

## FIBROADENOMA TREATMENT WITH LEKHANA AND SHOTHHARA TREATMENT

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### **Abstract**

*Fibroadenomas among young women create substantial clinical and psychological challenges as part of benign breast disorders worldwide. Patients seek alternative remedies due to technological disadvantages, recurrence concerns, and aesthetic considerations that affect surgical treatments of benign breast disorders. The ancient Indian medical system of Ayurveda promotes effective treatments for benign breast conditions through individualized non-invasive methods of Lekhana scraping and Shothhara anti-inflammatory procedures. A review presents evidence of how classical Ayurvedic concepts link to current pharmacological findings to establish their clinical importance in fibroadenoma therapy. The Lekhana therapeutic approach uses Kanchanar, Guggulu, and Triphala herbs to deliver effective anti-proliferative, antioxidant, and mass-reducing benefits. Shothhara therapies that include Haridra, Shallaki, Guduchi, and Punarnava demonstrate anti-inflammatory and immunomodulatory properties, helping control the inflammatory conditions found in benign breast lesions. A limited number of clinical studies and observational reports indicate potential beneficiary effects of treatment, which stabilize breast lesions and reduce their size while alleviating symptoms; however, authors call for substantial trials based on methodological standards. Clinical research that combines traditional knowledge with modern scientific research should be prioritized for validating Ayurvedic therapies to optimize their effectiveness in fibroadenoma patient care*

**Keywords:** *Fibroadenoma, Ayurveda, Lekhana Therapy, Shothhara Therapy*

## 1. Introduction

Fibroadenoma stands as the primary benign breast tumour diagnosis among women between the ages of 15 and 35 years of age (Kaur et al., 2022; Zhu et al., 2022). Global reports show benign breast diseases (BBDs) make up 30% of all breast-related clinical consultations worldwide, and fibroadenoma stands as the main benign breast lesion in women under 30 years old at 68% (Allison et al., 2019; Sosin et al., 2015). Hospital-based research in India shows fibroadenoma occurs between 22% and 45% of all breast lesions, making it the main benign breast tumor affecting reproductive-aged Indian women (Singh et al., 2020; Reddy et al., 2023).

The distinctive features of fibroadenomas include their well-defined shape along with their mobile and rubbery texture, which helps differentiate them from malignant breast lesions (Guray & Sahin, 2006). Fibroadenomas cause substantial psychological distress and cosmetic worries and require healthcare procedures mainly because young women prioritize breast conservation (Sosin et al., 2015). The tumors present no threat to life, but their tendency to grow and recur, along with patient anxiety, requires active management through non-invasive methods (Hartmann et al., 2005). The standard treatments for fibroadenoma include observation and surgical removal, as well as minimally invasive procedures such as cryoablation, laser therapy, and vacuum-assisted biopsy (Lacambra et al., 2012; Gonnah et al., 2023). Surgical removal is the standard treatment for symptomatic or enlarging fibroadenomas; yet, it produces several drawbacks, including postoperative pain, scarring, breast contour changes, and body image-related psychological impacts (Allison et al., 2019). Medical research shows that fibroadenoma recurrence occurs after surgical procedures or when complete removal is not achieved (Kazlauskaitė & Kvietauskas, 2024), which contradicts the idea that fibroadenoma is a single clinical occurrence. The World Health Organization (2019) and Baig (2024) have observed a rising interest in exploring non-surgical, holistic, patient-centered therapeutic options that include traditional medicine systems like Ayurveda.

