



Letters

Postcoital testing

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Criterion for positive test was not given

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EDITOR—In their report on postcoital testing Oei et al applied inappropriate trial methods to the use of a diagnostic rather than a therapeutic procedure.¹ Their interpretation was consequently misleading and further invalidated by biased selectivity. A diagnostic procedure cannot alter outcome, except by influencing the choice of treatment specific to a diagnosis. Numerous treatments were applied non-specifically and inconsistently, invalidating study outcome. Intrauterine insemination was incorrectly described as specific for negative postcoital findings but is used equally, like in vitro fertilisation, in couples who tested positive, although success rates differ.

The only significant finding was that the sum frequency of more than five different treatments used was slightly greater in tested couples than in those not tested (54% versus 41%). Invasive investigations (hysterosalpingography, laparoscopy) were, however, apparently used less frequently in the tested group. Pregnancy rates were not significantly different between couples with negative and positive tests, but no account was taken of possible effects of the treatment, or (in that part of the analysis) of the likelihood that couples who conceived too soon to be tested would have had a positive test result.

Oei et al did not mention their criterion for a positive test although there is 10-fold variation in use between centres, based on arbitrary choice. Several reports use the properly derived criterion of one progressively motile spermatozoon per high power microscope field, and properly controlled outcome (pregnancy rate) studies, and they describe the distinguishing power of postcoital testing, but none were mentioned by Oei et al. These include studies of natural conception rates without treatment in

otherwise unexplained infertility.² ⁴ Furthermore, the predictive power of postcoital testing has been shown to override that of semen analysis, ³ ⁴ which is consistently a weak predictor of fertility except when sperm numbers are severely depleted. In vitro testing of interaction between sperm and mucus has also been shown repeatedly to be prognostic for natural conception and to correlate with in vitro fertilising ability of spermatozoa for assisted conception. **23**

Duration of infertility is an important prognostic factor affecting the chance of natural conception, particularly in unexplained infertility.⁵ Prolonged duration reduces the prognostic optimism after a positive postcoital test (unpublished data). Therefore, the test is of predictive value for natural conception mainly in couples with less than three years' duration of otherwise unexplained infertility, although it remains predictive for fertilisation in vitro and therefore for choice of assisted conception method, even after prolonged infertility.

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Male partner should be assessed

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EDITOR—In their article on the effectiveness of the postcoital test¹ Oei et al failed to mention the work of Kremer et al, which showed that the most common cause of unexplained poor results of postcoital testing is autoantibodies to spermatozoa in the male partner, which prevent sperm penetration of cervical mucus.² This affects the function of the spermatozoa not only in the partner's cervical mucus but also in any woman's mucus, as can be shown by crossed hostility testing.³

Failure to test for such antibodies—for example, by routine mixed antiglobulin reaction testing⁴ of the male partner's spermatozoa⁵ will leave observers just as confused about “cervical hostility” as they were over 20 years ago. To do postcoital tests without understanding the implications of the result and then apply artificial insemination (a treatment that does not work well for this condition) is unlikely to achieve significance. Successful treatment is available for autoimmunity to spermatozoa in men, as shown by a double blind prospective controlled trial.⁵ The study by Oei et al failed to assess the male partner adequately. This places undue reliance on assisted reproductive techniques rather than critical evaluation of what is wrong with the couple concerned—all very well for those who can afford it, but not very helpful for those who cannot.

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Postcoital test should be performed as routine infertility test

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EDITOR—Oei et al concluded that the use of the postcoital test is no longer defensible as no effective fertility treatment exists; the test's diagnostic and prognostic performance is poor; it creates a need for additional diagnostic tests and treatments; and it does not lead to improved pregnancy rates.¹ The guidelines of evidence based medicine were not adhered to. Oei et al did not include all randomised trials or discuss the large clinical heterogeneity among these.

We retrieved five randomised trials investigating the efficacy of intrauterine insemination in case of an abnormal postcoital test. The table shows that intrauterine insemination is effective (common odds ratio 2.6; 95% confidence interval 1.5 to 4.4). Two trials, however, used different materials and methods.

23 Exclusion of these results in an even higher common odds ratio of 4.0 (2.1 to 7.4). The table shows that the number of couples participating in Oei et al's trial is too small to conclude that intrauterine insemination is ineffective. Therefore, to state that there is no proved effective treatment after negative test results is not only incorrect but also leads to the impression that Oei et al were prejudiced against postcoital testing. The claim of poor prognostic performance therefore also breaks down, because the comparable percentages of 38% versus 34% are given under the assumption that intrauterine insemination is ineffective.

