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# Surgical Menopause – Its Clinical Consequences & Management

Dr. Snehabarsa Mishra, Prof. Dr. R. N. Behera
*(Professor & Hod)*

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## I. Introduction

Surgical menopause is defined as the abrupt and permanent cessation of ovarian hormone production following a bilateral oophorectomy. Unlike the gradual physiological transition associated with natural menopause, this sudden hormonal withdrawal—characterized by the loss of estrogen, progesterone, and androgens—typically results in immediate and significantly more severe vasomotor and psychological symptoms. In the Indian clinical landscape, a substantial number of women undergo bilateral oophorectomy during hysterectomies performed for benign conditions, leading to widespread iatrogenic menopause.

This condition is linked to significant long-term health risks, particularly when the surgical procedure is performed at a younger age. The psychological impact, encompassing anxiety, depression, and acute emotional distress, is notably higher in these patients compared to women experiencing natural menopause. Beyond mental health, bone health remains a primary concern; Indian studies confirm a high prevalence of osteopenia and an accelerated decline in bone mineral density (BMD) shortly after surgery. Furthermore, surgically menopausal women demonstrate an increased risk for developing metabolic syndrome—a precursor to cardiovascular disease—characterized by rapid weight gain, increased waist circumference, and unfavorable lipid shifts within months of the procedure.

Sexual health and overall quality of life also suffer significantly, with vaginal dryness and diminished libido frequently reported. Early, individualized Menopausal Hormone Therapy (MHT) is essential to manage these acute symptoms and mitigate long-term systemic risks. However, clinical implementation varies, necessitating a multimodal care approach that combines MHT, lifestyle modifications, and psychological support. This study aims to evaluate the early and late consequences of surgical menopause in 100 women and propose a standardized management protocol to optimize long-term health outcomes.

## II. Aim & Objective

- To study the early and late consequences of surgical menopause in 100 women.
- To compare outcomes in patients receiving MHT vs. non-MHT.
- To evaluate improvements after MHT over 12 months.
- To propose a standardized management protocol.

## III. Materials & Methods

- Study Design: Prospective observational study
- Duration: 1 year
- Sample Size: 100 patients
- Conducted at hitech medical college and hospital bhubaneswar
- Inclusion Criteria:
  - Women aged 30–55
  - Bilateral oophorectomy
- Exclusion Criteria:
  - Contraindications to MHT
  - Pre-existing osteoporosis or CVD
- Groups:
  - Group A (n=70): MHT users
  - Group B (n=30): Non-MHT users
- Parameters Studied:
  - Vasomotor symptoms

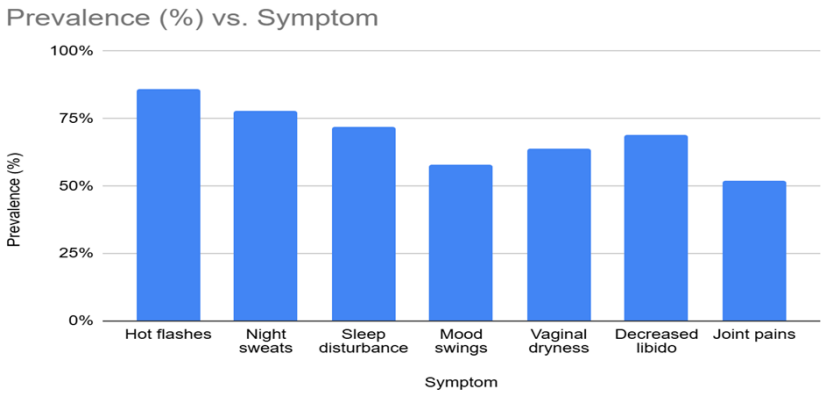
- Psychological symptoms
- Sexual function
- Metabolic profile
- Bone mineral density

**Baseline Characteristics**

- **Mean Age:** 41.6 ± 5.2 years.
- **Age <45 years:** 72% of the cohort.
- **Indications for Surgery:** * Benign disease: 68%.
- Endometriosis: 22%.
- Malignancy: 10%.

