Histological and histochemical study of the effect of prostatic and seminal vesicle secretions on spermatozoa

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Semiiial plasma plays an important role in the process of reproduction other thanas the vehicle for the transport of spermatozoa. In spite of this, the chemical 7.echanisms by which the components of seminal plasma regulate the functional properties cf human spermatozoa remain unresolved.This study was performed on spermatozoa in whole washed and non-washed e:aculates and in fractions of split ejaculates, in fresh specimens and after periods of 17.cubation in the hope that it may throw some light on these mechanisms. Effects of calcium and ascorbic acid on sperms were also studied. All specimens were examined histochemically for -adenosine triphosphatase, lactate dehydrogenase, succinic clthydrogenase, non specific esterase, PAS reaction and Sudan black B. One hundred sperrns were evaluated for each staining reaction in every specimen. The number of sperms with different grades of reaction was determined. Semen examination was done macroscopically and microscopically for sperm count, motility and morphology. Biochemical analysis for zinc and fructose (as markers of the prostatic and seminal vesiclesecretions respectively) was also done.The results of the present study showed new aspects of the seminal plasma support to spermatozoa such as -improved ATP hydrolysis, glycolysis, tricarboxylic acid cycle (Krebs cycle) and non specific esterase activity and preservation of the lipid component ofsperms and structural gLycoproteins.The first half of the split ejaculates consisting mainly of prostatic secretions showed higher adenosine triphosphatase, lactate dehydrogenase, succinic dehydrogenase and non-specific esterase activities than those in the corres.ponding whole non-washed