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Natural Remedies And Lifestyle Changes For Uterine Fibroids

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ABSTRACT

The most prevalent gynecological condition that affects women is leiomyoma, also known as uterine fibroids. Up until now, surgical procedures such as myomectomy or total abdominal hysterectomy have been used to treat symptomatic fibroids. Patients are increasingly searching for minimally intrusive, uterus-protecting therapy or preventative for asymptomatic or symptomatic uterine fibroids in order to lessen the burden of surgery. Fibroids and related uterine issues have been treated with medicinal plants and herbs and their active phytoconstituents. Thus, the processes by which phytochemicals alter fibroid growth pathways are highlighted in this review. The herbs and phytoconstituents that have been investigated the most include *Scutellaria Barbata* D. Don, *Curcuma longa* L. (turmeric), resveratrol, curcumin, and anthocyanins, respectively. These are utilized treatment or prevention to suppress fibroid growth/proliferation pathways. Additionally, cell-cycle arrest, death triggered by ROS levels above the threshold of cell viability, and the inhibition of ECM proteins through growth factor decrease were the primary targets for fibroid inhibition. This review provides important insights for creating novel and creative therapeutic alternatives for the management of symptoms in women with uterine fibroids by highlighting natural anti-fibroid phytoextracts and the pharmacological mechanism by which they control fibroid pathways.

KEYWORDS

Uterine fibroids, Resveratrol, leiomyoma, Natural remedies, female uterus

INTRODUCTION

Female uterine fibroid, often referred to as leiomyoma, myoma, or fibromyoma, is the most common solid benign tumor. According to estimates, fibroid tumors are present in the wombs of at least 20% of women in their 30s. The age range of 35 to 45 is when the prevalence is highest in India, between 15 and 25 million women suffer from fibroid uteri.[2] From a histological perspective, it was made up entirely of muscle, but over time, fibrous tissues began to mix in with the muscle bundle. It originates from the myometrium's lone smooth muscle cell. [1,19] Somatic mutations and chromosomal abnormalities, especially those involving chromosomes six or seven (rearrangement, deletion), in myometrial cells may result in unchecked cell growth. Either directly or through estrogen, epidermal growth factor, insulin-like growth factor-1, and transforming growth factor promote of leiomyoma.[1] Obesity, hyper estrogen condition, nulliparity, and black women are thought to be significant risk factors for uterine fibroids. There are several forms of uterine fibroids, including sub peritoneal or sub serosal (15%), submucosal (5%), and interstitial or intramural (75%). Fibroids in the uterus's cervical region are extremely uncommon, occurring in about 1-2% of cases.[1,17] .In terms of clinical presentation, it is typically asymptomatic(75%) but can also indicate pelvic pain, pelvic lump, infertility, abnormal menstruation, dysmenorrhea, menorrhagia, recurrent pregnancy loss, miscarriage, preterm labor, pelvic pressure, frequency of

urination, urinary incontinence, dysuria, and constipation, pelvic pain, miscarriage, early labor, recurrent pregnancy loss, urine frequency, urinary incontinence, dysuria, and constipation. One practical non-invasive diagnostic method is ultrasound [7,18].

