SADOW, H.S. (1969) This question of lactic acidosis. *Postgraduate Medical Journal*, 47, Suppl. 34.

TRANQUADA, R.E. (1964) Lactic acidosis. *California Medicine*, 101, 450.

WATERS, W.C., HALL, J.D. & SCHWARTZ, W.B. (1963) Spontaneous lactic acidosis. The nature of the acid-base disturbance and considerations on diagnosis and management. *American Journal of Medicine*, 35, 781.

Postgraduate Medical Journal (June 1972) 48, 387-389.

Pregnancy after haematocolpos

F. A. MUSSON*
M.R.C.O.G.

FERTILITY following haematocolpos has rarely been studied. The following case in which unilateral haematocolpos, haematotrachelos and haematometrium was released by making an incision between the two vaginas provided a formerly occluded horn with a 'normal' horn of uterus to act as a control. Both were exposed to the same patient's ova and the same semen. It may be assumed, therefore, that implantation occurred in the more fertile horn.

Case report

On 29 May 1956, at 16 years of age the patient presented with a 2-week history of sharp, stabbing, intermittent lower abdominal pain radiating from the right to the left lower abdomen, recently more severe and accompanied by nausea and vomiting. There were no bowel or urinary symptoms. She had a regular 28-day menstrual cycle lasting 3-4 days. A firm, cystic mass which filled the whole pelvis was explored by laparotomy. On opening the peritoneal cavity, altered blood was seen on the right side. The cystic mass which filled the pelvis appeared to have both cornua of the uterus lying above it and both the Fallopian tubes leading from these appeared normal, though the right one was engorged. The ovaries were both normal. On vaginal examination the cystic mass bulged into the vagina anteriorly. Stale blood was aspirated from this and, on incision of the vagina, 30 fluid oz of stale blood drained. It could now be appreciated by using a uterine sound, that the cervix in the vault of the vagina communicated only with the left cornu of the uterus. Between this cavity (formerly occluded) and the right cornu there was a thin rim of cervix. A tube was temporarily stitched into the incision between the two vaginas. It was noted that the right kidney was absent and the left kidney hypertrophied.

Postoperatively an intravenous pyelogram confirmed absence of the right kidney with normal function on the left.

The patient was asked to attend again if marriage was envisaged.

* Present position and address: Hon. Clinical Assistant Welsh National School of Medicine.

At her next visit 6 years later she proved to be 30 weeks pregnant by dates, with a large foetus. At term the presentation was cephalic but the head high and, at elective lower segment Caesarean section, a live infant weighing 8 lb 2 oz was delivered. The pregnancy proved to be in the right horn of the uterus, the other horn being enlarged to the size of an 8 week pregnancy. The puerperium was uneventful.

A hysterosalpingogram on 2 April 1965 confirmed a uterus bicornis, bicollis with no communication between the horns of the uterus or cervixes. Both Fallopian tubes filled and were patent with free peritoneal spill.

In her second pregnancy in 1969 she had mild pre-eclamptic toxæmia at 39 weeks gestation (blood pressure about 140/90 mmHg for 5 days and, once, a trace of albuminuria). She had a high cephalic presentation again. The pregnancy was confirmed to be in the right horn of the uterus at elective lower segment Caesarean section. The liquor was meconium-stained. The infant, which weighed 7 lb 9 oz at 39 weeks gestation, had an apgar score of 6 at birth, but did well. The placenta was heavily infarcted. After delivery she had a *Esch. coli* urinary infection which responded to sulphadimidine.

Her third pregnancy in 1970 was complicated by breech presentation and premature labour at 36 weeks gestation. Sparse, irregular contractions for 5 days culminated in spontaneous rupture of membranes releasing meconium-stained liquor. Lower segment Caesarean section was performed immediately. The child (weight 5 lb 15 oz) being found in the extended breech position in the right horn of the uterus.

The patient was sterilized by excision of both Fallopian tubes. Operative loss was replaced by two pints of blood. Mother and child thrived.

