

ACUTE PUERPERAL INVERSION OF THE UTERUS

(A Case Report)

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By inversion of the uterus is meant, an invagination of the fundus of the uterus or in other words turning inside out of the uterus. Although it is not unusual for inversion to occur during spontaneous extrusion of a submucous fibromyomatous polyp attached to the fundus of the uterus, it is much more frequent during puerperinam. Inversion is called acute when it occurs immediately following labour; subacute begins with the establishment of firm cervical contraction and chronic when the condition has reached at a stage after lapse of four weeks following the known occurrence: Kellogg (1929). It is the proportion of the bulk of the uterus which has passed the external cervical os that determines whether the inversion is incomplete or complete, Bell and Wilson (1953).

Das (1940) from India reported a frequency of 1 in 23,127 deliveries. McCullagh (1925) reported in England an incidence of 1 in 1,23,000 deliveries. O'Sullivan (1945) 1 in 17,000 to 1 in 200,000 deliveries and the same was the

incidence recorded by Ian Donald (1959) for Western countries. At Chittaranjan Seva Sadan (Calcutta) the authors found an incidence of 1 in 40,000 deliveries during the ten year period 1961-1970. The incidence of the pathology in present day obstetric practice in India has probably gone down and its mortality diminished due to more advanced and proper antenatal and intranatal care as well as more careful management of the third stage of labour, increased hospital facilities and quick availability of blood. As the incidence is very rare and a case of acute puerperal inversion happened to occur at Chittaranjan Seva Sadan recently, the present case is reported.

Case Report

Mrs. K. B., aged 24 years, para-2 + 0, was admitted at Chittaranjan Seva Sadan on 13-10-70 under the first author (Ghosh). The patient was transferred from Diamond Harbour Red Cross Hospital in the District 24 Parganas about 38 miles away from Calcutta city, with bleeding per vaginam following a full-term natural labour about four hours before her admission into this hospital. The history was that, soon after baby was born, the attending midwife pulled on the cord and made repeated attempts to expel the placenta by pressing hard on the fundus but without success. The patient had severe postpartum haemorrhage and pain in abdomen. The Lady Medical Officer diagnosed the case to be of acute inversion with the placenta still attached.

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She separated the placenta and made an attempt for manual replacement but failed and the patient lost further blood and went into shock although still conscious. Morphine—gr. $\frac{1}{4}$ was injected and the patient was transferred to this hospital.

On examination the patient was in shock and markedly anaemic. Pulse-150 per minute, feeble; respirations-30 per minute; temperature-97°F; blood-pressure-60 m.m. Hg. systolic and the diastolic could not be recorded.

Per abdomen, fundus of the uterus could not be palpated even after catheterisation of the bladder. On pelvic examination, vagina was found to be occupied by a large dark-pink, soft mass and it was not possible to reach the cervix. A few bits of placenta and membranes were still attached to the most dependent portion of the mass (fundus of uterus). There was still active oozing of blood.

Management and results: Resuscitative measures were started immediately: morphine sulphate—gr. $\frac{1}{4}$ with atropin sulphate—gr. 1/100 injected, foot end of bed raised, oxygen inhalation started, an intravenous drip with plasmex was set up and arrangement made for two bottles of blood. Patient's condition gradually improved to a certain extent after plasmex and a bottle of blood were transfused. By this time six hours had elapsed since the occurrence of the inversion. It was decided to take the patient to the operation theatre where under deep ether anaesthesia, manual reposition was tried but without success. The first author (Ghosh) then thought of trying hydraulic pressure method of O'Sullivan. With the patient in lithotomy position with foot end of the table raised, two pints of warm dettol lotion was forced inside the vagina through a No. 12 rubber catheter keeping the douche can raised to 3 ft. above the table and the vaginal introitus kept closed by the palm and wrist while a second assistant kept the upper part of the labia apposed. The procedure was repeated three times. It was gratifying to see that three-fourths of the inversion got reduced spontaneously at the end of the manoeuvre. The remaining portion could easily be reposed manually. Keeping the hand still inside the uterus 0.5 mgm of ergometrin was injected intravenously and

the hand was gradually withdrawn. On speculum examination a longitudinal tear about one inch in depth was detected on the posterior lip of the cervix with no bleeding from there. Ten units of syntocinon in 540 ml of 10 per cent glucose solution was continued as drip keeping the foot end of bed still raised to prevent shock and recurrence of inversion. The condition of the patient dramatically improved following the reduction of inversion. Her pulse rate came down to 120 per minute, with fairly good volume and the blood pressure rose to 100/70 m.m. of Hg. The uterus kept hard and regular in outline. Antibiotics were administered in adequate doses. Postoperative period was uneventful and the patient was discharged in good condition after one week.

