

Bee Propolis Treatment of Uterine Myoma A New Modality

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Abstract: Introduction: Uterine myomas are the most common benign tumors of the uterus, hysterectomy is the definitive treatment of symptomatic uterine myomas. Medical treatment of uterine myomas include androgens, antiprogestogens, reloxifene and the most common used treatment GnRH agonist, we introduced for the first time in the literature Bee propolis in the treatment of uterine myoma. **Objective:** To test the efficacy and safety of Bee Propolis in the treatment of uterine myoma. **Patients & Methods:** A total of 20 with a single myoma measuring ≥ 8 cm were enrolled in the study. Bee propolis was taken in the tablet form 500mg three times daily for 12 weeks, measuring Hb concentration before and after the treatment. **Main outcome measuring:** Measurement of myoma volume, uterine volume, Hb concentration. **Result:** Statistically significant decrease in the myoma and uterine volume after treatment. ($P < 0.01$) statistically significant increase in Hb concentration. ($P < 0.01$). **Conclusion:** We introduced bee propolis as a novel medical treatment of fibroid with no adverse effect.

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Keyword: Uterine myoma, Bee propolis, GnRH agonist, Medical Treatment

1. Introduction:

Uterine fibroid is the most common benign tumor in the female in the reproductive period^(1,2,3,4). The clinical presentation rank from gynecological disorders (menstrual disorders)^(5,6), anemia, pelvic pain and discomfort, to obstetrics complication: abortion, preterm labour obstructed labour, postpartum hemorrhage and subinvolution of the uterus. Pathologically^(7,6) it arises from single uterine smooth muscle cell with no clear aetiology but genetic, environmental, hormonal, estrogen and progesterone, growth factors are implicated in the aetiology^(8,9,10,11,12).

Treatment of symptomatic fibroid are surgical and medical⁽¹³⁾. The definitive surgical treatment is by hysterectomy for those who do not want to preserve the uterus and myomectomy for those want to preserve the uterus, in between those two lines medical treatment appeared which increased day by day, medical treatment included⁽¹⁴⁻²¹⁾, oral contraception, antiestrogen, antiprogestosterone⁽²²⁾, progesterone selective modulator, GnRHagonist, and antagonist but the most commonly used is GnRH agonist which act by inducing hypoestrogenaemia both from⁽¹⁵⁾ ovarian and fibroid and reduced bone mineral density again rapid rate of recurrence after stoppage of the treatment^(16,17,18,19,20,21,23).

At this point a new line of medical treatment is needed to overcome the previous complications.

So the aim of this work is test a newly introduced bee propolis for treatment of symptomatic fibroid^(24,26).

Bee propolis is a natural produced it contains caffeic acid phenethyl ester (CAPE) for which bee propolis has it biological effects, antibacterial, antifungal, antiprotozoan, anti-inflammatory, antitumor, antimetastatic activity apoptosis, proapoptosis induction.

2. Material and Methods

20 women had uterine myoma were enrolled in the study, the inclusion criteria were age between 25-40 years mean age 35 ± 2.99 years, with single myoma ≥ 8 mm.

Bee Propolis is used in the tablet form each tablet 500mg one tablet after meal, 3 times daily for 12 weeks, assessment of uterine bleeding by using daily bleeding diapers and Hb concentration, uterine dimensions and myoma dimensions are measured by 3D ultrasound.

The exclusion criteria were metabolic, infectious diseases and previous hormone therapy over the previous 9 months and history of previous operations and history of previous myomectomy, combined adenomyosis and fibroid, aspirin intake, anticoagulant therapy and antihypertensives.

Ethics:

Informed Consent and explaining all the details of the procedure to the patients, and all procedures involving human subjects complied with the

declaration of Helsinki 1975 and revised in 2000, again all the procedures accepted from the ethical committee of Heliopolis Hospital.

Statistical analysis:

Base line data analysis for patients was performed with the grouped student's t – test. to assess volume changes and (hemoglobin) Hb concentration before and after treatment by two- tailed grouped student's testing Significance was defined as $P < 0.05$.

3. Results:

Twenty women had fibroids (mean age was 32.2 ± 1.01) were enrolled in the study for the effect of bee propolis on myoma (≥ 8 mm). Oral intake (tablet form each tablet 500mg one tablet after meal 3 times daily) for 12 weeks follow up period was 12 weeks which include measurement of myoma volume, and uterine volume at 12 weeks by 3D ultrasound assessment of uterine bleeding by using daily bleeding diapers and Hb concentration.

Table (1): Effect of Bee Propolis treatment in 20 myomatous patients

Characteristics	Before	After	P. Value
Uterine volume	525 ± 11.3	199 ± 11.1	< 0.001
Myoma volume	185.7 ± 12.6	12.7 ± 3.2	< 0.001
Hb concentration	7.5 ± 1.3	13.5 ± 1.6	< 0.001

4. Discussion:

Fibroid is the most common benign tumor of female. The definitive line of treatment is surgical hysterectomy is the radical treatment of myoma medical treatment is indicated for those who want to save the uterus⁽¹³⁾. GnRH α is the most commonly drug used (14-21) for medical treatment but due to its side effects a new medication is needed, hence comes bee propolis. This is the first report to use bee propolis in the treatment of fibroid^(24,26).

The scientific basis of this work is based upon our previous work which demonstrate in vitro effect of bee propolis on fibroid muscle and normal uterus^(24,25,26), this effect include: a) induction of apoptosis, proapoptosis, b) inhibition of proliferation of fibroid,^(24,25,26,27) c) negative impact on growth factor e.g. insulin like growth factor, transforming growth factor beta and epidermal growth factor.

The suppressive effect on growth factor⁽²⁴⁾ had 3 characteristics 1) dose dependent 2) affection include its receptors. 3) no affection on normal muscle^(24,25,26,27).

The blood supply of the uterus depend upon one of the growth factor (vascular endothelil growth factor). This factor is essential for blood vessels formation. Bee propolis inhibits formation and suppresses its action⁽²⁴⁻²⁷⁾.

The place of anti-inflammatory⁽²⁴⁻²⁷⁾ action of bee propolis is through many channels; a) inhibiting factor NF-KB. B) affection of Mitochondrial enzyme. C) lysosomal bodies. D) inhibition of many enzyes⁽²⁸⁻²⁹⁾ but the most important is the enzyme cytochrome P450 oxidase⁽²⁴⁻²⁷⁾ which is present in the fibroid. This is one of the most important feature of fibroid to produce this enzyme by blocking its action in fibroid, reduction of estrogen occur. This is not in the ovary. All these effect lead to inhibition of oncogens leads to tumor formation.

So the mechanism of action of Bee propolis in reducing the Myoma volume is by two mechanisms first one reducing estrogen in the myoma only, second, is by the chemical and biochemical properties of Bee propolis. We don't encounter any case of recurrence after twelve weeks of treatment in contrast to GnRH Agonist treatment of Myoma⁽¹⁵⁾, and No reported side effect but in addition there is a positive impact on the general health of the patients.

5. Conclusion:

Bee propolis is a novel product from bee, due to its peculiar pharmacology and pharmacobia comes its place in the treatment of fibrod, we are now in the binging of long road. More cases and more randomization are needed to put its name in the medical treatment of myoma.

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