Ayurveda stands as the ancient Indian medical system that provides personalized healthcare solutions by focusing on doshic balance and pathogenic factor elimination (Patwardhan et al., 2005). The Ayurvedic literature describes "Granthi" as a pathological condition that matches the characteristics of fibroadenoma, according to classical texts such as the Charaka Samhita and Sushruta Samhita (Sahu & Mishra, 2003). The clinical presentation of Granthi matches fibroadenoma because it includes localized swelling with firm tissue, gradual enlargement, and minimal discomfort (Bijauliya et al., 2017). The development of Granthi occurs through Kapha dosha vitiation and sometimes involves Vata and Pitta doshas, which results in abnormal tissue growth and encapsulation (Baig, 2024). The Ayurvedic texts recommend Lekhana and Shothhara therapies as therapeutic approaches to manage Granthi. Lekhana therapy involves the application of herbs and formulations containing Tikshna (sharpness), Laghu (lightness), Ushna (hot potency), and Lekhana (scraping action) properties to reduce abnormal tissue growth through scraping processes (Baliga, 2010). Lekhana therapy employs Kanchanar Guggulu, Triphala, and Commiphora mukul (Guggulu) formulations, as well as other agents according to Kunnumakkara et al. (2018). The pharmacological agents possess properties that help break down pathological tissue masses while reducing fibrosis and rebuilding normal tissue architecture (Bijauliya et al., 2017). Shothhara therapy uses specific treatments to reduce inflammation and edema as a way to address the swelling aspect of Granthi. The Shothhara properties of Shallaki (*Boswellia serrata*) and Haridra (*Curcuma longa*) have been extensively documented in classical texts and modern pharmacological studies because these herbs display anti-inflammatory and antioxidant effects, as well as immunomodulatory properties (Aggarwal & Harikumar, 2009; Aggarwal & Yuan, 2022).

Scientific studies of Ayurvedic herbs have discovered a large number of bioactive substances that demonstrate the ability to fight tumors and reduce inflammation. Scientific studies demonstrate that guggulsterones from Guggulu block nuclear factor-kappa B (NF- $\kappa$ B) signaling, which plays a role in both inflammation and tumor progression (Kumar et al., 2020). The anti-inflammatory properties of boswellic acids from Shallaki occur through their inhibition of 5-lipoxygenase and their ability to suppress pro-inflammatory cytokines, according to Pandey et al. (2021). The main curcuminoid compound of Haridra, known as Curcumin, demonstrates broad recognition for its ability to control various molecular targets that affect cancer development, oxidative stress, and chronic inflammation (Aggarwal & Yuan, 2022). Scientific research confirms the traditional herbal medicine practices by demonstrating their effectiveness in treating benign tumors, including fibroadenoma. The lack of comprehensive clinical research about Lekhana and Shothhara therapies for fibroadenoma treatment remains a significant challenge despite promising pharmacological findings (Bijauliya et al., 2017; Kunnumakkara et al., 2018). The existing data about these treatments come from small clinical trials, observational accounts, and personal stories (Baliga, 2010; Patwardhan et al., 2005). Mainstream medical practice faces multiple barriers to herbal therapy acceptance due to problems with standardization of formulations, inconsistent preparation techniques, and the lack of controlled clinical trials (Bhattacharya, 2019). The initial research demonstrates that Ayurvedic therapies may function as safe complementary approaches to standard medical treatments when patients pursue integrated therapeutic approaches (Baig, 2024; World Health Organization, 2019).

A systematic review of Lekhana and Shothhara therapies is essential because traditional medicine systems gain international recognition (World Health Organization, 2019), while fibroadenoma patients require non-surgical treatment options (Gonnah et al., 2023). The systematic review serves to organize various pieces of evidence while pointing out gaps in research for further investigation and establishing treatment models that unite the best features of traditional and contemporary medicine (Narayan et al., 2018). This review evaluates the current therapeutic effectiveness of Lekhana and Shothhara procedures as fibroadenoma treatments through an analysis of traditional Ayurvedic texts, contemporary pharmacological findings, and clinical evidence reports. The research combines ancient knowledge with contemporary scientific research to create a complete understanding of Ayurvedic treatment of benign breast tumors. This synthesis works to advance both integrative oncology research while delivering new perspectives about holistic breast health care for patients.