BACKGROUND

Common benign muscular tumors of the uterus are called uterine fibroids. It can be brought on by both genetic and environmental factors, and it impacts thousands of women who are of childbearing age and mainly non-Caucasian women's normal lives. Although it normally doesn't end in death, it can cause grave clinical signs. Depending on the demographic, uterine fibroids are expected to affect 70% of women [3,23]. Uterine fibroids can cause pelvic pain or compression, irregular uterine bleeding, gastrointestinal issues, and difficulties voiding. It also results in impaired fertility and pregnancy difficulties. Invasive procedures are now the only viable option for treating this malignancy because there are no effective medicinal treatments. Uterine fibroids are common benign muscle tumors of the uterus [20]. It affects thousands of women of reproductive age and primarily non-Caucasian women's normal lives. It can be caused by both genetic and environmental causes. It usually doesn't result in death, but it might have serious clinical symptoms [21,24]. Uterine fibroids are predicted to impact 70% of women, depending on the demography [3]. Inconsistent uterine bleeding, gastrointestinal problems, pelvic pain or compression, and difficulty voiding are all possible effects of uterine fibroids. It also leads to problems becoming pregnant and decreased fertility [22]. Since there are currently no effective medical treatments for this cancer, invasive surgeries are the only practical course of action. Conservative medicine and invasive surgery are examples of therapies. Surgery has been the standard treatment for uterine fibroids up until now, yet there is evidence that this has as detrimental effect on future fertility. As a result, it's critical to choose tailored therapy and enhanced changes that meet patients' expectations [25]. On the other hand, there are serious side effects associated with newly developed pharmaceutical possibilities, including altered endometrial morphology, hot flashes, decreases bone density, liver function impairment, and inability to conceive while on therapy [4]. It has been shown that a variety of natural substances can effectively treat uterine fibroids and alleviate their symptoms. This review will cover potential herbal medicine ingredients that may be helpful for individuals with uterine fibroids, especially those who want to maintain their fertility or hope to become pregnant while undergoing treatment [6,14]. However, as of yet, no substantial clinical evidence has been made public. Therefore, before approving their broad use, it is strongly advised to obtain additional clinical investigations with these drugs [5,13].

Discussion

Natural treatments and diet for fibroids

Treatment is not always necessary for uterine fibroids, and not all of them present with symptoms. Fibroids may recede and eventually go away, particularly after menopause. Unknowingly, a person may have fibroids. While there are medical therapies for fibroids that doctors might offer, some patients choose to address their symptoms with herbal remedies and lifestyle changes [15]. There isn't much data, though, to support their effectiveness. Fibroids, also known as leiomyomas, are benign tumors that can occasionally arise in the uterus [12]. For premenopausal women, they are the most prevalent noncancerous gynecological tumor (Trusted Source). The Office for Women's Health estimates that fibroids may affect 20% to 80% of women before the age of 50. Estimates vary.

Approximately one in three females who have fibroids may have symptoms, which can include:

1. Periods that are unpleasant or heavy
2. Lower back or stomach ache
3. Constipation, dyspareunia, frequent urination
4. Discomfort during intercourse

Dietary changes

The following sections look at dietary changes that might help with fibroids:

Meat

A diet heavy in red meat and rich in energy-dense foods that is, meals high in calories, fat, and sugar may put a person at risk for developing fibroids, according to some study. It could be beneficial to swap out red meat (beef, ham, or lamb) for white meat (turkey or chicken). Generally speaking, it may be healthier to swap out red meats for white meats or plants-based protein sources like beans. Meat contains large amounts of saturated and trans fats, which can increase cholesterol and aggravate heart disease, according to the American Heart Association.

Vitamins

A 2011 study involving approximately 22,583 premenopausal women found that a lower incidence of uterine fibroids was associated with higher fruit and animal-derived vitamin A intake. They did not discover any connections to carotenoids, folate, or vitamins C or E. Fish, pork, and Trusted source dairy products are examples of animal sources of vitamin A. Certain vitamin-rich foods can improve a person's diet's health and offer protection against fibroids. Among them are: Food high in flavonoids, such berries, and fatty seafood like tuna, salmon, and mackerel green veggies, including lettuce, spinach, and broccoli, citrus fruits like limes and lemons, items made from soya broad beans A person may want to think about taking vitamin supplements if their diet isn't providing them with enough of a certain vitamin.

Alcohol and caffeine

Examined the relationship between fibroids and coffee and alcohol in American black women. The findings revealed a possible relationship between fibroids and alcohol, specifically beer, but not with caffeine. It is crucial to keep in mind when analyzing these research that simply because two variables are related (correlation), it does not follow that one causes the other (causality). For instance, just while a particular diet has been linked to an increased risk of fibroids, it does not guarantee that those who adhere to it will experience fibroids [11].

Herbal remedies

Studies on a small scale have examined the benefits of Chinese medicine and green tea, two natural therapies for fibroids. Before doctors offer these medicines, more research is required. The parts that follow go over recent research.