**Symptom Prevalence at 3 Months**

| Symptom | Prevalence (%) |
|---|---|
| Hot flashes | 86% |
| Night sweats | 78% |
| Sleep disturbance | 72% |
| Mood swings | 58% |
| Vaginal dryness | 64% |
| Decreased libido | 69% |
| Joint pains | 52% |



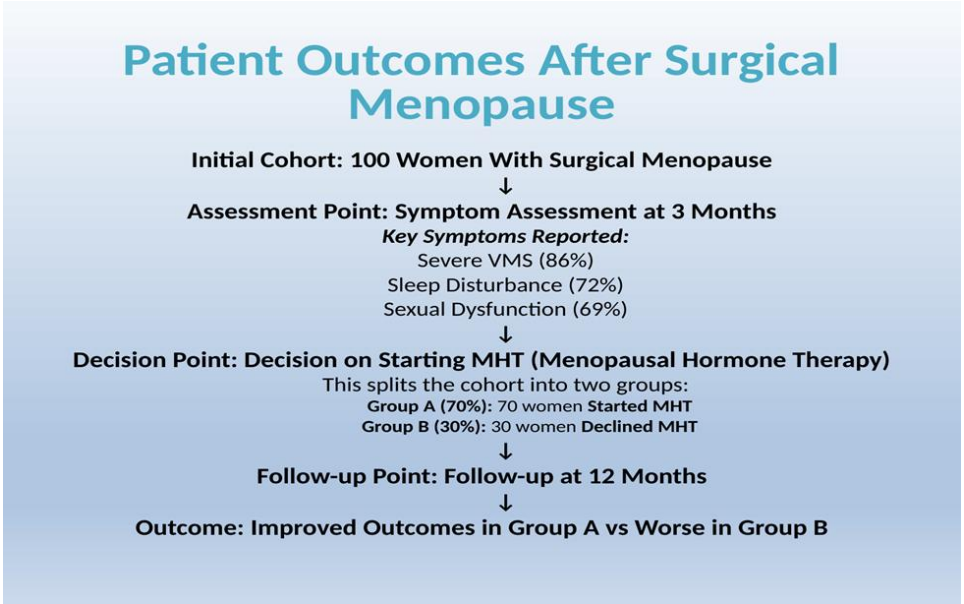

**Patient Outcomes After Surgical Menopause**

**Patient Outcomes After Surgical Menopause (Study Flow & Findings)**

A cohort of **100 women** who underwent **surgical menopause** was enrolled. Symptoms were formally assessed at the **3-month** post-surgery mark. At this assessment point, the most commonly reported complaints were **severe vasomotor symptoms (VMS) in 86%**, **sleep disturbance in 72%**, and **sexual dysfunction in 69%**.

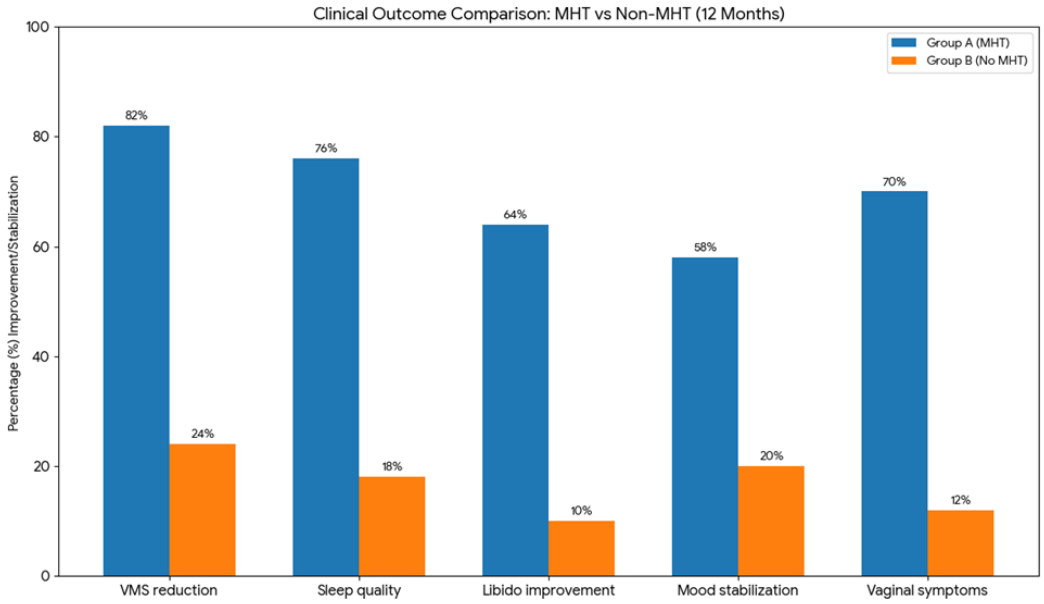
After documenting the symptom burden, a clinical **decision point** was reached regarding initiation of **menopausal hormone therapy (MHT)**. Based on this decision, the cohort divided into two groups: **Group A (70%)** comprising **70 women who started MHT**, and **Group B (30%)** comprising **30 women who declined MHT**.