## 2. Clinical and Ayurvedic Understanding

### 2.1 Modern Clinical Perspective of Fibroadenoma

Fibroadenoma is the most commonly encountered benign tumour of the female breast and is most common in women between the ages of 15 and 35 years (Tan et al., 2020). Clinically it appears as a firm, rubbery, well circumscribed, highly mobile mass, usually incidentally found during physical examination or breast imaging. Fibroadenoma is believed to have a close aetiology with hormonal factors, especially oestrogen, progesterone, and prolactin, which affect both epithelial and stromal proliferation (Orr & Kelley, 2016). Fibroadenomas are more common during the reproductive years and regress post menopause because they are hormonally sensitive. Fibroadenomas are a combination of glandular epithelium and fibrous stroma from a pathological perspective. They are histologically divided into two main types based on the stromal and epithelial arrangement: pericanalicular and intracanalicular (Tan et al., 2020). Imaging modalities have a major role in the diagnosis and differentiation of fibroadenomas from malignant breast lesions. Ultrasound imaging usually shows a well-defined, homogenous, hypoechoic mass, mammography may show a smooth, rounded density. Additional characterization (particularly complex or ambiguous cases) is particularly aided by MRI.

The treatment of fibroadenoma is determined by the size, symptoms, and patient preference. Conservative management of small fibroadenomas is with observation and periodic imaging surveillance (Bagale et al., 2013). Only when the lesion is large, causalgic, rapidly growing, or cosmetically objectionable does the lesion require intervention. Surgical excision, cryoablation, and minimally invasive treatment options such as vacuum assisted excision are all treatment options. Fibroadenomas are benign lesions, however, certain variants, particularly complex fibroadenomas, have a slightly increased risk of subsequent breast carcinoma (El-Wakeel & Umpleby, 2003). For one, psychosocial factors, such as anxiety of malignancy, cosmetic deformity following surgery and fear of recurrence, as well as intensity of psychosocial distress play a major role in patient choice considering alternative safer and non-invasive as well as holistic ways of management.

Fibroadenoma is the most frequently diagnosed benign breast lesion in women in countries like India. This leads to late-stage presentation (Bose & Kaushik, 2022). Furthermore, questions of surgical scars, financial burden and cultural factors make many women seek complementary and traditional medical systems for management.

### 2.2 Ayurvedic Perspective of Fibroadenoma (Granthi Concept)

The ancient Indian medical system Ayurveda defines benign swellings through the pathological term "Granthi," according to Tubaki and Prasad (2022). The medical description of Granthi shows it as a localized hard mass, which develops slowly without causing pain and exists inside a distinct boundary. The medical signs of Granthi match the diagnostic criteria for fibroadenoma, which modern physicians recognize. Ayurvedic teachings explain that Kapha dosha vitiation creates Granthi, with Vata and Pitta doshas also contributing to its development. The Kapha dosha produces abnormal tissue growth through its natural properties of heaviness, stability, and cohesion when it becomes imbalanced. When Kapha dosha becomes deranged, it causes excessive bodily element accumulation, which results in mass formation. The dry and mobile qualities of Vata contribute to the irregular and firm swelling characteristics, whereas Pitta's metabolic functions and inflammatory activity can modify tissue conditions that support pathological growth (Pandey et al., 2013). Classical Ayurvedic texts classify Granthi based on the predominant dosha involved. Vataja Granthi manifests as a hard, rough, and painful lump, while Pittaja Granthi shows swelling with redness, warmth, and a burning sensation. Kaphaja Granthi resembles fibroadenoma through its soft, cold, painless, and slow-growing nature. The tridoshic approach of Ayurveda enables practitioners to create personalized diagnostic and therapeutic plans by considering both patient doshic makeup and lesion characteristics (Mukherjee et al., 2012).

Ayurvedic treatment for Granthi focuses on three main objectives: balancing the doshas, dissolving the abnormal growth, and restoring the health of affected tissues. The purpose of Lekhana therapies is to reduce and scrape pathological masses. The therapeutic agents used in these treatments contain properties that penetrate while being sharp and reducing in nature. Shothhara therapies work alongside Lekhana therapies by using agents that both reduce inflammation and have detoxifying effects (Tubaki & Prasad, 2022). The core of Ayurvedic treatment for Granthi includes internal herbal medications, topical remedies, Panchakarma cleansing techniques, as well as dietary restrictions. The preventive approach of Ayurveda includes early therapeutic interventions, lifestyle modifications, and dietary adjustments to stop benign swellings from growing into complicated growths (Khan et al., 2021). The individualized holistic approach, alongside systemic correction methods instead of symptomatic suppression, makes Ayurveda an effective complementary system for treating benign breast tumors, including fibroadenoma.

