RESULTS OF 15 YEARS SEMEN ANALYSIS IN A TRAINING HOSPITAL ANDROLOGY LABORATORY

Gulnaz KERVANCIOGLU1, Ibrahim POLAT2, Seval KUL3, Gonca Yetkin YILDIRIM2, Ismet ALKIS2, Ali Ismet TEKIRDAG2

1 Gaziantep University Faculty of Medicine, Histology and Embriology Department, Gaziantep
2 Bakirkoy Obstetrics and Gynecology Training Hospital, Infertility Department, Istanbul
3 Gaziantep University, Institute of Medical Sciences, Medical Statistics Department, Gaziantep

SUMMARY

Background: Changes and definitions of the semen values of male partners of infertile couples referred by Infertility clinic to the andrology laboratory in 15 years period.

Materials and methods: Between January 1995 and July 2009, 9327 semen samples of 6780 male patients were analyzed at Bakırköy Maternal and Children’s Health Education and Research Hospital, Department of Infertility Andrology laboratory. Analysis made prior to 2000 were according to the World Health Organization (WHO) manual of 1992, while those made after 2000 WHO manual of 1999. Morphology was evaluated according to Kruger-strict criteria. All of semen analysis were performed by one doctor (MD Ph.D.) who has a certification of ART laboratory.

Results: Annual distribution of 9327 analyses: 293 in 1995, 492 in 2000, 715 in 2002, 1217 in 2007, 1122 in 2008, 634 in 2009. The percentage of normospermic samples reduced gradually from 1995 to 1999 after that it persisted in a stable line. It was noted that the percentage of oligoastenoteratozoospermic samples (OAT) was increased, despite a reduction in teratozoospermies in 2004, it steadily started to increase again in 2007, and the the percentage of azoospermic sample continued at the same level. Of 6780 patients 35% normospermic, 4% azospermic and 57% teratozoospermic distribution were noticed.

Conclusion: The number of semen analysis and the number of patients that were referred to andrology laboratory for semen analyses regularly increased every year. The explanation of this increase was associated with the change of the Social Security coverage rules (SGK). First reduction and than steady levels of normospermia and the increase of OAT and teratozoospermia, could be associated with intrauterine insemination which is increasingly performed in our unit and assisted reproductive techniques (ART).

Key words: andrology, infertility, spermogram

INTRODUCTION

Around the world about one sixth of couples are infertile. Male infertility is the cause of infertility in nearly half of the couples\(^1\). That is the reason why the semen analysis is the main investigation and follow-up tool in the infertile couples.

We analyzed the distribution of number of the semen analysis, the changing parameters and the difference of the repeated analysis depending on the etiology and also the cause of these results in male partners of infertile couples referred by infertility clinic.

MATERIAL AND METHODS

Between January 1995 and July 2009 (at 1997 only 3 months), 9327 semen samples of 6780 male patients were retrospectively analyzed at Bakırköy Maternal and Children's Health Education and Research Hospital, Department of Infertility Andrology Laboratory. Before the analysis, permission was taken from local ethic comity.

The male partner was instructed to abstain from ejaculation for 2 days prior to analysis. The specimen was produced by masturbation. Analysis made prior to 2000 were according to the World Health Organization (WHO) manual of 1992\(^2\), while those made after 2000 WHO manual of 1999\(^3\). Morphology was evaluated according to Kruger-Strict criteria\(^4\). The number of the repeated analysis was changed between 1 to 7 according to the referral to the laboratory. All of semen analysis were performed by one doctor (MD PhD) who has a certification of ART laboratory.

For statistical analysis as a categorical variables frequence and percent values were given. Graphics were done at Excel programme.

RESULTS

The age of the patients were between 16-59, and the mean age was 30.93. and the standart deviation was 5.34. Graph of annual distribution of 9327 semen analysis is seen at Graph 1.

According to the classification of semen analysis, number of annual distribution is shown at Table I.

The percentage of normospermic samples reduced gradually from 1995 to 1999 after that is persisted in a stable line. It was noted that the percentage of oligoasthenoteratospermic (OAT) sayisının giderek artiği, teratozoospermilerde 2004 yılında bir azalma olmasına karşın 2007 de tekrar artmaya başladı ve düzenli artiği, azoospermisin aynı düzeyde devam ettiği görüldü. 6780 hastada % 35 normosperm, % 4 azoosperm, % 57 teratozoosperm dağılımı dikkati çekti.


Anahtar kelimeler: androloji, infertility, spermiogram

The most repeated analysis was done for the OAT as %67. Asthenozoospermia was the second most repeated analysis with %50. The lowest repeated analysis was

Table 1: The numerical distribution of the analysis according to their diagnosis.

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<td>27</td>
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<td>11</td>
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<td>9</td>
<td>6</td>
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<td>OAT</td>
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<td>50</td>
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<td>70</td>
<td>82</td>
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<td>12</td>
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<tr>
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<td>22</td>
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<tr>
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<td>61</td>
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<tr>
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<td>11</td>
<td>66</td>
<td>81</td>
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<tr>
<td>Azo</td>
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<td>15</td>
<td>7</td>
<td>21</td>
<td>13</td>
<td>10</td>
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<td>18</td>
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Graph 2: % Distribution of the analysis according to their diagnosis.
asthenozoospermi with %5 and then oligozoospermi with %13 (Graph 4).

CONCLUSION

Annual number of semen analysis regularly increased every year except 1997 and 2009. In 1997 only one embryologist was working for 3 months and in 2009 only 6 months semen analysis could be done. The increase is seen especially after infertility unit has been active since 2002 (Graph 1). The increase of the number of the staffs and then the number of IUI were related to this increase. Social Security Rules were changed and gave the chance of 3 IUI Cycles so that the number of the patients and the number of the analysis were increased.

According to the 9327 analysis after 1995 normospermia was decreased and after 1999 it was steady (Graph 2). The number of OAT steadily increased, teratozoospermia decreased at 2004 and increased at 2007 and thereafter. The increase of OAT and teratozoospermia can be related to our being a reference hospital, pregnancy rates of our clinic by the help of our andrology laboratory and the need of IUI cycles before ART. Azoospermia was at the same level. The increase and then stable line of oligoteratozoospermia and asthenoteratozoospermia can be related to interaction of the other pathologic parameters.

The most repeated analysis was done for the OAT as %67 (Graph 4). For normospermic, oligospermic, asthenospermic patients mostly IUI is done and then total motile sperm count can be achieved. For OAT patients the treatment cycle can be changed according to the results so the frequent analysis is needed. In our country there are some published data about cytogenetic analysis (5,6), spermatozoon morphology (7) and semen parameters (8) of male infertility, but the prevalence and the incidence of semen parameters are few or absent. Our study is done about this topic and covers a huge number of patients so that it can be a good data for male infertility.

REFERENCES


