

4. Frossard PM, Coleman R, Funke H, Assmann G. Molecular genetics of the human apo AI-CIII-IV gene complex: Application to detection of susceptibility to atherosclerosis. In: Proceedings of the IV International Atherosclerosis Symposium (Munster, 1985) (in press).
5. Price WH, Morris SW, Kitchen AH. Allele frequency at five polymorphic DNA restriction enzyme sites of the apo AI-CIII-IV gene cluster and coronary heart disease in a Scottish population. *Clin Sci* 1987; 72 (suppl 16): 46 (abstr).

PREGNANCY RATES AFTER HIGH INTRAUTERINE INSEMINATION OF HUSBAND'S SPERMATOZOA OR GAMETE INTRAFALLOPIAN TRANSFER

SIR.—The intrauterine insemination of washed husband's spermatozoa (AIH) has been acclaimed as a successful form of therapy in the treatment of male infertility, with Kerin et al¹ describing a pregnancy rate of 20·5% (81/39 cycles). However, very disappointing results have been reported by Dr Thomas (Sept 20, p 693) and Dr Irvine (Oct 25, p 972) and colleagues, with no pregnancies in 30 and 63 cycles, respectively. In contrast, we have found AIH to be moderately effective, but believe that alternative therapeutic options such as gamete intrafallopian transfer (GIFT) may prove more rewarding.

231 couples were treated by AIH. The female partners were monitored daily from day 8 of the menstrual cycle by the measurement of serum oestradiol, progesterone, and luteinising hormone (LH) by radioimmunoassay, and by ovarian ultrasonography. Ovarian stimulation using clomiphene citrate and/or human menopausal gonadotropin was applied in cases where disordered ovulatory cycles were diagnosed.² Ovulation was triggered by 10 000 IU human chorionic gonadotropin or the occurrence of an endogenous LH surge. Intrauterine insemination of washed spermatozoa³ was then done on 3 consecutive days after the ovulatory trigger, with 0·5 ml of the sperm suspension being inseminated, with a 38 cm FG5 polyvinyl chloride catheter (AHS, Australia).

GIFT⁴ was done in 93 couples. A maximum of four oocytes were transferred into the fallopian tubes, and 100 000 motile spermatozoa were transferred per tube, except for the oligospermic cases, in which more spermatozoa were used.⁵

Pregnancies in all women were diagnosed 16–19 days after the ovulatory trigger by a rising concentration of β-hCG in the serum, and confirmed about 7 to 8 weeks after the last menstrual period by ultrasound.

PREGNANCY RATES AFTER AIH AND GIFT

Cause of infertility	Pregnancy rate (pregnancies/cycles) after:	
	AIH	GIFT
Oligospermia	5/66 (8%)	6/21 (29%)
Asthenospermia	0/22	..
Negative post-coital test	20/155 (13%)	18/58 (31%)
Unexplained	15/183 (8%)	7/25 (28%)
Total	40/426 (9%)	31/104 (30%)

The results show that similar pregnancy rates can be achieved following AIH in oligospermic (less than 12×10^6 motile spermatozoa/ml semen)³ cases, or those couples with a negative post-coital test (no motile spermatozoa per high-power field)⁶ or unexplained infertility. However, those couples in which the man had reduced activity of the spermatozoa (asthenospermia) did not achieve any pregnancies, which suggests that AIH is not an appropriate treatment for such cases.

Pregnancy rates in couples after GIFT were significantly higher than for their counterparts receiving AIH. GIFT had to be modified for the oligospermic cases.⁵ No couples in which the husband has asthenospermia have so far been treated with GIFT. Such cases are felt to require the confirmation of fertilisation in vitro, and are therefore treated by PROST (pronuclear stage transfer),⁵ whereby the pronuclear stage oocytes are transferred back into the fallopian tubes.

Our results suggest that AIH does have a part to play in the treatment of infertility with certain underlying disorders. Notwithstanding the increased chance of pregnancy following

GIFT, the relatively non-invasive nature of AIH makes it preferable for some couples. In these cases, we have found AIH to be a useful first-line therapy before considering procedures such as GIFT which involve surgery.

