CHRONIC PUERPERAL INVERSION OF THE UTERUS

G. S. PLAUT, M.A., F.R.C.S.

*Temporary Surgeon to the Anglo-Ecuadorian Oilfields Ltd. in Ecuador**

MANY unusual problems confront the surgeon working overseas. Solutions may not be easy to obtain from the literature available locally. In Britain, with excellent obstetric care universally available, chronic puerperal inversion of the uterus is hardly ever seen nowadays, but elsewhere one may occasionally have to treat this condition. British authors quote an incidence of about 1 in 30,000 deliveries (Strachan, 1947), though in a recent series of 100,000 deliveries only one case could be found (Mackinlay, 1958). In India the condition does not appear to be of such extreme rarity (Upadhyay and Achari, 1960), and an incidence of 1 in 8,500 cases has been reported (Das, 1940). No figures for the incidence in Ecuador are available to the author.

Recently a young girl was referred to the author, suffering from a chronic puerperal inversion of the uterus, with a request to perform a hysterectomy. After considerable enquiries it was decided to correct the condition operatively, using the technique first described by Haultain in 1901. The ease and success of this apparently little known operation prompts the publication of this case.

Case Report

Sra. M.L.R., a married primigravida, aged 16, was delivered of a live child at her home by a local, untrained 'midwife'. The delivery was reported to have been difficult, but details were not divulged. The girl did not pass urine after her delivery and was referred to the local clinic. There she was catheterized and the bladder drained continuously for a few days. As she appeared to pass urine normally after this, she was discharged home. No vaginal examination was performed.

The patient was first seen by the author six weeks after delivery with a complaint of an excessive blood-stained vaginal discharge and general malaise.

She was a rather ill-looking young girl, 4 ft. 3 in. tall (130 cm.), weighing 6 st. 6 lb. (41 kg.). Gynecological examination showed the uterus to be completely inverted and lying in the vagina. The cervix could not be felt separately from the remainder of the uterus. No part of the uterus protruded outside the vagina. The hæmoglobin was 59%, with 3,430,000 r.b.c. per mm.³

The white cell count was 4,600 per mm.³, with a normal differential count. The erythrocyte sedimentation rate was 17 mm. per hour, the blood urea 31 mg./100 ml., and the Kahn reaction was negative.

The patient was admitted to the clinic, given an ample diet, and treated with iron preparations orally and later systemically. She was given daily vaginal douches.

An attempt was made to reduce the inverted uterus manually under general anæsthesia, but proved unsuccessful. The vagina was then packed in the hope of correcting the inversion by the steady pressure of the packs, over a period of 24 hours. This again proved of no avail.

Next, reduction by hydrostatic replacement, as advocated by O'Sullivan (1945) was tried. In spite of several attempts the condition could not be corrected. Two weeks later she menstruated, rather excessively. Operation was therefore postponed for a further two weeks, when her hæmoglobin had risen to 76%, and her general condition was much improved.

Laparotomy was performed ten weeks after delivery. The vagina and inverted uterus having been freely swabbed with antiseptic solution, and a catheter passed, the abdomen was opened through a lower midline incision, with the patient in the Trendelenburg position. A cup shaped depression was seen at the site of the uterus, with the round ligaments and the uterine tubes emerging from it. Traction on the round ligaments had no effect on the uterine inversion, as the uterus was firm and well involuted.

The uterus was pulled up with a volsellum, and the posterior rim incised as far as the vaginal vault. The inversion of the uterus was then easily corrected, by gentle traction on the round ligaments, aided by a finger passed through the vagina incision. The incision in the uterus and vagina was carefully closed in three layers, using No. 1 catgut interrupted sutures. It was noted that keeping strictly to the posterior midline of the uterus avoided dividing large vessels—indeed there was more bleeding from the sutures than from the

*Present address: 233 Boroughbridge Road, York.

incision in the uterus. The abdomen was closed in the usual manner. The post-operative course was uneventful and the patient was discharged home on the ninth post-operative day.

Comments

Inversion of the uterus is said to follow traction on the umbilical cord, during the third stage of labour, though if the uterus is normal such traction is more likely to tear the cord, than to invert the uterus (Atthill, 1879). Some uterine atony, then, must also be present. In such a case even very moderate traction on the cord has been known to invert the uterus (Bertrand, 1960). The condition is usually associated with quite severe hæmorrhage, and profound shock, often out of proportion to the hæmorrhage. One would then suspect either a concealed hæmorrhage, a rupture of the uterus, or a uterine inversion. An examination will reveal a mass in the vagina, and the absence of the uterus from the abdomen. Occasionally there appears to be no obvious cause for the inversion. In rare cases both collapse and severe bleeding may be absent, so that the condition is only discovered at a subsequent examination (Greenhill, 1955).

The mortality of the acute condition is still 17% (Bell, 1953). Shock must be treated first. The uterus should be gently replaced in the vagina while treating the shock. No attempt should be made at this stage to correct the inversion or to separate the placenta, lest further hæmorrhage be started (Titus, 1955). When the patient's condition has improved a general anaesthetic is given, and the placenta, if it is still attached, is separated from the uterus with a moist swab. The inversion is then corrected. The uterus may be returned by pushing the fundus with the palm of the hand, and dilating the cervix with the fingers. Using this method, very great care has to be taken not to rupture the atonic uterus. The hydrostatic method, as advocated by O'Sullivan (1959), is therefore preferred.

