Finding of the Spermatozoa in the Vagina
Related to Elapsed Time of Coitus*

Vithoon Eungprabhanth

Department of Forensic Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University
Bangkok (Thailand)

Received December 15, 1973

Summary. This paper consists of two parts.

Part I. By examination of records of the rape cases in our department during the year 1971--1972, the maximal morphological survival time of the spermatozoa in the vagina of the victims lated to 6 days post coitum.

Part II. Examination of the vaginal smears from women who attended Family Planning Clinic revealed that within 5 days post coitum the daily reduction of the percentage of sperm positive specimen is nearly regular. By means of a graphical diagram, we can assume that the maximal morphological survival time of the spermatozoa in the vagina of a living woman is up to 7 days post coitum.

Zusammenfassung. Die Arbeit besteht aus zwei Teilen.


Key words: Spermatozoa, finding in the vagina — Post coital elapsed time.

Introduction

Morphological survival time of the spermatozoa in the vagina is a subject to varying disagreements. Berg [1] stated that there are as a rule no spermatozoa present in the vagina of a living woman 20 hrs post coitum and after 24 hrs one could at best find only a few isolated spermatozoa. As mentioned in a famous English Text book [2] an elapsed time for finding of non-motile spermatozoa in the vagina is indicated as long as 17 days. This seemed unusual in the living woman but the spermatozoa could be demonstrated in vaginal smear from a dead woman 17 days post mortally [3]. In the living, finding of the spermatozoa in the vagina of the rape’s victim limited within 20 hrs post coitum was reported [3]. Bornstein [4] suggested 24 hrs as maximal survival time for the spermatozoa deposited in the vaginal vault. Ponsold [5] stated that in the living woman finding of the spermatozoa in the vagina can be lated 35—42 hrs post coitum. Voigt [6] reviewing the

subject mentioned that motile sperms were observed up to 3 to 4 hrs and immotile sperms up to 66 hrs after coitus.

This paper attempts to determine how long the spermatozoa can be demonstrated from the vagina of the living woman post coitum.

**Material and Method**

*Part I. Observation from the Rape's Victim*

During the year 1971—1972, 174 alleged rape's victims were examined in our department. The spermatozoa from vaginal smear could be demonstrated in 55 cases. All smears were stained with haematoxyline and eosine following Pollak [7]. At the same time vaginal swabs were tested for acid phosphatase reaction using reagents and technique mentioned in Gradwohl's Legal medicine [8]. Grading of the reactions are as following:

- **strongly positive** = the colour appeared within 1 min,
- **moderately positive** = the colour appeared within 3 min,
- **weakly positive** = the colour appeared after 3 min,
- **negative** = no definite colour within 10 min.

For bloody specimen we applied tube method for this test [9]. Elapsed time of sexual intercourse were studied from historical review.

*Part II. Examination of Vaginal Smears from Women who Attend Family Planning Clinic*

200 vaginal smears from the posterior fornix of the women who attend Family Planning Clinic were collected and stained with H. and E. The method of contraceptives among them is oral contraceptives or intra uterine device but not the condom used by the male partner. History of exact time of the last sexual intercourse was taken and recorded. All smears were examined under the microscope. Finding of at least one complete spermatozoon or two typical sperm heads is a criteria for spermatozoa positive. The number of positive smear related to the elapsed time of sexual intercourse was analysed.

**Results and Discussion**

The following conclusions can be drawn:

**Table 1. Sperm finding comparing with acid phosphatase reaction**

<table>
<thead>
<tr>
<th>Elapsed time</th>
<th>No.</th>
<th>Sperm finding</th>
<th>Acid phosphatase reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>massive</td>
<td>isolated</td>
</tr>
<tr>
<td>Within 24 hrs</td>
<td>40</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>32 hrs</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>36 hrs</td>
<td>1</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>40 hrs</td>
<td>2</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>48 hrs</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>62 hrs</td>
<td>2</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>3 days</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>6 days</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>Indefinite</td>
<td>6</td>
<td>—</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>17</td>
<td>38</td>
</tr>
</tbody>
</table>

* Bloody specimens, after centrifugation the supernatant fluid was removed and acid phosphatase reaction was performed by tube method.