

Discussion

PCR –based STS analysis of 25 azoospermic men revealed microdeletions on the Y chromosome in 6 individuals (Figure 1,2,3 and Table 2) accounting for 24% of the total azoospermic men analyzed . Other studies revealed that the Y chromosome microdeletions were responsible for 7% to 13% of the infertile men (^{11, 20}).

Fifty five and half percentage(55.5%) of the Y chromosome deletions detected in this study were in the AZFc region, 22.2% of them with only AZFc deletion and 33.3% associated with AZFa deletion (Table-2). This indicates that gene making the AZFc region is extremely fragile comparing with other AZF regions and among the three AZF regions, deletion of AZFc has been found to be the most frequent abnormality followed by AZFa and then with AZFb. This is in agreement with the other studies showing that the incidence of deletion in the AZFc region was high compared with the AZFa and AZFb regions (^{8, 21, 22}).

Whether the AZF deletion detected in this work associated with specific factors caused azoospermia or other types of infertility is not clear yet. However, many other studies have been found that each AZF deletion has a different phenotypic effect. Kamp et al, 2001 (²³) found that AZFa is associated with sertoli cell-only syndrome type 1 (SCOS) phenotype. Also deletions in the AZFb region have been found to be associated with azoospermia, oligospermia and normozoospermia. While deletion of the AZFc region has been found to be associated with azoospermia and sever to mild oligospermia (²⁴).

It has been found in many cases that similar deletion of AZFc region causes quantitative loss in spermatogenesis (²⁵). However,

genotype-phenotype correlation has not been fully understood.

This high percentage of the AZF deletions accounted in our study for (24.4%) of cases suggesting that it is possible that AZFc is predominant in Iraq azoospermia. However, we believe that the etiology of male infertility may differ between ethnic populations. The deletions of AZF regions in azoospermic are not always detected. Martinez et al, 2000 (²¹) have analyzed 128 infertile men with SY84, SY85 and SY86 (AZFa) and found none of them had shown deletion. Dohle et al, 2002 (²⁶), also did not see any deletion in the AZFa region during their screening of 37 azoospermic individuals with 2 STS markers for each AZF regions.

In the light of the above, further studies using other AZFc markers and more azoospermic subjects need to be done.

Most of the STS-based studies on male infertility have been carried out with a few markers for each AZF region (⁴). Hence they failed to detect the Y chromosome deletion in many cases. Therefore, there is no collective opinion about the marker to be used for Y chromosome micro deletion analysis.

References

1. Hellani A, Al-Hassan S, Al-duraihim A, Coskun S. Y chromosome microdeletions: are they implicated in teratozoospermia?. Humm.Reprod. 2005; 20:3505-3509.
2. Lynch M, Cram DS, Reilly A, OBryan MK, Baker HWG, deKretsr DM, McLachlan RI. The Y chromosome gr/gr subdeletion is associated with male infertility. Mol.Hum.Reprod. 2005; 11:507-512.
3. Hopps CV, Mielnik A, Goldstein M, Palermo GD, Rosenwake Z, Schlegel PN. Detection of sperm in men with Y chromosome microdeletions of the AZFa, AZFb and AZFc regions. Hum reprod. . 2003; 18:1660-1665.
4. Rao L, Bebu A, Kanakavalloi M, Singh A, Singh P, Deenadayal M, Singh L.