Green tea

Antioxidant compounds known as flavanols are found in green tea. By lowering oxidative stress, antioxidants aid in the body's reduction of cell damage. One major contributing factor to disease is oxidative stress. An examined the effects of epigallocatechin, a green tea extract, on thirty-three female subjects who had one or more fibroids. For four months, the subjects were given 800 mg of green tea or a placebo. According to the authors, those who took green tea extract experienced fewer acute symptoms from their fibroids, and the size of their fibroids shrank. Thus, consuming green tea could be beneficial for fibroids. Before medical doctors prescribe green tea for fibroids, more research is necessary.

Resveratrol

Plants release the chemical resveratrol in response to environmental stressors and infections. Berries such as blueberries, raspberries, mulberries, and grapes are natural sources of resveratrol. Resveratrol may inhibit the growth and multiplication of uterine fibroid cells, according to research. These investigations, however, focused on resveratrol's impact on cell cultures. It's unknown to researchers whether consuming resveratrol-containing food will impact fibroids.

Curcumin

One of turmeric's active components is curcumin. It possesses antibacterial, anti-inflammatory, and antioxidant qualities. Fibrotic cells can be eliminated or prevented from proliferating by curcumin. Once more, cell cultures serve as the foundation for these investigations, and in order to determine their utility, scientists must examine the results on humans.

Lifestyle changes

Some people may discover that changes in lifestyle might help with fibroids' symptoms, such as sadness and painful or heavy menstruation. Among them are:

Frequent exercise, breathing techniques, a balanced diet, tai chi, and yoga. Being overweight or obese increases the risk of fibroids, thus keeping a healthy weight can help prevent them as well. Eating a balanced diet and exercising frequently are two highly efficient weight loss strategies.[8]

RESVERATROL TO TREAT UTERINE FIBROID

NATURAL ANTIOXIDANT RESVERATROL

A naturally occurring polyphenol component, resveratrol can be found in a variety of plants and fruits, such as peanuts, berries, apples, and grapes. The majority of resveratrol extracts used in supplements come from the roots of *Polygonum cuspidatum* popularly called Japanese knotweed.

1. Active ingredients: Resveratrol
2. Alternate name(s): 3,5,4'-Trihydroxy-trans-stilbene
3. Legal status: In the US, resveratrol is sold as a dietary supplement and is not subject to FDA drug regulations. The FDA does mandate, however, that nutritional information be included on the labels of all dietary supplements.
4. Suggested dosage: The right amount of resveratrol to take will depend on the illness for which it is intended. The usual daily doses for dietary supplements range from 50 to 500 milligrams (mg). Nonetheless, in certain experiments, individual received larger doses. Take the recommended dosage or as directed by your healthcare provider on the product label.
5. Safety considerations: When taken regularly, resveratrol is usually regarded as safe and well-tolerated. Some people may get diarrhea, vomiting nausea, and upset stomachs as adverse effects. For those suffering from non-alcoholic fatty liver disease, resveratrol may be the cause of liver impairment. When taken with blood thinners, antiplatelets, and nonsteroidal anti-inflammatory medicines (NSAIDs), it may interact with some medications and raise the risk of bruising and bleeding.[9]

The Benefits of resveratrol

Resveratrol, like other antioxidants, has a range of preventive properties that may support your body's ability to fend off disease and carry out a number of daily functions. Furthermore, even though a large number of studies have shown that antioxidants may have a variety of perks, such as anti-aging and anti-cancer properties, much more research needs to be done on resveratrol alone. Nonetheless, resveratrol possesses a number of qualities that may enable these advantages.[10]

Protect Against Cancer

Research has been done on the possible uses of resveratrol as an adjuvant (supplementary) therapy for cancer therapies as well as for cancer preparation. Resveratrol may have anticancer qualities that help prevent or fight many cancers, including as breast, colon, stomach, pancreatic, prostate, ovarian, and endometrial cancers, according to research, resveratrol may trigger the death of cancer cells, or apoptosis [16]. Stop the development and spread of cancerous cells. Increase the efficiency of common cancer therapies including radiation and chemotherapy.

