatic success. A douche nozzle was passed into the posterior fornix and through it tepid antiseptic solution was passed from a douche can raised about 4 feet from the level of vagina and the return of fluid was prevented by partially blocking the vaginal orifice with the wrist and lower forearm helped by an assistant who firmly pressed the soft tissue of the vulva round the surgeon's arm with both her hands. By this manoeuvre the vagina was temporarily converted into a closed cavity. The vagina distended gradually and then ballooned out. The inverted mass gradually started receding and the last half of the mass suddenly disappeared by hydraulic pressure for which about 6 pints of antiseptic solution was needed.

To prevent reinversion of the uterus this antiseptic fluid was kept inside the uterine cavity for about 5 minutes and was then slowly drained. Contraction of the uterus was achieved by methergin injection and bimanual compression.

This contraction was maintained by a syntocinon drip of one pint. Post operative B.P. was 110/70 mm of mercury and pulse 120/minute. She had an uneventful recovery in the puerperium, the lochial discharge remaining normal; the uterus involuted well. She was administered antibiotics and methergin tablets for seven days. The episiotomy wound healed well. The haemoglobin was 10 gm. per cent. The patient went home on 12-11-68.

She came for follow-up after six weeks. She had no complaints. She conceived again after three months, and delivered a healthy male baby on 1-11-69, but the placenta was retained for more than one hour, necessitating manual removal.

Tubectomy was performed on the 4th day of puerperium and the patient was discharged after 7 days.

Discussion

It appears that the frequency of inversion of uterus is more common in India. Das (1940) has reported a frequency of 1 in 23,127 in the Indian literature. Recently at the Nowrosjee Wadia Maternity Hospital, Bombay, five cases were encountered in a series of 57,000 viable confinements in a span of six years, i.e. from 1961 to 1966. (Ashar, *et al* quoted by Domadia *et al*, 1969). Domadia *et al* (1969) have also recorded two more cases of puerperal inversion from their own observation of 10,840 deliveries between 1963 to 1969. In Lady Dufferin Victoria Hospital, Calcutta, there was only one case of acute puerperal inversion between the year 1963 to 1968, the incidence is thus one in 34,000 deliveries recorded in this period.

Commonest predisposing causes and essential prerequisites of puerperal inversion of uterus are atony with cervical dilatation. In their presence any pressure on the atonic fundus by improperly performed Crede's manoeuvres or pull on the umbilical cord may cause inversion. Fundal insertion of the placenta and sudden straining are also thought to predispose the atonic uterus to undergo spontaneous inversion. Such spontaneous inversion occurred in 38 per cent of 76 cases reported in American and British literature (Bel *et al.*, 1953).

Mechanism of Inversion

By straining efforts the relaxed area is slightly inverted and the pro-

cess is then completed by the active part of the uterus contracting upon the inverted part and driving it towards the cervix. It would appear from the investigation of Bell *et al* (loc cit) that the mortality depends upon the time interval between diagnosis of the case and institution of active treatment. Most authorities agree that when inversion is diagnosed within 30-60 minutes of its occurrence, immediate replacement should be attempted.

Manual replacement was, until recently, the only method of choice. But cervical contraction usually starts after $\frac{1}{2}$ hour and the contraction not only makes replacement difficult but also precipitates severe shock by constant traction on the infundibulopelvic folds and nipping of the ovaries. In such a case, therapy for combating shock should be instituted immediately before any attempt is made to replace the inverted uterus.

In the present case, the patient was very much ignorant about the gravity of the case. She came in labour in her second delivery without a single antenatal check-up and had complications in the third stage of labour. As the couple were willing, puerperal tubectomy was performed.

Summary and Conclusion

Literature on the incidence of acute inversion of uterus is too meagre. Das has reported its occurrence as 1 in 23,127 in India. The present case is an addition to the reported cases. History of fundal pressure with a wide open os was the precipitating cause for inversion in this case. Proper conduction of the third

stage would prevent inversion of the uterus in the majority of cases.

Early diagnosis and immediate replacement should be attempted as it can be done easily and the chance of shock is minimised. When the patient is in shock, resuscitative measures should be taken first and separation delivery of the placenta should be deferred.

On no account should oxytocic drugs be administered as it prevents replacement for the time being and thus the condition of the patient deteriorates further.

In the present case manual replacement of the inverted uterus under general anaesthesia was unsuccessful; hence it was replaced by O'Sullivan's technique by applying hydrostatic pressure after adequate resuscitative measures. Recovery was uneventful in the puerperium.

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