

## Y chromosome azoospermia factors (AZF) microdeletions in azoospermic men.

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### **Abstract**

**Background:** It becomes now evident that the abnormalities of chromosome Y especially the microdeletions role the major causes of infertility and a number of studies linked the region Yq11 which contain the AZF factors to azoospermia.

**Objectives:** The current study was aimed to detect chromosomal abnormalities and Y microdeletions (AZFs deletions) among a number of azoospermic men.

**Materials & methods:** Five ml from peripheral blood was collected from 25 azoospermic men and four controls (one female and three fertile men) and used for DNA, PCR analysis and cytogenetic examinations in order to detect any kind of microdeletion in the AZF regions.

**Results:** Six individuals which accounts 24% of the total azoospermic men have a microdeletion in the AZF regions. The cytogenetic analysis revealed morphologically normal Y chromosome in all examined samples.

**Conclusions:** The microdeletions of the AZF regions cause quantitative loss in spermatogenesis.

**Keywords:** Infertility, AZF a,b,c , Y chromosome

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### **Introduction**

During last few years, many Iraqi couples who are attempting pregnancy had a type of infertility. Although there is no official record about the true number of these couples. The number of men who attend the infertility clinics in Baghdad is increasing.

Men infertility can be classified into azoospermia, oligospermia, oligoastheno teratozoospermic and idiopathic and several factors behind each of them <sup>(1, 2)</sup>. Some of these factors are combined with some type of genetic abnormalities. Most of these abnormalities are associated with Y chromosome <sup>(3-5)</sup>.

It is now evident that the abnormalities of chromosome Y especially microdeletions role the major causes of infertility <sup>(6-8)</sup>.

The argument of the association of Y chromosome abnormalities with infertility was strengthened by a number of studies which link the infertility to a number of microdeletions detected in the region Yq11, the region which contains the azoospermic factors AZFa,b,c and other genes such as RBM1, RBM2 and DAZ which are involved in the complex process of spermatogenesis <sup>(9-11)</sup>.

AZFa, AZFb and AZFc have been identified as major cause of azoospermia leading to the disturbance of genes involved in spermatogenesis <sup>(8)</sup>. Several studies have demonstrated that microdeletion in AZF regions causes male infertility <sup>(12, 13)</sup>. Deletion of each AZF region has been found to have a different phenotypic effect <sup>(14, 15)</sup>. However, some of these deletions

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