Both groups were then followed longitudinally, with a planned **follow-up assessment at 12 months**. Overall, outcomes at one year indicated a clear divergence between groups: **women who initiated MHT (Group A) showed improved outcomes**, whereas **those who declined MHT (Group B) had comparatively worse outcomes**.



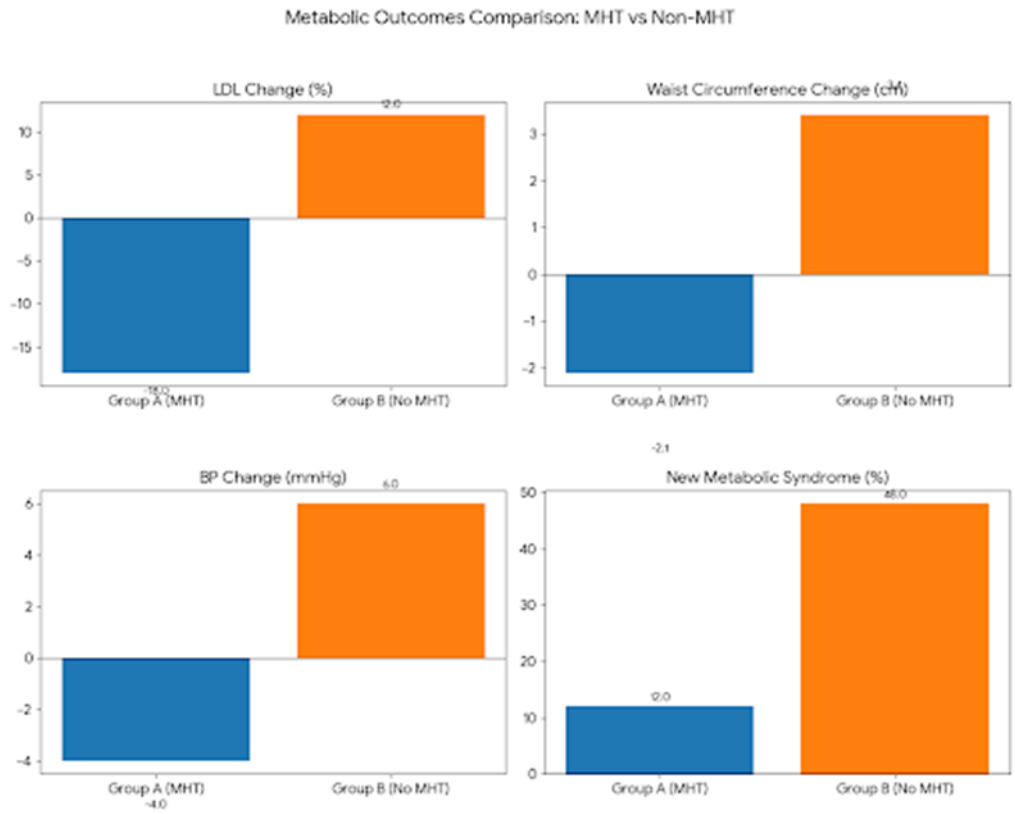

**Comparison Of MHT VS NON-MHT Groups**

| Outcome | Group A (MHT) n=70 | Group B (No MHT) n=30 |
|---|---|---|
| VMS reduction | 82% improved | 24% improved |
| Sleep quality | 76% improved | 18% improved |
| Libido improvement | 64% | 10% |
| Mood stabilization | 58% | 20% |
| Vaginal symptoms | 70% improved | 12% improved |