Other Uses

More research is needed to determine if resveratrol offers the following benefits:

1. **Healthy aging:** According to research conducted on animal models, resveratrol's antioxidant properties may aid in activating particular cellular pathways that support lifespan and lower the risk of age-related disorders.
2. **Allergies:** Resveratrol-containing nasal spray may be able to lessen the symptoms of seasonal allergies, especially hay fever.
3. **Skin health:** By decreasing inflammation, encouraging the formation of collagen, and shielding the skin from ultraviolet (UV) radiation damage, resveratrol may enhance the health of the skin.
4. **Eye health:** Age-related macular degeneration is a prevalent eye illness that can cause vision loss. Resveratrol's ability to combat oxidative stress may protect against this condition.
5. **Immune system support:** By increasing antioxidant stress may protect against this condition

The side effects of Resveratrol

When used in the appropriate dosages, resveratrol is thought to be safe and well-tolerated; nevertheless, like any supplement, some persons may experience negative effects. High dosages are more likely to cause side effects, which can include:[8]

- Nausea
- Diarrhea
- Vomiting

Precautions

Even though resveratrol is generally safe especially when eaten not everyone should take supplements containing resveratrol. Remedies involving the following ailments should prevent the use of resveratrol supplements:

1. **Liver dysfunction** has been associated with resveratrol in non-alcoholic fatty liver disease
2. **Bleeding disorders:** Resveratrol makes bruises and bleeding more likely.
3. **Hormone-sensitive conditions:** Because resveratrol may behave in the body like estrogen, patients with certain illnesses (such as breast cancer or uterine fibroids) should avoid taking if as estrogen exposure can exacerbate their symptoms.
4. **Pregnancy:** The safety of resveratrol supplements for usage during pregnancy and breastfeeding has not been thoroughly studied.[8]

Interactions

Certain drugs, herbs, and supplements may interact negatively with resveratrol, perhaps leading to negative side effects and altering the way these drugs function in your body. The following may interact with resveratrol:

1. **Antiarrhythmics** like Tambocor (flecainide) and Rythmol (propafenone)
 2. **Blood thinners** known as anticoagulants, such Jantoven (warfarin)
 3. **Antihistamines**, like loratadine-containing Claritin medication for blood pressure
 4. **Immunosuppressants** such as Trexall contains methotrexate, NSAIDS, such as Advil tablet contains ibuprofen
- Supplements and herbs that have similar effects or potential interactions with resveratrol include:

- Ginkgo biloba
- Ginger
- Panax ginseng

Read the nutrition facts panel and ingredient list carefully to make an informed decision regarding resveratrol supplementation. These reviews offer information on the kinds and quantities of substances included in the product. It is advisable to consult your healthcare professional before taking any supplements, as they may assist you in identifying any possible interactions with drugs, foods, or other supplements [8].

CONCLUSION

The current investigation showed that above herbal drugs inhibited primary human leiomyoma cells in vitro and decreased tumor growth. Furthermore, herbal drugs controlled the expression of Extracellular matrix -associated proteins. These results suggest that natural drugs may be able to lessen leiomyoma cell hyperplasia. To the best of our knowledge, this is the first study to show how herbal drugs can limit uterine fibroids growth. It may also spur more research to shed light on the molecular pathways that underlie Uterine Fibroids and Lifestyle changes that can have a great alteration on uterine fibroids treatment.