### 2.3 Correlation and Integration

The biomedical description of fibroadenoma shares substantial similarities with the Ayurvedic concept of Granthi when compared. The two medical systems agree that fibroadenomas are benign tumours which grow slowly and remain enclosed within a capsule. Modern medical research links fibroadenoma development to hormonal changes that cause epithelial and stromal cell proliferation yet Ayurvedic medicine explains this process through Kapha doshic imbalances as shown in Table 1. Modern therapeutic management trends that focus on non-invasive treatment meet well with the Ayurvedic method of scraping (Lekhana) and the anti-inflammatory (Shothhara) interventions. A patient-centered care strategy can be established through the integration of Ayurvedic principles together with diagnostic advancements and clinical evidence of herbal medicines in treating fibroadenoma cases (Ramamoorthy et al., 2015).

**Table 1: Clinical Features of Fibroadenoma and Ayurvedic Correlation**

Clinical Features of Fibroadenoma	Ayurvedic Correlation (Granthi)
Well-circumscribed, mobile mass	Localized, encapsulated swelling
Painless or minimally tender	Mostly painless swelling
Slow-growing lesion	Gradual enlargement described
Hormonal influence (estrogen sensitivity)	Kapha-Pitta dosha predominance
Low-grade inflammation in some cases	Shotha (minor swelling/inflammation) present

### 3. Lekhana and Shothhara Therapies

#### 3.1 Concept of Lekhana in Ayurveda

Lekhana stands as a traditional therapeutic principle within Ayurveda which describes the practise of body scraping and tissue reduction or elimination (Kapur & Kapur, 2016). The therapy finds its application in cases featuring abnormal tissue growths and excessive fat accumulation and pathological masses. Lekhana relies on five essential properties: Tikshna (sharpness), Laghu (lightness), Ushna (heat), Sukshma (subtlety), and Vyavayi (pervasiveness). The bodily tissues can be penetrated and disintegrated and pathological dense structures can be removed because of these properties.

The biological function of Lekhana therapies involves breaking down solidified dosha-aggravated tissues followed by their elimination from the body. Lekhana receives special importance in medical situations where Kapha dosha dominates because heaviness and obstructive stagnation are present. The treatment of fibroadenoma benefits from Lekhana therapies because they offer a non-invasive method to reduce the mass. The most commonly utilised Lekhana herbs include Guggulu (Commiphora mukul), Kanchanar (Bauhinia variegata), Triphala (Emblia officinalis, Terminalia chebula, and Terminalia bellirica combination) and Haridra (Curcuma longa). Kanchanar Guggulu stands out among formulations because it effectively treats glandular swellings and benign tumours (Kumar et al., 2011).

#### 3.2 Pharmacological Basis of Lekhana Therapy

Pharmacological research today confirms the traditional medical uses of Lekhana herbs. The anti-inflammatory along with anti-proliferative and lipid-lowering properties of Guggulsterones from Commiphora mukul help minimise pathological tissue masses (Kumar et al., 2011). Multiple experimental studies have proven that Bauhinia variegata extracts show antioxidant properties and anti-tumour effects and trigger apoptosis (Shah et al., 2010). Modern research confirms that Triphala demonstrates strong antioxidant properties and anti-inflammatory effects which validates its traditional use in dissolving abnormal tissue growths (Peterson et al., 2017). The main bioactive compound in Haridra (Curcuma longa) known as curcumin demonstrates strong anti-proliferative properties by controlling various molecular signalling pathways linked to tumour development and persistent inflammation (Goel et al., 2008). These herbs work together to support the Ayurvedic view that Lekhana treatments dissolve pathological masses through gradual scraping processes which normalise tissue homeostasis.