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- Kerin JFP, Peek J, Warnes GM, Kirby C, Jeffrey R, Matthews CD, Cox LW. Improved conception rate after intrauterine insemination of washed spermatozoa from men with poor quality semen. *Lancet* 1984; i: 533–5.
- Yovich JL, Tuvik AI, Matson PL, Willcox DL. Ovarian stimulation for disordered ovulatory cycles. *Asia-Oceania J Obstet Gynaecol* (in press).
- Yovich JL, Stanger JD. The limitations of in vitro fertilisation from males with severe oligospermia and abnormal sperm morphology. *JIVFET* 1984; 1: 172–79.
- Molloy D, Speirs AL, dePlessis Y, Gellert S, Bourne H, Johnston WIH. The establishment of a successful programme of gamete intra-fallopian transfer (GIFT): Preliminary results. *Aust NZ J Obstet Gynaecol* 1986; 26: 206–09.
- Blackledge DG, Matson ML, Willcox DL, et al. Pronuclear stage transfer and modified gamete intrafallopian transfer techniques for oligospermic cases. *Med J Aust* 1986, 145: 173–74.
- Matson PL, Tuvik AI, O'Halloran F, Yovich JL. The value of the postcoital test in predicting the fertilisation of human oocytes. *JIVFET* 1986; 3: 110–13.

OBSTETRIC HYSTERECTOMY

SIR.—Your Oct 25 editorial comments on Thonet's paper on obstetric hysterectomy.¹ The suggestion that this procedure should be done more frequently, as an elective procedure, is valuable—but there is a vast difference between an elective hysterectomy and the emergency operation, as the following two cases show.

A 34-year-old woman had a little uterine bleeding at the 20th week of her third pregnancy. Her first delivery had been normal but the second pregnancy had been complicated by antepartum haemorrhage and secondary post-partum haemorrhage that required blood transfusion and uterine evacuation. Normal delivery of her third baby (4200 g) was followed by massive haemorrhage. The placenta was retained and part was adherent. Management was urgent and complex, the situation being rendered desperate by failure of the blood to clot. Hysterectomy with removal of both ovaries was done by the consultant obstetrician, followed by reopening of the abdomen 5 hours later for continued intra-abdominal haemorrhage: a hot vaginal pack was inserted to stem vault haemorrhage. I noted that at one point 33 units of blood, 12 units of cryoprecipitate, 25 units of fresh frozen plasma, 3 units of fibrinogen, and 24 units of platelets had been transfused. Later, because of acute renal failure, she was cared for in the intensive care unit and haemodialysed (Dr M. Jackson). A total of 52 units of blood was given. Urinary incontinence was due to a vesicovaginal fistula which was successfully repaired, and the remains of the cervix were removed. Later a wound sinus, due to a nylon knot, was excised. She was finally discharged 25 months after her delivery. The clinical diagnosis of placenta accreta was confirmed by two consultant pathologists (Dr K. Scott and Dr S. Hill).

A fit 35-year-old woman, who had had two normal deliveries and three miscarriages, requested sterilisation after her third delivery. She was admitted with significant ante-partum haemorrhage due to placenta praevia, confirmed by ultrasonic scanning which also demonstrated numerous fibroids. After a second haemorrhage a planned caesarean section was done by a consultant obstetrician and a live baby (2940 g) was delivered. The placenta was anterior and praevia, but not adherent. There was brisk bleeding from the uterine incision which had extended toward the left uterine vessels. The uterus was riddled with small fibroids and a total hysterectomy was done. 4 units of blood were transfused and the postoperative haemoglobin was 14·5 g/dl. Apart from a mild urinary-tract infection the patient made an uneventful recovery, going home on the 11th day.

It is in the emergency hysterectomy, which should be done by a consultant obstetrician, that the help of consultant colleagues is invaluable—a consultant obstetric anaesthetist to treat the haemorrhagic shock and a consultant haematologist present in the theatre to advise about treatment with blood constituents and arrange for blood to be available in vast quantities. An intensive care