Comment

The case described is of uterus bicornis bicorpus bicollis in the classification of Hunter—one vagina was blind and formed a unilateral haematocolpos, haematotrachelos and haematometrium. After vagi-

nal incision of the haematocolpos all pregnancies occurred in the formerly occluded (right) horn of the uterus in spite of the fact that sperm had to pass through the intravaginal ostium to reach the right cervix. Had the grossly distended hemi-uterus been excised, leaving only the 'normal' horn as described for this condition (Miller, 1922; Wilson, 1925; Chureau, 1933; Embrey, 1950; Guillemin, 1950; Secher, 1954; Hill, 1958), the more fertile horn would have been lost. There is a high mortality for this operation (Brown & Brews, 1930).

Of forty similar cases in the literature (Quenu & Le Sourd, 1906; Purslow, 1922; Wilson, 1925; Simon, 1928; Brown & Brews, 1930; Gaggero & Crippa, 1931; Masson & Mueller, 1933; Bassett, 1933; Martindale, 1935; Guillemin & Guillemin, 1950; Embrey, 1950; Sechar, 1954; Semmens, 1956; Gibberd, 1957; Brews, 1957; Hill, 1958; Macdonald, 1960; Rouchy, 1963; Gottlieb-Juntula, 1963); the majority have not been followed up to find out whether they proved fertile. Subsequent pregnancy is described in two cases only and never has the side which proved fertile been stated apart from a case of Allan & Cowan (1963) who thought the formerly occluded horn to be the fertile one at least once.

The greater fertility of the right horn may be due to the fact that one vagina and the contralateral horn of the uterus was better developed as described by Galloway (1937) and Jarcho (1946). On the other hand it may be that the slow gross dilatation of the cervix during the formation of a haematotrachelos itself might improve fertility. Substantiating this, a high fertility was found by Brews (1957) in treated simple haematocolpos. Ten out of eleven married over a year had conceived, the infertile one having had a pyosalpinx at the time of operation. Possibly prostoglandins absorbed from the dammed back menstruum play a part in improving the reproductive potential of the genital tract.

Opinion varies (Galloway, 1937; Taylor, 1943; Hunter, 1957) as to the desirability of Caesarean section in a bicornuate uterus but here the ostium between the two vaginas made abdominal delivery obligatory.

The high incidence of antepartum foetal distress and perinatal mortality in bicornuate uteri (Falls, 1956; Blair, 1960) is not reflected in this case apart from the meconium-stained liquor in the last two pregnancies.

The absent kidney is on the same side with the genital defect as noted by Shumacker (1938). This patient's urinary output remained adequate and her blood urea within normal limits throughout.

Contrary to Zabriskie's (1962) belief that each successive pregnancy in a bicornuate uterus is less prone to premature labour, this patient's only premature labour was her last. The breech presenta-

tion was typical of bicornuate uteri (Taylor, 1943; Jarcho, 1946; Hay, 1959).

Acknowledgment

Mr W. Macfarlane, F.R.C.O.G. carried out the initial operation and first Caesarean section and it is by his kindness that I have been able to publish this case.

