Relationship Between The Number of Sperm Quality and Testosterone Hormone Levels in
Tiara Sella Hospital Bengkulu

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Abstract — Indonesia has 12% or about 3 million infertile couples. Only half of that amount can be helped according to desire. 30% of these infertile partners are male as a cause in infertile couples. And there is a tendency for a meaningful increase. Almost every couple in the world wants a child, but unfortunately not every marriage is awarded a descent. There are 10-15% of couples experiencing infertility, the condition begins when a woman is unable to not become pregnant or pregnancy until childbirth, even though she has had regular sexual intercourse without using contraceptives for a year or more, the condition is usually called fertility or in the medical language referred to as infertile. This study aims to determine the relationship between testosterone hormone levels and sperm counts in male infertile couples at Tiara Sella Bengkulu Hospital. This study was carried out at Tiara Sella Hospital by examining testosterone levels and sperm counts and then tested the correlation between the two. The results showed that there was no correlation between testosterone levels and sperm count (p> 0.05). It is hoped that more careful research will be carried out, especially on the results of azoospermia sperm.

Keywords--- Testosterone hormone; Sperm

I. INTRODUCTION

Infertility is a problem experienced by men and women everywhere in the world. Although the estimated incidence is not very precise and varies from region to region, about 8% of couples experience infertility problems during their reproductive period, if extrapolated to this global population means that between 50 to 80 million people have fertility problems, a condition that causes suffering personal and family life disorders. It is estimated that there are around 2 million new infertile couples every year and this number continues to increase. This, when compared with new cases such as cancer cases, is estimated at 5.9 million new cases per year and 100 million new cases of malaria are still far away, but even so enough to cause significant problems in national health resources.

Changes in demographic patterns in the last 50 years in developed countries, and especially in the last 20 years in some developing countries, the incidence of infertility in developed countries is reported to be around 5-8% and in developing countries around 30% .WHO estimates around 8-10% or around 50-80 million couples around the world experience infertility problems, thus making infertility an urgent problem, vigilance will increase rapidly, the number of infertile couples in Indonesia can be calculated from the number of women who have ever married and have no surviving children, according to the population census there are 12% both in the village and in the city, or about 3 million infertile couples throughout Indonesia.

In accordance with the new paradigm of the National Population / Family Planning Program in Indonesia, its vision has been changed from realizing the Happy and Prosperous Small Family Norms (NKKBS) to become its vision to realize "Quality Family in 2015". A quality family is a family that is prosperous, healthy, advanced, independent, has the ideal number of children, is forward-looking, responsible, harmonious, and fearful of God Almighty.

So for couples who have not been blessed with children should also be given infertility services so that they can also realize the goals of the vision for themselves / their families. And actually, family planning is never complete without countermeasures. Handling infertile or infertile couples is a complex medical problem and involves several medical disciplines, so it requires complex consultations and
III. RESULTS

Table 1. Number of sperm and testosterone level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>32.264</td>
<td>23</td>
<td>0.245</td>
</tr>
<tr>
<td>Low</td>
<td>33.602</td>
<td>23</td>
<td>0.071</td>
</tr>
<tr>
<td>High</td>
<td>67.43</td>
<td>1</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Table 1 showed that the number of sperm quality was 22 normal, but testosterone level and testosterone level was 29 a little bit high.

Table 2. Distribution of infertile frequency and sperm count

<table>
<thead>
<tr>
<th>Value of</th>
<th>Pearson Chi-Square</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>39.000</td>
<td>36</td>
<td>0.336</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>9.301</td>
<td>36</td>
<td>1.000</td>
</tr>
</tbody>
</table>

N of Valid Cases 39

Table 2 showed that there was no correlation between the number of sperm infertile old

Table 3. Age frequency distribution testosterone

<table>
<thead>
<tr>
<th>Pearson Chi-Square</th>
<th>Likelihood Ratio</th>
<th>N of Valid Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.000</td>
<td>9.301</td>
<td>39</td>
</tr>
</tbody>
</table>

Table 3 found that there was no relationship between age and testosterone levels.

IV. DISCUSSION

This study aimed to look at the relationship between testosterone levels and the number of sperm known that testosterone levels affect sperm count. Andropause Syndrome is a physical, sexual, and psychological impairment syndrome that is associated with reduced testosterone in the blood, andropause occurs in men over middle age who have a collection of symptoms, signs, and complaints that are similar to menopause in women. Unlike women who experience menopause where ovum production, estrogen hormone production, and the menstrual cycle will stop. In men, the decrease in sperm production, testosterone, and other hormones occur slowly and gradually.

There are several factors that influence sperm count are conditions, environmental factors, and lifestyle factors. Poor sperm quality is not all affected by the male reproductive system alone, so there are some external problems such as radiation exposure, work and stress resulting in little sperm produced. However, the influential factor is the amount of testosterone. Based on the results of the analysis there was no correlation between testosterone levels and the number and quality of spermatozoa (p > 0.05). This shows that the testosterone obtained in the study is quite low. The hormone testosterone can reach the target cell depending on the level and ability of the SHBG bond. In other words, the SHBG protein functions to maintain the balance and dissociation of androgen binding between the circulatory system and the target cell, while the biosynthesis,
... by many factors. According to Rosner, the binding capacity of SHBG to the hormone testosterone greatly determines the effectiveness of the hormone in the target cells. This is because the physiological response of target cells appears when testosterone binds perfectly to SHBG. Thus the amount of testosterone bound to the target cells when testosterone binds perfectly to SHBG and free testosterone are positively correlated with increased insulin. This is because high androgenic activity causes insulin abnormalities.

Epidemiological studies also explained that SHBG was positively correlated with age, total testosterone levels, and thyroxine hormone; but negatively correlated with insulin and triglycerides, so it was assumed that SHBG regulation was related to lipid, protein, and carbohydrate metabolism. Besides that, the levels of SHBG and free testosterone are positively correlated with increased insulin. This is because high androgenic activity causes insulin abnormalities.

However, if we look at the respondents who have a number of azoospermic sperm obtained very low testosterone levels. This also has an influence on sperm count. In normal circumstances, this is not found in this study. The results of this study also complement that the emergence of infertile male cases that have so far been unexplained is very likely to be related to testosterone levels.

V. CONCLUSION

There is no correlation between testosterone levels and sperm count in infertile couples at Tiara Sella Bengkulu Hospital.

REFERENCES