	Intrauterine insemination		Coitus		Odds ratio	95% CI
	Pregnancies (n=51)	Cycles (n=541)	Pregnancies (n=16)	Cycles		
Reference						
Glazener et al ²	1	136 [*]	2	164	0.61	0.06 to 6.0
Friedman et al ³	7	113	7	113	1.00	0.3 to 2.9
te Velde ER, van Kooy RJ, Waterreus JJ. Intrauterine insemination of washed husband's spermatozoa: a controlled study. Fertil Steril 1989;51:182-5.	13	82	0	61	6.72	2.1 to 21
Kirby CA, Flaherty SP, Godfrey BM, Warnes GM, Matthews CD. A prospective trial of intrauterine insemination of motile spermatozoa versus timed intercourse. Fertil Steril 1991;56:102-7.	7	58	4	52	1.62	0.5 to 5.6
Check JH, Spirito P. Higher pregnancy rates following						

treatment of cervical factor with intrauterine insemination without superovulation versus intercourse: the importance of a well-timed postcoital test for infertility. Arch Androl 1995;35:71-7.	17	80	3	76	4.66	1.8 to 11
Common odds ratio					2.6	1.5 to 4.4

- * High intracervical insemination with unprepared semen.
- Intrauterine insemination v intracervical insemination (instead of intercourse).

Numbers of participants having intrauterine insemination compared with timed intercourse for a negative postcoital test (all trials are statistically homogeneous (χ^2 9.22))

Oei et al concluded that the use of a postcoital test results in more tests. The control group, however, did not have a postcoital test as part of the study design. Distracting the postcoital test in the intervention group results in about the same number of investigations in both groups. Not performing a postcoital test resulted in a significantly higher number of invasive tests: hysterosalpingography and laparoscopy were performed 146 times in the intervention group versus 161 times in the control group ($\chi^2=5.1$; $P<0.05$).

We were surprised by the conclusion that performing a postcoital test results in more treatments. Why should a negative or positive postcoital test result in more in vitro fertilisation treatments or ovulation inductions? We would like Oei et al to present the results of the postcoital tests of the couples that finally received these treatments and the pregnancy rates differentiated for a negative or positive postcoital test. Otherwise, the postcoital test is one of the most important tests in predicting the probability of spontaneous conception that may lead to postponing of sometimes harmful treatment modalities.⁴ We strongly believe that the postcoital test should be performed as a routine infertility test.

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Authors' reply

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EDITOR—Hull and Evers' assertion that diagnostic procedures by themselves cannot alter outcome in infertility is contradicted by mortality associated with procedures such as laparoscopy and hysterosalpingography. We agree, however, that intrauterine insemination is not a specific treatment if postcoital findings are negative, as there is no specific treatment in such circumstances. A specific diagnosis cannot be made either; Hull and Evers believe that the same test results should be interpreted differently according to duration of infertility. The inverse relationship between the prognostic optimism of a normal test and the duration of infertility may suggest that the test performs best in people without infertility. In those with infertility, it performs poorly as both systematic reviews of its test properties [12](#) and our trial have shown. When reviews of test properties concur with a randomised trial, people still need to choose whether evidence, tradition, or opinion should govern their practice. We may well differ from Hull and Evers in our choice.

Cohlen et al seem to advocate intrauterine insemination as a specific treatment for negative postcoital tests, but we do not share their perception of evidence based medicine. When comparing intrauterine insemination with coitus, it does not make sense to tabulate endocervical insemination as equivalent to intrauterine insemination for one trial and equivalent to coitus for another. We also have concerns about the quality of some studies in Cohlen et al's table, and their inclusion and exclusion criteria. In a previous compilation of "five randomised trials," [3](#) Cohlen et al found an odds ratio of 3.57 instead of the 2.6 reported here, but the studies were not exactly the same as those incorporated here. The reasons for the discrepancy are not apparent, but they are strangely at odds with the accusation that we neglected the guidelines of evidence based medicine by not including all randomised trials.

Cohlen et al may be right that some tests were done more frequently in our control than in our postcoital test group, but frequency of individual tests was not a prior hypothesis. The calculated statistical difference therefore generates rather than answers hypotheses. The request for a compilation of small patient groups, broken down by treatment, by positive or negative test and by achieving pregnancy or not, is even further at odds with evidence based medicine. The answer to a randomised controlled trial that does not confirm one's beliefs is not the conduct of several subanalyses until one can see what one believes. Rather, the answer is to re-examine one's beliefs carefully.

Hendry refers to autoantibodies against spermatozoa as the most common cause of negative postcoital

tests. We know of only one study that linked sperm antibodies to postcoital tests; no relation was found.⁴ Others have argued that the link between sperm antibodies and impaired conception is hypothetical.⁵ Our trial found near identical conception rates in women with normal and abnormal postcoital findings.

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