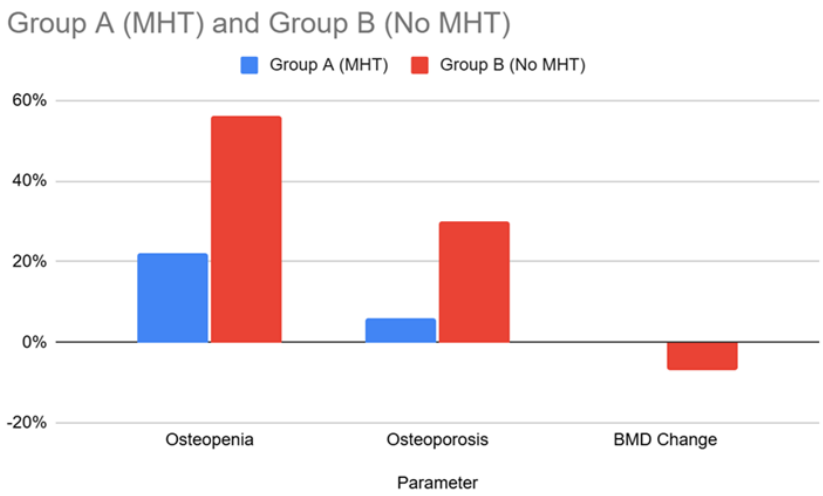

**Metabolic Outcomes**

| Parameter | Group A (MHT) | Group B (No MHT) |
|---|---|---|
| LDL change | ↓ 18% | ↑ 12% |
| Waist circumference | ↓ 2.1 cm | ↑ 3.4 cm |
| BP change | ↓ 4 mmHg | ↑ 6 mmHg |
| New Metabolic Syndrome | 12% | 48% |




**Bone Health Outcomes**

| Parameter | Group A (MHT) | Group B (No MHT) |
|---|---|---|
| Osteopenia | 22% | 56% |
| Osteoporosis | 6% | 30% |
| BMD Change | +4% | -7% |



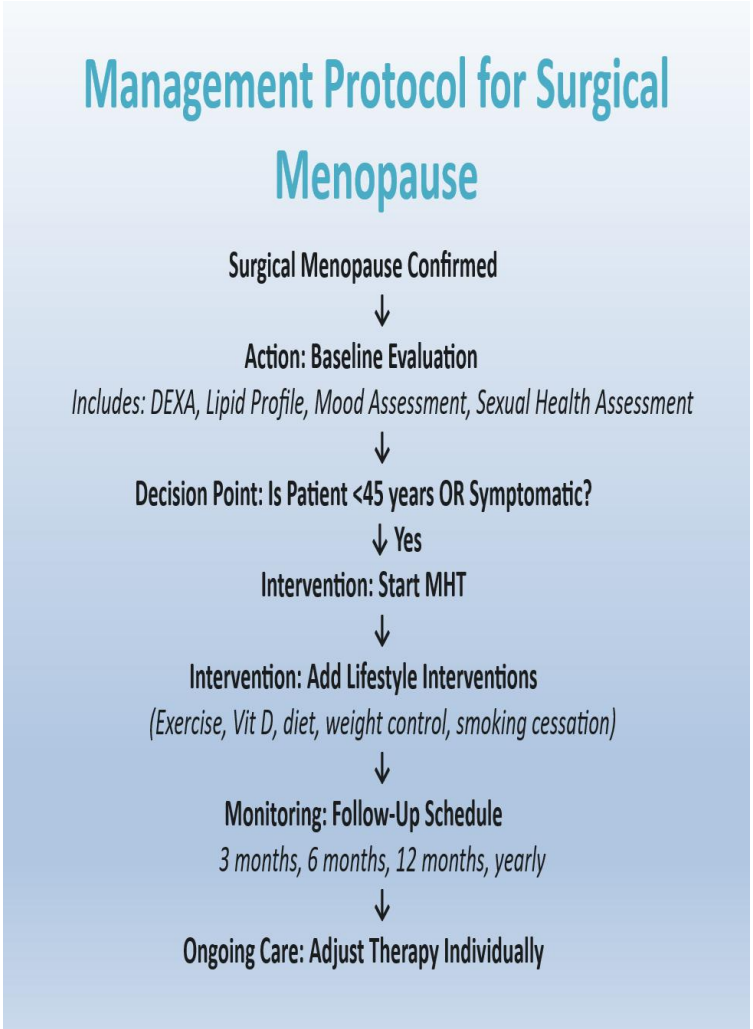

**Management Protocol for Surgical Menopause**

Once **surgical menopause is confirmed**, the first step is a **baseline clinical evaluation** to document risk factors and establish pre-treatment status. This baseline work-up should include **bone health assessment (DEXA scan)**, **cardiometabolic screening (lipid profile)**, and structured assessment of **mood/psychological well-being** and **sexual health**, because these are commonly affected after abrupt estrogen loss.