REFERENCES

1. Konar H, Benign. Lesions of the Uterus. DC Dutta's Textbook of Gynecology. 6th Edition. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd: 2013.
2. D'Cruz AJ, Gandhi GA Damodhar S, Narasimhaiah B, Standard Treatment Guidelines Obstetrics & Gynecology. Ministry of Health and Family Welfare, pp; 5-12.
3. Stewart, E.A.; Cookson, C. L.; Gandolfo, R. A.; Schulze-Rath, R. Epidemiology of uterine fibroids. A systemic review, BJOG. 2017; 124, (10): 1501-1512.
4. Sohn, G. S.; Cho, S.; Kim, Y.M.; Cho, C.H.; Kim, M. R.; Lee, S. R. Current medical treatment of uterine fibroids. Working Group of society of Uterine, L. 2018; 61,(2): 192-201.
5. Ciebiera, M.; Ali, M.; Prine, L.; Jackson-Bey, T.; Atabiekov, I.; Zgliczynski, S.; Al-Hendy, A., The Evolving Role of Natural Compounds in the Medical Treatment of Uterine Fibroids, J Clin Med. 2020; 9, (5).
6. Zi-Lin Li, Tung-Yung Haung, Yih Ho, Ya- Jung Shih, Yi-Ru Chen, Heng-Yuan Tang, Hung-Yun Lin, Jaqueline Whang-Peng and Kuan Wang. Herbal Medicine in Uterine Fibroid. 1-32.
7. Mohammad Shamim Khan, Shaikh Imran, Mobashshera Khan. Effects of Herbal Formulations in Management of Uterine Fibroids. International Journal of Ayush Case report. 28.06.2021: 5(2): 91
8. Caporuscio J. Natural treatments and diet for fibroids. Medical News Today. 26/10/2019.
Available from: <https://www.medicalnewstoday.com/articles/326808>
9. Curtis L. What is Resveratrol?. Verywell Health. 29/03/2023.
Available from: <https://www.verywellhealth.com/resveratrol-7112785>
10. Health Benefits of Resveratrol- and Should you take it?. Cleveland Clinic. 24/01/2022. Available from: <https://health.clevelandclinic.org/resveratrol-benefits>
11. Khan AT, Shehmar M, Gupta JK. Uterine fibroids: Current perspectives. Int J womens Health. 2014; 6:95: 114.
12. Okeke TC, Ezenyeaku CCT, Ikeako LC, A Review of treatment options Available for women with uterine fibroids. BJMMR. 28/01/2015; 6(12): 1136-1148.
Available from : www.sciencedomain.org
13. Ali M, Al-Hendy A. Uterine fibroid therapy: the pharmacokinetic considerations. Expert Opin Drug Metab Toxicol. 02/09/2018: 887-889.
14. Dhiman K. Ayurvedic Intervention in the Management of Uterine Fibroids- A case Series. 2016; 35(3): 303-309.
15. Donnez J and Dolmans MM. Uterine fibroid management: From the present to the future. Hum Reprod Update. 2016 Nov; 22(6): 665-686.

16. Dvorska D, Brany D, Dankova Z, Halasova E, Visnovsky J. Molecular and clinical attributes of uterine leiomyomas. *Tumour Biol.* 2017; 39(6): 1010428317710226.
17. Baranov VS, Osinovskaya NS, Yarmolinskaya MI. Pathogenomics of uterine fibroids developments. *Int J Mol Sci.* 2019; 20(19): 6151.
18. Ali M and Al-Hendy A. Selective progesterone receptor modulators for fertility preservation in women with symptomatic uterine fibroids. *Biol Reprod.* 2017; 97(3): 337-352.
19. Giuliani E, As-Sanie S, Marsh EE. Epidemiology and management of uterine fibroids. *Int J Gynaecol Obstet.* 2020; 149(1): 3-9.
20. Ikhen DE and Bulum SE. Literature review on the role of uterine fibroids in endometrical function. *Reprod Sci.* 2018; 25(5): 635-643.
21. Mas A, Tarazona M, Dasi Carrasco J, Estaca G, Cristobal I, Monleon J. Updated approaches for management of uterine fibroids. *Int J Womens Health.* 2017; 9: 607-617.
22. Wang Y, Zhang S, Li C, Li B, Ouyang L. Minimally invasive surgery for uterine fibroids. *Ginekol Pol.* 2020; 91(3): 149-157.
23. Wu C-H, Shieh T-M, Wei L-H, Cheng T-F, Chen H-Y, Huang T-C, Wang K-L, Hsia S-M. Resveratrol inhibit proliferation of myometrial and leiomyoma cells and decreases extracellular matrix-associated protein expression. *J Funct Foods.* 2016; 23: 242-252.
24. Medikare V, Kandukuri LR, Ananthapur V, Deenadayal M, Nallari P. The genetic bases of uterine fibroids; a review. *J Reprod Infertil.* 2011; 12(3): 181-191.
25. Sohn GS, Cho S, Kim YM, Cho CH, Kim MR, Lee SR. Working Group of Society of Uterine L. Current medical treatment of uterine fibroids. *Obstet Gynecol Sci.* 2018; 61(2): 192-201.