

Efficacy of the ‘Malaysian Ginseng’,US Patented, Standardised Water Soluble Extract of *Eurycoma longifolia* jack in Managing Idiopathic Male Infertility

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Summary

Standardized water soluble extract of the root of *Eurycoma longifolia* jack, a common Malaysian folklore medicine known to have testosterone enhancing effect, including anti stress, anti aging effect with normalizing growth hormone besides SOD activity is given to the male clients with idiopathic male infertility to evaluate its efficacy. Each client were given a dose of 200mg daily of the Extract and follow up semen analysis were done every three monthly cycle for three cycles. 75 men at least completed one full cycle. There were improvements in the follow up sperm concentration, percent motility and percent morphology. There were 11(15%) spontaneous pregnancies. The remaining opted for ART procedures, 60% were able to do IUI and the rest IVF (20%)/ICSI (5%).

Introduction

Eurycoma longifolia jack is a common herbal shrub found along the slopes of hilly terrains of the Malaysian rainforests. Water decoction of its root is a well-known folklore medicine to enhance sexuality, fertility and anti aging.(1,2,3,4,5) The herb contains Quassinoid alkaloid with properties curing Malaria, allergies, alleviating fevers and reduced tumors(2,3,4,5,6,7,8) The water-soluble extract contains amongst others, tannins; high molecular weight polysaccharides, glycoproteins and mucopolysaccharides. The glycoprotein components exert anti-cancer, pro-fertility, aphrodisiacs and anti-aging properties based on animal studies. Recent human trials have proven its testosterone enhancing effect, its anti stress and anti aging effect with normalizing growth hormone and the effect of its SOD anti-oxidant activity (9, 10,11, 12, 13&14) Empowered with all these properties, it would be effective in managing men with idiopathic infertility, namely men with low sperm concentration with or without low percentage motility and morphology of unknown causes.

Method

The efficacy study was embarked in early 2004 onwards where at the end of 2007, 350 men with idiopathic infertility were identified. The volunteers were given 200mg of Standardized water-soluble extract of *Eurycoma longifolia* (US Patent: US7, 132,117B2 from Phytes Bioteks, Biotropics, Malaysia Berhad, Malaysia) daily. Follow-up was done once every three monthly cycle for three cycles where repeat semen analysis (WHO Criteria) and testicular volume were done at end of each cycle. The principal end point is pregnancy and the secondary end points were improvement in the sperm parameters. Since the evaluation is a retrospective one, only volunteers that have complete at least one cycle (three months) of the standardized herbal extract were accepted and the data were analyzed statistically using SPSS version 12.

Result

We have analyzed 75 male subjects with the mean age of 32.7 years old and history of infertility of 5.3 years and who were being treated with standardized US Patented extract of *Eurycoma longifolia* jack. We examined the outcomes after the treatment, the pattern of semen and sperm characteristics, and the magnitude of change of semen and sperm characteristics and whether there was any significant difference between baseline and each cycle of the treatment. A total of 75 men completed at least one cycle. 49 men completed two cycles and only 17 completed a total of three cycles. There were 11 spontaneous pregnancies (14.6%) of which six pregnancies were achieved at completion of first cycle and five pregnancies achieved at completion of two cycles. There was no spontaneous pregnancy at completion of three cycles. However in these remaining men there was improvement of all the sperm parameters. There was improvement with the sperm profile in all the 75 men who completed the supplement in all the follow-up cycles. Those whose partner failed to conceive were given ART option. IUI was the commonest outcome, 60% while IVF was 20% and IVF/ICSI was the least common, 5.3%. The sperm concentration consistently increased from the baseline (mean=10.59) to the 3rd cycle (mean=17.53) and the sperm morphology showed a marked increase from 1st (mean=8.82) to 2nd cycle (mean=10.41). There were significant differences between sperm concentration at baseline and at 1st cycle (p-value=0.007), between sperm motility at baseline and at 1st cycle (p-value=0.037), between sperm morphology at baseline and 1st cycle (p-value < 0.001), between sperm concentration at baseline and 2nd cycle (p-value < 0.001), between sperm morphology at baseline and 2nd cycle (p-value < 0.001), between semen concentration at baseline and 3rd cycle (p-value < 0.007) and between sperm morphology at baseline and 3rd cycle (p-value < 0.00).

In Figure 1, we show the pattern of the means with their 95% confidence interval of the semen volume from the baseline to the 3rd cycle. The mean of the semen volume decreased in the 1st cycle from the baseline. However it showed a consistent upward trend over the next cycles. In Figure 2, the upward trend of the means of sperm concentration is clearly consistent over the cycles from the baseline. We also depict the 95% confidence interval of the means. In Figure 3, the means of sperm motility increased in the 1st cycle from the baseline however it consistently decreased over the next cycles. Figure 4, there was an upward trend of the means of sperm morphology over the cycles from the baseline. The biggest gain was from the 2nd to the 3rd cycle.

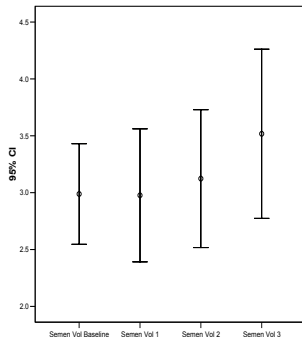


Figure 1: the pattern of the means of semen volume from baseline to 1st, 2nd and 3rd cycles.

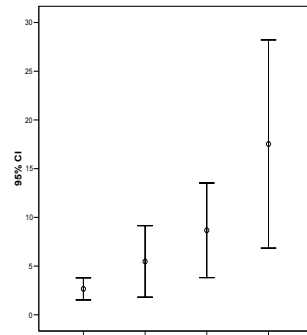


Figure 2: the pattern of the means and their 95% confidence interval of the sperm concentration from baseline to 1st, 2nd and 3rd cycles.

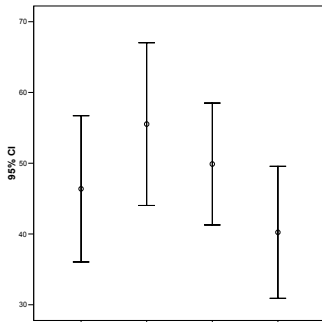


Figure 3: the pattern of the means of sperm motility from baseline to 1st, 2nd and 3rd cycles.

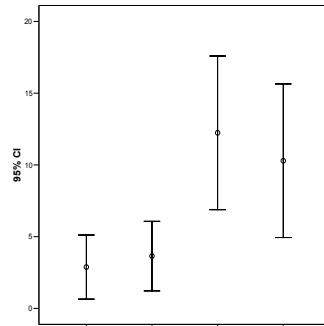


Figure 4: the pattern of the means of sperm morphology from baseline to 1st, 2nd and 3rd cycles.

Conclusion

All these positive differences are attributed to the consumption of water soluble extract of *Eurycoma longifolia* jack, positioning it as a potent herbal supplement that enhance sperm concentration, sperm motility and morphology besides improving semen volume in men with idiopathic infertility. In this retrospective evaluation, there were 15% spontaneous pregnancies and a good number of cases (60%), a cheaper option of ART were made possible since the herb could improve the sperm concentration suitable for that ART option, of IUI (Intra-Uterine Insemination). The remaining could opt for IVF (20%) and ICSI(5%). The outcomes of the procedures were beyond the scope of this retrospective evaluation

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