The Microdeletion of RBM and DAZ Genes in Male Partner of Infertile Couple in Population with Inbreeding

Abstrak:

The existing phenotypic variation depends on various sites of deletion, the extent of deletion, ethnicity, geographical location, and population typology. RBM (RNA Binding Motive) and DAZ (Deleted in Azoospermia) are genes located at chromosome Y (Yq11). The deletion of these genes is related to subnormal spermatogenesis. This study was carried out to male partner of infertile couple who underwent inbreeding in a closed population that lived in a hilly area 40 meters above sea level. This study observed dynamic population, the prevalence of infertility, determination of RBM and DAZ genes deletion in male partner of infertile couple, the nucleotide sequence of both genes, the detection of urinary Chlamydia trachomatis using PCR, and blood FSH, LH, and testosterone levels. The objective of the study was to find out the prevalence of RBM and DAZ genes in male partner of infertile couple in population with inbreeding and to identify possibility of infertility due to factors other than deletion, such as Chlamydia trachomatis infection at reproductive tract and hormonal factors, i.e., FSH, LH and testosterone. The result showed that the prevalence of infertility among population was 19%, the prevalence of RBM and DAZ genes deletion was 50% of male infertile couples, and the prevalence of deletion of only one, RBM or DAZ, or both RBM and DAZ, was 65%. The factors of Chlamydia trachomatis infection and hormones of FSH, LH, and testosterone showed no significant effect as the cause of infertility. The rate of the prevalence of both genes deletion was relatively high compared to that found in similar studies on the population without inbreeding, although the subjects, the azoospermic group (18%), had been accurately selected. Less developed and relatively small number of population (309), closed type (inbreeding), lower fertility rate, and the birth of male infants in larger number became adverse factors from the aspect of population growth. The deletion of RBM and DAZ genes inherited in male spring, inbreeding, and closed population may increase the ratio of deletion prevalence, so that the male infertility also increase. In conclusion, the prevalence of RBM and DAZ genes deletion is relatively high in male partner of infertile couple who undergoes inbreeding.

Keyword:

Daftar Pustaka: