

## POST COITAL TEST IN CYCLES OF SPONTANEOUS CONCEPTION

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### SUMMARY

21 PCT done in cycles in which spontaneous conceptions followed in couples for infertility work up were compared with 25 PCT done in cases with known cervical factor causing infertility. It was found that in cycles of spontaneous conception, density of sperms with forward progressive vigorous motility in cervical mucus was significantly higher. Also the cervical mucus scores in such cycles were much better than those having cervical factor causing infertility.

### INTRODUCTION

Post coital test (PCT) is a popular and widely used screening method in the evaluation of an infertile couple. Jetts and Glass (1972) argued for its utility in such an evaluation whereas Ginger et al (1974) doubted the same. Still, it continues to be used extensively. Only a few studies (Southam & Buxton 1956, Barnea & McInnes Robert 1988) have studied the results of PCT done in the cycle when conception actually occurred.

In the present study such a documentation has been done and the findings of PCT in such cycles have been compared with those of women who were suspected of having cervical factor producing infertility.

### MATERIAL & METHODS

This study was carried out in unit III of the dept. of Obst. & Gynec., Medical College and S.S.G. Hospital, Baroda. Originally this study was not designed for such a comparison. But when a review of the results of PCT done in the unit for last 10 years was taken up, it was found

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*Accepted for Publication 11.1.96*

that some of these were actually done in cycles wherein the woman had spontaneously conceived. Results of these PCT were then compared with those of known cervical factor causing infertility, with an aim to identify if there were any distinct characteristics of such a PCT or cervical mucus, when conception occurs.

These couples were subjected to a careful history taking and a detailed examination while commencing the infertility work up. Routine investigations of blood and urine were done. Semen analysis of the husband was carried out and whenever indicated endoscopic study of the female was done only after this we do PCT. This was done in the periovulatory period within 6 to 8 hours after intercourse. In last 5-6 yrs. we are doing extended PCT in our unit, wherein PCT is performed about 12 hrs. after intercourse. However, cases of extended PCT are not included in this study.

Cervical mucus is aspirated with a 1 cc disposable syringe from the cervical canal and besides observations for PCT

- spinnbarkeit, ferning and mucus quantity were also documented.

This was scored as :

|                  |   |     |
|------------------|---|-----|
| Amount Nil       | : | 0   |
| Scanty           | : | 1   |
| Moderate         | : | 2   |
| Profuse          | : | 3   |
| Spinnbarkeit Nil | : | 0   |
| 1 - 4 cms        | : | 1   |
| 5 - 8 cms        | : | 2   |
| 8 cms            | : | 3   |
| Ferning Absent   | : | - 0 |
| Primary          | : | 1   |
| Secondary        | : | 2   |

Three high power fields under the light microscope were randomly selected for presence of forward progressive sperms. Only those sperms with motility of 3 as per WHO criteria (Vigorous, forward, purposeful motility) were considered as motile and counted.

### RESULTS

There were 21 PCTs done in cycles when spontaneous conception occurred.

TABLE I  
PCT IN TWO GROUPS

| Forward progressive sperms (number) HPF | Spont. conception group |       | Cervical Factor group |      |
|---|-------------------------|-------|-----------------------|------|
|   | No.                     | %     | NO.                   | %    |
| 0-5                                     | 01                      | 4.76  | 08                    | 32.0 |
| 6-10                                    | 02                      | 9.53  | 12                    | 48.0 |
| 11-20                                   | 10                      | 47.61 | 04                    | 16.0 |
| >20                                     | 08                      | 38.09 | 01                    | 4.0  |
| Total                                   | 21                      |       | 25                    |      |

P<0.001

These were compared with PCTs done in 25 cases of cervical factor producing infertility.

As shown in Table I in cycles when spontaneous conception occurred there was a significantly higher density of progressively motile sperms than in those cases who had a known cervical factor producing infertility.

the mucus in periovulatory period. About 14% PCTs showed a poor sperm density and still a conception occurred in that very cycle. Verghese S. et al (1985) explained this by a possibility of quick migration of sperms through the cervical mucus and invasion of crypts.

TABLE II  
CERVICAL MUCUS SCORE IN TWO GROUPS

| Score | Spont. conception Group |       | Cervical Factor Group |      |
|-------|-------------------------|-------|-----------------------|------|
|       | No.                     | %     | No.                   | %    |
| 0-3   | 02                      | 9.53  | 10                    | 40.0 |
| 4-6   | 06                      | 28.59 | 09                    | 36.0 |
| 7-9   | 13                      | 61.88 | 06                    | 24.0 |
| Total | 21                      |       | 25                    |      |

P<0.001

As shown in Table II high scores of 7 to 9 on cervical mucus study were distinctly commoner at the time of doing PCT in women who spontaneously conceived in that cycle. This difference was also statistically significant.

#### DISCUSSION

Besides stressing the utility of PCT in evaluation of an infertile couple, this study also stresses the necessity of having a good cervical mucus score alongwith a good density of forwardly progressive vigorously motile sperms in

Asch (1978) recovered sperms from peritoneal cavity of women with negative PCT. This could also be possibly explained by the above explanation. However we do not wish to hint at the fact that all attempts should be made to improve the PCT and cervical mucus for achieving a conception. All we wish to inform is that a good PCT and cervical mucus score indicates a harmonious physiology acting in the couple and therefore chances of conception are high. However just improving cervical

mucus or PCT may be patchy attempts which may fail as the basic cause may not have been corrected. Thus these tests could be helpful in screening and at the most predicting a good outcome.

#### ACKNOWLEDGEMENT

The authors are thankful to The Dean, Medical College, Baroda and The Superintendent, SSG Hospital, Baroda for their permission to conduct this study and publish the data.

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