#### 3.3 Concept of Shothhara in Ayurveda

Shothhara represents therapeutic methods used to treat Shotha which describes localised swelling and inflammatory conditions or edoema. The Ayurvedic pathology explains Shotha develops when Kapha and Pitta doshas become vitiated and Rakta (blood) tissues experience disturbances (Kapur & Kapur, 2016). The focus of Shothhara therapies is to achieve doshic equilibrium and minimize swelling then normalize the functional state of affected tissues. The main properties of Shothhara herbs consist of Ushna (hot potency), Tikshna (sharpness), and Katu (pungency) which help disperse accumulated fluids and inflammatory mediators. Shothhara therapies serve as an essential supporting approach in fibroadenoma management because they treat inflammatory elements that could worsen benign mass conditions. The essential herbs used in Shothhara therapy include Shallaki (Boswellia serrata) and Guduchi (Tinospora cordifolia) and Punarnava (Boerhavia diffusa) and Haridra (Curcuma longa). The scientific evidence confirms the medicinal validity of these herbs because they show potent anti-inflammatory effects as well as antioxidant properties and immunomodulation capabilities (Ammon, 2006; Nayak & Thirunavoukkarasu, 2016).

#### 3.4 Pharmacological Basis of Shothhara Therapy

The pharmacological activities of Shothhara herbs receive strong backing from scientific research. The Boswellic acids found in Boswellia serrata block 5-lipoxygenase enzymes to stop leukotriene production and minimise chronic inflammation (Ammon, 2006). The medicinal plant Tinospora cordifolia (Guduchi) exhibits strong immune-modulating properties while boosting macrophage activity and helping the body detoxify and heal systemically (Gupta et al., 2024). Punarnava (Boerhavia diffusa) possesses well-established anti-inflammatory together with diuretic and antioxidant properties that help effectively treat localised swelling and edoema (Nayak & Thirunavoukkarasu, 2016). The anti-inflammatory compound in Haridra Curcumin regulates multiple inflammatory pathways and cellular signalling networks that drive inflammatory responses (Goel et al., 2008). The pharmacological properties of these herbs work to demonstrate anti-inflammatory effects and reduce oxidative stress levels and stabilize cellular membranes and develop microcirculation which support holistic benign tissue management.

#### 3.5 Integration of Lekhana and Shothhara Therapies in Fibroadenoma Management

The simultaneous use of Lekhana and Shothhara therapies provides a complete non-surgical treatment method for fibroadenomas which follows Ayurvedic medical principles. Lekhana therapies break down the pathological mass through

their treatment methods while Shothhara therapies reduce inflammation and promote systemic rejuvenation (Sharma et al., 2024). The combined therapy effectively minimises fibroadenoma dimensions and symptoms while building body resistance and stopping future occurrences and improving tissue wellness. Modern diagnostic evaluation combined with Ayurveda-based therapeutic interventions in integrative management protocols shows potential to provide patients with evidence-based holistic care for benign breast tumours (Ramamoorthy et al., 2015).

#### 4. Pharmacological Insights

##### 4.1 Introduction to Pharmacological Perspectives

Modern scientific research has confirmed traditional Ayurvedic treatments which has enhanced the medical validity of Lekhana and Shothhara therapies for benign tumour management. Traditional herbs used in these categories demonstrate multiple pharmacological properties that range from anti-inflammatory to anti-proliferative and apoptotic and antioxidant and immunomodulatory effects (Debela et al., 2021). The clarification of biochemical processes during herbal action enhances their traditional practices and creates new paths for integrative medicine. The pharmacological activities of these substances match well with therapeutic goals in fibroadenoma treatment because they combat low-grade inflammation while reducing oxidative stress and controlling tissue proliferation. This makes them suitable alternatives to surgical procedures.

##### 4.2 Pharmacological Activities of Lekhana Herbs

The main herb used in Lekhana therapy is Guggulu (*Commiphora mukul*) which exhibits strong anti-inflammatory and anti-proliferative pharmacological properties. The bioactive compounds guggulsterones show strong inhibitory effects on the nuclear factor-kappa B (NF- $\kappa$ B) pathway and display anti-cancer properties (Shen et al., 2012). Scientific research indicates that Kanchanar (*Bauhinia variegata*) exhibits antitumor and antioxidant effects and anti-inflammatory properties because of its flavonoid and phenolic compounds (Singh et al., 2019). Triphala demonstrates strong pharmacological potential in modern research studies as a polyherbal formulation. Triphala executes antioxidant and chemopreventive properties through its ability to modify oxidative stress pathways while boosting activities related to detoxification enzymes according to Prasad & Srivastava (2020). The combined therapeutic actions of Triphala lead to pathological mass dissolution and normal tissue restoration thus confirming its traditional role as a Lekhana agent.

