Nuclear chromatin decondensation of spermatozoa in vitro: a method for evaluating the fertilizing ability of ovine semen

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Spermatozoa obtained from testes, epididimydes and complete ejaculates of healthy rams during the breeding and non?breeding seasons were induced to show nuclear chromatin decondensation by controlled exposure to dithiotreitol (DTT) and sodium dodecyl sulphate (SDS) in vitro. A gradual resistance to decondensation was shown by sperm during epididymal transit, confirming a progressive increase in the prevalence of chromatinic disulphide bonds during sperm maturation in this species. A high % of stable (non?decondensed) sperm nuclei after treatment (79%) was found in semen from rams with normal fertility (64% non?return rate at first oestrus). Opposite changes were found in the semen from rams having low fertility rates (37%), as these showed only 31% of stable sperm nuclei. There were no differences in the spermiograms of these two groups. When semen from the same rams was tested during the non?breeding season, a similar relationship was found, although in both groups there was a higher