O'Sullivan advises distension of the vagina with fluid from a douche can, using up to 2 gal. (9 l.) of solution. The surgeon holds the nozzle of the douche can inside the vagina. The fluid is prevented from escaping by compressing the labia around the surgeon's fore-arm, with the other hand. Pressure may have to be maintained for 30 minutes.

In chronic cases the hydrostatic method should also be tried. At times the inversion can be reduced by gentle manipulation with the hand inside the vagina, while maintaining the hydrostatic pressure. None of the cases described by O'Sullivan were as late as the present case.

Aveling's repositor (1879) is of historical interest. It is a modification of an older instrument, consisting of a straight rod, resembling a drumstick. The instrument was held *in situ* for some 40 hours, or more, and Aveling mentions that the treatment may be painful, when it should be temporarily discontinued. It may be followed by a vaginal discharge, presumably due to sepsis.

Reduction of the inversion of the uterus by packing the vagina has been advocated (Clahr and Wurtzbach, 1944).

Vaginal operations for inversion of the uterus have been advocated, but are difficult (McCullagh, 1925), and have no advantage over the abdominal approach first described by Haultain in 1901. He advised only a short incision along the posterior uterine wall, but by extending the incision into the vaginal vault, as described by Victor Bonney (1952) the operation is simplified. Occasionally the inversion can be reduced merely by traction on the round ligaments, without cutting into the uterus (Huntingdon, Irving and Kellog, 1928).

Prognosis

An unreduced chronic puerperal inversion of the uterus was reported in the last century (Wallace, 1879). The patient, aged 46, had had the condition for 28 years, and she had suffered from dysuria, vaginal discharge and other symptoms, for the first ten years.

Several successful pregnancies after corrected inversion of the uterus have been reported (Miller, 1927).

Rupture of the operation scar has not been seen, but there appears to be an increased incidence of adherence of the placenta.

Recurrence of the inversion at a subsequent delivery has not been reported after operative repair. It has followed manual reposition; presumably the replacement was incomplete. One therefore advises these patients to have their subsequent deliveries in a hospital. Routine Cæsarean section is not necessary.

Summary

1. A case of puerperal inversion of the uterus, first diagnosed six weeks after delivery, is reported.
2. The ætiology and treatment of the condition is discussed.
3. Haultain's operation—correction of the inversion after incision along the posterior midline of the uterus—is advocated for these cases, if conservative methods of reduction fail.

Acknowledgments

I wish to express my gratitude to Mr. J. M. Brudenell, to Dr. A. Fierro and to Mr. J. V. O'Sullivan for their help.

REFERENCES

- ATTHILL, L. (1879): Remarks on Inversion of the Uterus, *Brit. med. J.*, **ii**, 356.
- AVELING, J. H. (1879): The Treatment of Chronic Complete Inversion of the Uterus: With Cases illustrating the Advantages of the Direct Method of Applying Elastic Pressure, *Ibid.*, **ii**, 359.
- BELL, J. E., JR., WILSON, G. F., and WILSON, L. A. (1953): Puerperal Inversion of the Uterus, *Amer. J. Obstet. Gynec.*, **66**, 767.
- BERTRAND, M. P. (1960): Total Acute Puerperal Inversion of the Uterus, *Bull. Féd. Gynéc. Obstét. franç.*, **12**, 192.
- BONNEY, V. (1952): 'A Textbook of Gynaecological Surgery', 6th ed., p. 605. London: Cassell.
- CLAHR, J., and WURTZBACH, F. A., JR. (1944): Reduction of an Inverted Uterus Following Intravaginal Packing, *Amer. J. Obstet. Gynec.*, **48**, 729.
- DAS, P. (1940): Inversion of the Uterus, *J. Obstet. Gynec. Brit. Emp.*, **47**, 525.
- GREENHILL, J. P. (1955): 'Obstetrics', 11th ed., p. 813. London: Saunders.
- HAULTAIN, F. W. N. (1901): The Treatment of Chronic Uterine Inversion by Abdominal Hysterotomy, with a Successful case, *Brit. med. J.*, **ii**, 974.
- HUNTINGDON, J. L., IRVING, F. C., and KELLOG, F. S. (1928): Abdominal Reposition in Acute Inversion of the Puerperal Uterus, *Amer. J. Obstet. Gynec.*, **15**, 34.
- MACKINLAY, C. J. (1958): A Case of Chronic Inversion of the Uterus, *J. Obstet. Gynec. Brit. Emp.*, **65**, 810.
- MCCULLAGH, W. McK. H. (1925): Inversion of the Uterus: A Report on Three Cases, and an Analysis of 233 Recently Recorded Cases, *Ibid.*, **32**, 280.
- MILLER, N. F. (1927): Pregnancy following Inversion of the Uterus, *Amer. J. Obstet. Gynec.*, **13**, 307.
- O'SULLIVAN, J. V. (1945): Acute Inversion of the Uterus, *Brit. med. J.*, **ii**, 282.
- (1959): in 'British Obstetric and Gynaecological Practice' by Sir Eardley Holland, 2nd ed., p. 822. London: Heinemann.
- STRACHAN, G. I. (1947): 'Textbook of Obstetrics', p. 553. London: H. K. Lewis.
- TITUS, P. (1955): 'The Management of Obstetric Difficulties', 5th ed., p. 441. London: Henry Kimpton.
- UPADHYAY, S. N., and ACHARI, K. (1960): The Mechanism and Management of Inversion of the Uterus, *J. Obstet. Gynec. India*, **10**, 447.
- WALLACE, J. (1879): Inversio Uteri, *Brit. med. J.*, **ii**, 361.