

LETTER TO THE EDITOR

pH OF SEMEN IN NORMAL AND ABNORMAL EJACULATES

Sir,

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The motility and viability of spermatozoa is known to be affected by changes in the hydrogen ion concentration of surrounding media. Studies with animal semen (bulls and rams) have shown that increased seminal pH is associated with absence of or low density of sperm and often accompanies with low fertility (1). Similarly the motility and fertility of animal (rams and rabbit) spermatozoa is affected in vitro by changes in the pH of incubating media (2,3). Usual laboratory methods of semen analysis describe the reaction of semen as either acidic or alkaline. Further no study has so far been conducted on pH and seminogram characteristics except that of Raboch and Skachova (4), who studied pH in patients with known genital tract and chromosomal pathologies without any consideration to other features of seminogram viz sperm motility and morphology. In the present study we have attempted to find the relationship between seminal fluid pH and seminogram abnormalities.

Semen samples obtained from male subjects attending the Infertility clinic were analysed immediately after liquefaction for sperm count, motility and morphology by the method described by Sherins (5). Ejaculates were classified into *Normospermic*: sperm count $> 20 \times 10^6/\text{ml}$, grade of motility +++ and above and atleast 60% normal spermatozoa (n = 60), *Oligospermic*: sperm count $< 20 \times 10^6/\text{ml}$. Sperm motility +++ and above and atleast 60% normal spermatozoa (n = 20); *Asthenospermic* : sperm count $> 20 \times 10^6/\text{ml}$. sperm motility ++ or less and normal sperm morphology in 60% or more cell (n = 20); *Oligoasthenospermic*: sperm count $< 20 \times 10^6/\text{ml}$. sperm motility ++ or less, normal sperm morphology in 60% or more cells. (n = 25); and *Azoospermic*: Absence of

spermatozoa in the semen (n = 25). pH of semen was measured immediately after complete liquefaction of semen (i.e. within 15 minutes) using digital pH meter.

The pH of whole ejaculate is stated to be in the range of 7.05 to 7.50 or 7.20 to 7.80 (6).

The mean pH values of seminal fluid of normospermic and azoospermic men observed in the present study (7.49 ± 0.17 and 7.45 ± 0.18 respectively) are similar to those noted by Raboch and Skachova (4). Unlike in animal species, we failed to observe a significant negative relationship between seminal fluid pH and sperm density and motility. The mean pH of seminal fluid in all the groups was found in the range of 7.45 to 7.55. Absence or reduced number of spermatozoa in azoospermic and oligospermic ejaculate respectively was not associated with abnormally high or low pH. Similarly impaired motility of spermatozoa in asthenospermic and oligoasthenospermic ejaculate was not associated with abnormally high or low pH of ejaculate. Insignificant variations in seminal fluid pH of different groups ($p > 0.5$) indicate that seminogram abnormalities are not related with pH of semen.

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