##### 4.3 Pharmacological Activities of Shothhara Herbs

Shothhara therapies within Ayurvedic medicine work to decrease swelling and inflammation while the herbs used under this approach demonstrate diverse pharmacological properties. Scientific research shows that Shallaki (*Boswellia serrata*) exhibits anti-inflammatory and antitumor effects by blocking 5-lipoxygenase activity and suppressing leukotriene production (Khan et al., 2016). By being rich in curcumin Haridra (*Curcuma longa*) functions as multi-directed agent which blocks the activation of NF- $\kappa$ B pathway and lowers COX-2 expression levels while reducing pro-inflammatory cytokine production (Chainani-Wu, 2003).

The scientific community has thoroughly investigated Guduchi (*Tinospora cordifolia*) because of its proven ability to regulate the immune system and act as an antioxidant and anticancer agent (Verma & Khan, 2018). The healing processes at a systemic level benefit from this treatment because it activates macrophages while controlling cytokine profiles (Jagtap, et al., 2024). The therapeutic properties of Punarnava (*Boerhavia diffusa*) in Shothhara therapy include its diuretic effects and anti-inflammatory and antioxidant actions which help reduce localised edoema and promote detoxification (Nayak & Thirunavoukkrasu, 2016).

##### 4.4 Molecular Mechanisms Relevant to Fibroadenoma

The molecular pathways involved in fibroadenoma pathogenesis serve as direct targets for the therapeutic herbs used in Lekhana and Shothhara therapies. The main bioactive component of Haridra known as curcumin regulates NF- $\kappa$ B and STAT3 and PI3K/Akt signalling pathways to stop tumour growth and trigger programmed cell death (Willenbacher et al., 2019). The boswellic acids in Shallaki block leukotriene-mediated inflammation and matrix degradation processes which help stabilise tissues (Khan et al., 2016).

Triphala activates detoxifying enzymes while decreasing ROS damage to DNA which leads to protective effects against tissue hyperplasia (Prasad & Srivastava, 2020). Guduchi exhibits pharmacological properties that control cytokine storms and boost innate immunity to restore tissue balance in benign proliferative conditions (Verma & Khan, 2018). The therapeutic goals in fibroadenoma management find support through the mechanisms presented in Table 2 which provide multiple biological intervention approaches.

**Table 2: Pharmacological Actions Targeted in Fibroadenoma Management**

Targeted Pathology	Ayurvedic Therapeutic Action	Pharmacological Effect
Localized Mass Proliferation	Lekhana (scraping)	Anti-proliferative
Inflammatory Milieu	Shothhara (reducing swelling)	Anti-inflammatory
Oxidative Stress	Rasayana (rejuvenative)	Antioxidant
Tissue Fluid Stagnation	Srotoshodhana (channel cleansing)	Diuretic, Detoxification
Immune Dysregulation	Ojovardhana (immunity strengthening)	Immunomodulatory

#### **4.5 Synergistic Benefits of Combined Herbal Actions**

The main principle of Ayurvedic medicine utilizes polyherbal combinations which makes drugs work together by utilizing synergistic interactions between several herbs to produce extensive therapeutic results. The combination of Lekhana agents Guggulu and Triphala with Shothhara components Haridra and Guduchi provides enhanced anti-inflammatory and antioxidant effects and mass reduction benefits while minimising potential adverse reactions according to Patil et al. (2022). The holistic action spectrum treats pathological mass while simultaneously restoring systemic balance which fulfils the core principles of Ayurvedic medicine.

The traditional formulations Kanchanar Guggulu, Triphala churna and Haridra-based decoctions incorporate synergistic combinations among their ingredients. Scientific research on modern pharmacology confirms the traditional knowledge of combining these herbs as described in classical texts. A polyherbal combination shows great potential to become a non-invasive therapeutic approach since it provides both effective personalized management as well as modern diagnostic capabilities.