References

- ALLEN, N. & COWAN, L.E. (1963) Uterus didelphys with unilateral imperforate vagina. *Obstetrics and Gynecology*, **22**, 422.
- BASSETT, A. (1933) Un cas d'uterus didelphe avec hémato-colpos unilatéral. *Bulletin Société Nationale de Chirurgie*, **59**, 971.
- BLAIR, R.G. (1960) Pregnancy associated with congenital malformations of the reproductive tract. *Journal of Obstetrics and Gynaecology of the British Commonwealth*, **67**, 36.
- BREWS, R.A. (1957) Some clinical aspects of developmental anomalies of the female genito-urinary tract. *Proceedings of the Royal Society of Medicine*, **50**, 199.
- BROWN, R.C. & BREWS, A. (1930) Congenital retention of the menses. *Journal of Obstetrics and Gynaecology of the British Commonwealth*, **37**, 233.
- CHUREAU, R. (1933) Un cas d'utérus didelphe avec hémato-colpos unilatéral. *Bulletin du Nationale Chirurgia Paris*, **59**, 971.
- EMBREY, M.P. (1950) A case of uterus didelphys with unilateral gynatresia. *British Medical Journal*, **1**, 820.
- FALLS, F.H. (1956) Pregnancy in the bicornate uterus. *American Journal of Obstetrics and Gynaecology*, **72**, 1243.
- GAGGERO, E. & CRIPPA, T. (1931) Utero pseudo-dedelfo con vagina divisa edematocolpo destro. *Il Policlinico, sez. prat.* **29**, 1030.
- GALLOWAY, C.E. (1937) Vaginal septum, double cervix and bicornate uterus. *Illinois Medical Journal*, **73**, 314.
- GIBBERD, A.A. (1957) Unilateral haematocolpos haematometra. *British Medical Journal*, **1**, 213.
- GOTTIEB-JUNTULA, O. & WIDHOLM, O. (1936) Der Laterokolpos. Eine seltene Missbildung der Scheide. *Annales chirurgiae et gynaecologiae Fenniae*, **54**, 167.
- GUILLEMEN, A. & GUILLEMEN, P. (1950) Utérus didelphe avec hématométrie et hémato-colpos unilatéral. *Bulletin de l'association de gynécologie et d'obstétrique*, **2**, 594.
- HAY, D. (1959) Observations on breech presentation and delivery. *Journal of Obstetrics and Gynaecology of the British Empire*, **66**, 529.
- HILL, R.M. (1958) Uterus didelphys with hematocolpos and hematometra on one side and normal menses from the other. *Journal of the International College of Surgeons*, **29**, 422.
- HUNTER, W. (1957) Pregnancy in the deformed uterus. *Journal of Obstetrics and Gynaecology of the British Empire*, **64**, 243.
- HUNTER, W. (1960) Practical significance of uterine deformities during pregnancy and labour. *British Medical Journal*, **2**, 1124.
- JARCHO, J. (1946) Malformations of the uterus. *American Journal of Surgery*, **71**, 106.
- MACDONALD, C.R. (1960) Unusual forms of gynatresia. *Journal of Obstetrics and Gynaecology of the British Commonwealth*, **67**, 848.
- MARTINDALE, L. (1935) A case of uterus didelphys. *Lancet*, **i**, 1389.
- MASSON, J.C. & MUELLER, S.C. (1933) Surgical Clin. N.A. **13**, 857. Uterus duplex bicornis with septate vagina, open only on one side: report of case.
- MILLER, N.F. (1922) Clinical aspects of uterus didelphys. *American Journal of Obstetrics and Gynaecology*, **4**, 398.

- PURSLOW, C.E. (1922) A case of unilateral haematokolpos, haematometra and haematosalpinx. *Journal of Obstetrics and Gynaecology of the British Empire*, **29**, 643.
- QUENU, M. & LE SOURD, E. (1906) Des opérations conservatrices dans le traitement des utérus didelphes à corps indépendants. *Revue de chirurgie*, **33**, 1.
- ROUCHY, M.R. (1963) Hématocolpos unilatéral droit avec utérus double. *Bulletin de la Fédération des Sociétés de gynécologie et d'obstétrique de langue française*, **15**, 532.
- SECHER, E. (1954) Uterus didelphys, vagina duplex unilateralis atretica et aplasia renis ipsilateralis. *Nordisk Medicin*, **51**, 341.
- SEMMENS, J.P. (1956) Uterus didelphys and septate vagina. *Obstetrics and Gynaecology*, **8**, 620.
- SHUMACKER, H.B. (1938) Congenital anomalies of the genitalia associated with unilateral renal agenesis. *Archives of Surgery*, **37**, 586.
- SIMON, H.E. (1928) Haematometra. *Surgery, Gynaecology and Obstetrics*, **47**, 356.
- TAYLOR, H.C. (1943) Pregnancy and the double uterus. *American Journal of Obstetrics and Gynaecology*, **46**, 388.
- TURRETTINI, A. (1947) Hématocolpos et hématométrie par imperforation de l'hymen, grossesse ultérieure. *Revue médicale de la Suisse romande*, **67**, 316.
- WILSON, J.S.G. (1925) A case of double uterus and vagina with unilateral haematocolpos and haematometra. *Journal of Obstetrics and Gynaecology of the British Empire*, **32**, 127.
- ZABRISKIE, J.R. (1962) Pregnancy and the malformed uterus. *Western Journal of Surgery, Obstetrics and Gynaecology*, **70**, 293.