CORRELATION OF SPERM DNA FRAGMENTATION INDEX AND SEMINAL DIAGNOSIS

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Introduction

The traditional semen analysis does not provide complete information on fertility potential, the integrity of the sperm DNA is another tests that is a useful parameter of semen quality. High sperm DNA fragmentation can affect fertility [1]. A semen sample with high fragmentation is a factor that can have important consequences on reproductive results[2]

Results

The study of 565 patients of 25 to 50 years and correlate the sperm DNA fragmentation index between the different seminal diagnoses according to the WHO reference values,2010. The patients were divided into eight groups: Asthenoteratozoospermia(AT): low mobility and abnormal morphology; Asthenozoospermia(A): low mobility; Normozoospermia(N): normality in all seminal parameters; Oligoasthenoteratozoospermia(OAT): low concentration, mobility and morphology; Oligoastenozoospermia(OA): low concentration and mobility, Oligoteratozoospermia(OT): low concentration and morphology; Oligozoospermia(O): low concentration and Teratozoospermia(T): abnormal morphology. For the analysis of the DNA structure, we use a kit based on the dispersion of the chromatin of the sperm[3].

It was found that the patients diagnosed with Oligoteratozoospermia(OT) and Asthenoteratozoospermia(AT), were those who presented the highest DNA fragmentation index, with respect to the rest of the groups. It is estimated that 15% of men with infertility problems present normal parameters in a seminal study, which could be due to sperm DNA fragmentation[4]. In this study, an increase in DNA fragmentation was found, which coincides with a decrease in sperm concentration and motility, as well as an abnormal morphology.

Conclusions

Oligoteratozoospermia (OT) and Asthenoteratozoospermia (AT) show a greater correlation with the increase in the DNA fragmentation index

References

1.Agarwal A,and cols.Clinical utility of sperm DNA fragmentation testing: practice recommendations based on clinical scenarios. Transl Androl Urol. 2016;5(6):935-950.
2.Calull Bagó and cols.Alteración de los parámetros seminales y su asociación con la fragmentación del ADN espermático. Ginecol Obstet Mex.2017;85(7):409-420.
3.Gongora A,and cols.Correlación del porcentaje de fragmentación de ADN espermático en el diagnóstico de infertilidad masculina. An Med (Mex). 2014;59(3):203-211.
4.Quintero and cols.Infertilidad masculina y fragmentación del ADN espermático: un problema actual. Revista Especializada en Ciencias Químico-Biológicas. 2015;18(2):144-151.

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