### **5. Clinical Evidence**

#### **5.1 Need for Clinical Evidence**

The standard clinical approach to treat fibroadenoma focuses on surgical removal or minimally invasive procedures because this benign breast condition affects mental well-being. The effectiveness of existing interventions produces cosmetic problems and recurrence and psychological issues that call for safer holistic treatment alternatives. The Lekhana scraping method and Shothhara anti-inflammatory procedures of Ayurveda provide appealing strategies focusing on the reduction of fibroadenomas. Adil medical practice needs solid clinical evidence showing traditional treatments' both safety and effectiveness to achieve widespread adoption (Vaidya & Devasagayam, 2007). Health research projects form the essential functional relationship between historic medical knowledge and current scientific standards of acceptance.

#### **5.2 Existing Clinical Studies on Fibroadenoma Management**

The diagnosis of fibroadenomas depends heavily on ultrasound imaging techniques in conventional medical practise. The analysis of sonographic features demonstrates that imaging alone fails to distinguish between fibroadenomas and malignant breast lesions (Skaane & Engedal, 1998). Surgical treatment continues as a standard approach however vacuum-assisted excision and cryoablation have become preferred minimal invasive procedures. Technical progress has not eliminated the recurring problems and postoperative scarring and patient dissatisfaction remains an issue (Onstad & Stuckey, 2013). Observational studies conducted in Indian clinical settings reveal that patients with benign breast conditions turn to integrative therapies after learning about surgical intervention (Manasa et al., 2021). The increasing need for validated non-surgical treatments that stem from Ayurvedic principles continues to grow as a result.

#### **5.3 Clinical Studies Related to Lekhana Therapies**

The classical Ayurvedic approach to localised masses and abnormal tissue proliferations includes Lekhana therapies which have been traditionally used for their management. Guggulu-based medications including Kanchanar Guggulu have gained prominence in this field because they treat benign swellings and glandular disorders (Sastry, 1976). Medical practitioners have noticed initial signs that regular use of Lekhana formulations produces smaller masses and reduces their related symptoms.

The limited clinical research on fibroadenoma treatment has shown positive results from Guggulu-based interventions through parallel studies involving benign growths and nodular swellings. Historical Ayurvedic records documenting the use of these formulations supply strong evidence for conducting systematic clinical validation through properly crafted trials.

#### **5.4 Clinical Studies Related to Shothhara Therapies**

The clinical evidence supporting Shothhara therapies which address swelling and inflammation is stronger than other therapies. Medical research validates Curcuma longa or Haridra as a potent anti-inflammatory agent due to its high curcumin content. Research trials have demonstrated that Haridra (Curcuma longa) effectively lowers CRP and IL-6 systemic inflammation markers which validates its use in inflammatory conditions (Chainani-Wu, 2003). The medical community has thoroughly evaluated Boswellia serrata because of its boswellic acid content. Scientific research using randomised double-blind placebo-controlled trials shows that Boswellia extract administration leads to significant improvement of inflammatory symptoms and tissue swelling reduction (Kimmatkar et al., 2003). The anti-inflammatory properties observed in osteoarthritis studies apply to fibroadenoma management because this condition sometimes includes low-grade chronic inflammation surrounding the lesion.

The traditional medical use of Punarnava (Boerhavia diffusa) as a Shothhara herb extends to conditions that present with edoema and tissue swelling. Recent clinical discussions show Punarnava (Boerhavia diffusa) has antioxidant and diuretic properties that make it suitable for systemic anti-inflammatory therapy (Mondal et al., 2024). The pharmacological evidence suggests that Punarnava should be included in treatment plans for benign breast swellings even though specific trials for fibroadenoma have not been performed.

#### **5.5 Integrative Clinical Approaches**

The combination of Ayurvedic internal therapies with modern diagnostic monitoring produces promising clinical outcomes according to Table 3 which presents accumulating case reports and clinical observations. The combination of

Ayurvedic medicines Kanchanar Guggulu and Triphala with proper lifestyle adjustments and dietary changes shows promise in stabilising or reversing benign breast lesions with time.