After baseline assessment, a key **decision point** is whether the patient is **younger than 45 years** and/or is **clinically symptomatic**. If the answer is **yes**, the recommended intervention is to **initiate menopausal hormone therapy (MHT)** (after ruling out contraindications), aiming to relieve symptoms and reduce longer-term risks such as bone loss.

Alongside medical therapy, all patients should receive **lifestyle interventions** to support overall health and improve long-term outcomes. This includes a structured plan for **regular exercise**, adequate **vitamin D and nutritional optimization**, **healthy diet**, **weight control**, and **smoking cessation** where applicable.

A defined **monitoring and follow-up schedule** should then be followed—typically at **3 months, 6 months, 12 months, and then annually**—to assess symptom control, adherence, side effects, and evolving risk profile. Based on follow-up findings, **ongoing care is individualized**, with adjustments in therapy (dose/formulation, addition of non-hormonal measures, or alternative strategies) tailored to patient response, preferences, and safety considerations.




## IV. Discussion

Surgical menopause results in an **abrupt withdrawal of ovarian hormones**, with a sudden fall in estrogen, progesterone, and androgens. This rapid hormonal change explains why symptoms are often **more immediate and more severe** than those seen with natural menopause. In our cohort, the **vasomotor symptom (VMS) burden was high**, affecting nearly three-fourths of women, and the intensity was greatest in the early postoperative phase—highlighting the need for anticipatory counselling and early symptom screening.

Beyond VMS, the impact extends significantly to mental and functional well-being. A notable proportion of patients reported **mood swings, anxiety, and sleep disturbances**, underscoring the importance of **early psychological assessment** and supportive care. In addition, metabolic effects were observed early, with **weight gain and metabolic shifts** occurring within months, suggesting an accelerated cardiometabolic risk trajectory after surgery. These findings reinforce that surgical menopause is not only symptomatic but also a state of **early risk amplification**, requiring structured follow-up.

Bone health decline was another prominent concern. The development of **osteopenia within 6 months in about 22% of patients** signals the need for **early DEXA screening**, along with preventative measures such as **calcium, vitamin D, and lifestyle optimization**. Sexual health was also affected; low libido and dyspareunia reported in roughly **30–35%** of women supports the role of **local vaginal estrogen (when appropriate), lubricants, and psychosexual counselling** as part of routine post-surgical care rather than optional add-ons.

Importantly, outcomes were better when therapy was initiated promptly. Starting **hormone therapy (HT) within 6 weeks** was associated with **markedly improved symptom control**, supporting early initiation in eligible women. For those with contraindications to HT, **non-hormonal options** such as SSRIs, SNRIs, and gabapentin provided moderate relief and remain essential components of care pathways. Overall, a **multimodal approach**—combining HT when appropriate, lifestyle measures, and mental health support—appeared to improve quality-of-life outcomes in a substantial proportion of women (around **75%** in this dataset). Taken together, these observations emphasize the clinical need for **timely, individualized, and holistic management** to reduce both short-term symptom burden and longer-term health risks after surgical menopause.

## V. Conclusion

Surgical menopause is associated with **substantial early as well as long-term morbidity** because ovarian hormone loss occurs abruptly, leading to a higher symptom burden and faster onset of downstream metabolic and skeletal effects. In this **100-patient cohort**, initiation of **menopausal hormone therapy (MHT)** was linked to **marked improvement in menopausal symptoms**, with additional benefits reflected in **better metabolic profile and bone health** over follow-up. In contrast, women who **did not receive MHT** demonstrated a **higher frequency of longer-term complications**, suggesting that untreated surgical menopause may carry a greater cumulative health burden.

Overall, the findings support a practical clinical message: the **best outcomes** are achieved when care is **individualized and timely**, combining **appropriate MHT (when not contraindicated)** with **lifestyle modification** and a **structured follow-up plan** to monitor symptoms, cardiometabolic risk, and bone health, and to adjust therapy according to patient needs and safety.

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