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A Iannuzzi, C Di Dio, V Genualdo, A Perucatti, A Caputi-Janbrenghi, F Giannico , MA Colonna, A Pauciullo, P Parma, L Iannuzzi. Sperm FISH analysis of meiotic segregation in a river buffalo bull carrier of t(1p;18). Chromosome Research (2016) 24: S6-S7

DOI: 10.1007/s10577-016-9532-x

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Animals carrying translocations may present alterations in the meiotic process due to the presence of the translocated chromosomes. Several chromosomal abnormalities have been reported to date in river buffalo, analysing only the somatic cells, with no evidence about both the fertility and information about germ cells affected by the aberration. The aim of this work was to study, for the first time, animal fertility by meiotic segregation patterns in a river buffalo bull, carrier of de novo translocation t (1p;18). A triple-colour fluorescent in situ hybridization (FISH) in sperms was performed on chromosomes involved in the translocation (BBU1 and BBU18) using three different pools of specific bovine BAC probes mapping in BBU1q, BBU1p and BBU18 (homologous to BTA1, BTA27 and BTA18, respectively). At the moment, the meiotic segregation pattern was examined in 2500 sperms of the carrier and 2500 sperms of another river buffalo bull, used as control. Of all the gametes analyzed, the frequencies of normal and chromosomally balanced sperms (alternate group) were 25.63 % and 11.11 % respectively (total of 36.74 %) in the carrier; while in the control were 97.16 % and 0.69 % (total of 97.85 %), respectively. The frequencies of each sperm product resulting from adjacent I, adjacent II and 3:1 segregation were 18.2 %, 1.5%and 36%in the carrier, respectively; while in the control were 0.4 % in adjacent I and 1.6 % in 3:1 segregation. These data have shown a significant difference between a bull carrier the translocation and the normal bull, suggesting the importance of this analysis to evaluate the fertility in reproducers. In conclusion, Sperm Fish analysis has given useful data about the incidence of chromosomally balanced, unbalanced and aneuploid gametes, but needs to be completed by the study of other kinds of chromosomal rearrangements on both total and living sperms to improve our knowledge about the effects of chromosomal aberrations on germ cells.