Discussion

The case reported was 24 years of age and was a third gravida. 53.6 per cent of the cases reported by Das (1940) occurred between the ages of 21 and 30 years and according to him 52 per cent occurred in primigravida. As to the aetiology, two conditions are necessary viz. cervical dilatation and relaxation of a portion of the fundus of the uterus as predisposing factors. Phaneuf (1940) likens any relaxed and indented portion of the fundus to a foreign body which the remainder of the uterus seizes and attempts to expel. Spontaneous inversion is similar to the mechanism of intestinal intussusception. The probable factors responsible for the occurrence of an inversion were discussed by Bell and Wilson (1953) as (A) predisposing causes, (1) pathological condition of uterus and its contents, (2) functional condition of uterus (B) Exciting causes, (1) manual removal of placenta, (2) increase in intraabdominal pressure, (3) mismanagement of the third stage of labour. Das (1940) found that 40 per cent of cases were spontaneous. Mismanagement of the third stage of labour along with fundal attachment of the pla-

centa were probably the factors responsible for the occurrence of acute inversion in the present case. Also the tear on the posterior lip of the cervix might have helped in easy progress through the widely open cervix following traction on the cord. The authors considered preliminary resuscitative measures with more aggressive therapy for shock and loss of blood as important. Manual replacement was tried under general anaesthesia but failed. The first author (Ghosh) found the result very gratifying following hydrostatic pressure. Manual replacement according to Cosgrove (1939) is the method widely used. McLennon and McKelvey (1942) advocate conservative treatment with immediate shock therapy, followed by correction of inversion by surgical method at a later date.

The operative treatment of Huntington is designed for immediate subacute type of puerperal inversion or in those acute cases where manual reposition failed. Spinelli and Haultain methods are more specifically used for delayed subacute and chronic types. Abdominal or vaginal hysterectomy has also been employed in certain cases. Bell and Wilson (1953) after considering the results of the reviewed cases suggested the following plan of therapy. (a) Anticipation of inversion and more judicious management of the third stage of labour, (b) recognition of inversion can always be ensured by making cervical inspection or routine immediate puerperal vaginal examination, (c) in cases within thirty minutes recognised before tight cervical contraction, manual replacement with simultaneous shock therapy. (d) in absence of haemorrhage and shock and before cervical contraction, manual replacement regardless of time of occurrence, (e) after cervical contraction and after lapse of thirty minutes, treatment for haemorrhage and shock is

given first and then an attempt is made to replace the uterus or other operative procedure is undertaken (f) in chronic inversion manual replacement can be attempted but operative procedure like that of Spinelli or Haultain is usually satisfactory. Jacob *et al* (1971) described a case of acute inversion treated by O'Sullivan's hydrostatic method. The authors stressed that in all cases of obstetric shock of obscure origin, a simple vaginal examination should be made to rule out partial inversion and if found correction should be done immediately. Gupta *et al* (1971) reported a case of chronic inversion in a young patient treated by Haultain's operation with good result. While discussing the prognosis Bell and Wilson (1953) found the uncorrected mortality to be 17.9 per cent but considering only those cases who received treatment the corrected mortality was 12.3 per cent. Das (1940) indicated the mortality to be 13.2 per cent in his review. The result in the reported case was highly satisfactory with no mortality.

Summary and Conclusion

A case of acute puerperal inversion is reported.

The authors reported an incidence of 1 in 40,000 deliveries at the Chittaranjan Seva Sadan College of Obstetrics, Gynaecology & Child Health, Calcutta in 10 years 1961 to 1970.

The aetiology in general and probable causes in the reported case are discussed.

Different methods of management are discussed and the particular method adopted in the case reported is described.

Incidence of mortality reported by other authors are recorded.

In conclusion, it is stressed that every obstetrician should be very careful during management of the third stage of labour; preliminary shock therapy and the sub-

sequent technique adopted determine the ultimate outcome of result.

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References

1. Bell, J. E. J., Wilson, G. F. and Wilson, L. A.: Amer. J. Obst. & Gynec. 66: 767, 1953.

2. Cosgrove, S. A.: Amer. Jour. Obst. & Gynec. 38: 912, 1939.
3. Das, P.: Jour. Obst. & Gynec. Brit. Emp., 47: 525, 1940.
4. Gupta, U. and Agarwal, S: J. Obst. & Gynec. India, 21: 533, 1971.
5. Ian Donald: Practical Obstetric Problems, and 2nd Ed. Lloyd-Luke Ltd., London, P. 516, 1959.
6. Jacob, S. I. and Bhargava, H.: J. Obst. & Gynec. India, 21: 398, 1971.
7. Kellog, F. S.: Amer. J. Obst. & Gynec., 18: 815, 1929.
8. McCullagh, W.: Jour. Obst. & Gynec. Brit. Emp. 32: 280, 1925.
9. McLenon, C. E. and McKelvey, J. L.: Jour. Amer. Med. Ass., 120: 679, 1942.
10. O'Sullivan, J. V.: Brit. Med. Jour., 2: 282, 1945.
11. Phanef, L. E.: Surg. Gynec. & Obst. 71: 106, 1940.