Personalized Ayurvedic treatments adjusted through doshic imbalance and constitutional analysis detection lead patients to better follow their treatment plans and experience fewer side effects and greater psychological well-being in comparison to patients who choose surveillance or surgery (Chopra & Doiphode, 2002). The integrative approach creates a complete management system which treats both physical masses and systemic elements affecting disease development.

### 5.6 Limitations and Gaps in Current Evidence

As discussed in Section 5.5, existing studies suffer from methodological weaknesses, including the lack of randomization, placebo control, and blinding procedures. These studies are mainly open-label or observational in nature. The reliance on small research samples and subjective research methods creates obstacles for obtaining strong, conclusive results.

Additionally, there is a lack of research regarding the use of objective imaging methods like serial ultrasonography or MRI to measure changes in fibroadenoma size and characteristics. Biomarker analysis, alongside inflammatory cytokine profiling, represents a method to improve researchers' knowledge about therapy mechanisms.

**Table 3: Core Ayurvedic Strategies for Fibroadenoma Management**

Ayurvedic Strategy	Primary Objective	Examples of Herbs/Formulations
Lekhana Therapy	Reduce abnormal tissue mass	Kanchanar Guggulu, Triphala
Shothhara Therapy	Control localized swelling	Haridra, Shallaki, Punarnava
Rasayana Therapy	Enhance tissue repair and immunity	Guduchi, Amalaki
Srotoshodhana Therapy	Improve microcirculation and detoxification	Punarnava, Guggulu
Pathya-Apathya (Diet-Lifestyle Regulation)	Support systemic balance	Light, Kapha-pacifying diet

### 5.7 Future Directions and Research Needs

Research needs to conduct extensive randomised controlled trials that compare Ayurvedic treatments to placebo or standard medical care for fibroadenoma treatment. The research design should adopt standardised herbal preparations together with uniform treatment durations and objective imaging and biochemical endpoints. Trials conducted across multiple research sites while involving participants from various ethnic backgrounds would enhance the overall quality of results.

Scientific approaches which merge genomics with metabolomics can reveal biological processes modified by traditional Ayurvedic herbs which would enable therapists to customize healing solutions. The evaluation of quality life indicators and analysis of treatment costs and recurrence numbers together with patient satisfaction measurement between surgery and integrative medical treatments would guide physicians in their decision-making process.

Research design requires methodological soundness which can only be achieved through collaborative frameworks between Ayurvedic physicians and oncologists and pharmacologists and clinical trialists. The integration of classical knowledge with modern scientific research allows Ayurveda to develop credible evidence-based practises for holistic fibroadenoma treatment.

## 6. CONCLUSION

Fibroadenoma functions as a major benign breast condition that predominantly affects young female patients in their reproductive period. The need for safe, non-invasive therapeutic alternatives becomes more important because conventional surgical and minimally invasive options lead to psychological distress, cosmetic concerns, and recurrence risks. The ancient Ayurvedic concepts of Lekhana and Shothhara therapies provide a complete method to treat benign breast growths like fibroadenomas. The pharmacological activities of Ayurvedic herbs demonstrate traditional use patterns that correspond to fibroadenoma pathophysiology through their anti-inflammatory, anti-proliferative, antioxidant, and immunomodulatory properties. Early research results suggest that formulations consisting of Kanchanar Guggulu, Shallaki, Haridra, and Triphala may reduce mass sizes and relieve symptoms, together with improving tissue balance, without requiring invasive surgical interventions. The existing clinical evidence about these treatments faces multiple limitations because of weak methodology, insufficient participant numbers, and insufficient use of imaging-based assessment methods. The approach that links Ayurvedic treatments with modern diagnostic methods and monitoring systems provides strong potential benefits, even with its remaining restrictions.

Further research needs to conduct well-organized randomized controlled trials with standard treatment doses and quantitative results to establish both safety and effectiveness of Ayurvedic treatments in fibroadenoma treatment. Ayurvedic medicine will achieve greater credibility as an evidence-based approach for benign breast tumor management through its integration of traditional practices and modern scientific research approaches, which will enhance patient care and improve quality of life.

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