To Evaluate the Outcome of Case Series of Hypothyroidism Patients on Comprehensive Care and Medical Management

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Abstract:
Comprehensive care of hypothyroidism is a holistic approach to treating a condition that may involve multiple aspects of a patient's life. The aim of the case study is to see comprehensive care, medication, counselling, and lifestyle changes to control hypothyroidism, as thyroxin alone cannot reduce symptoms, although TSH, free T3, and free T4 are in near-normal range. However, the majority of patients continue complaining even with regular treatment with lower limb pain, oedema, constipation, and others. It is necessary to control all symptoms of hypothyroidism and reverse normal function of thyroid diseases, feeling well-being. Case 1 hypothyroidism developed due to severe stress, a mental or social problem, or an allergy to cow milk, which was taken for 6 months. She, only two years suffering from hypothyroidism, tried thyroxin, which controlled near subclinical level thyroid function but was no relief of symptoms properly. She tried thyroid gland massage, yoga for thyroid, lifestyle modification diet, and meditation. She got relieved symptoms 60% but not sufficient to feel normal. She started a supplement of selenium, which is deficient in the earth of Jaipur, with thyroxin, vitamin D, Zn, Mg, calcium, and CoQ10 supplements, which helped relieve fatigue. These all reduce pain in the lower limb, improving symptoms, but still 30% to improve. She started spine and leg stretching exercises with initially mild and gradually increased to moderate strength with the help of wolpin resistance band for workouts and the Eowote 4-tube yoga pedal puller resistant band. That may have helped due to relieved lymph stasis in the lower limb. She achieved remarkable improvement. Cases 2 and 3 also achieved control of symptoms and thyroid function, but it is difficult to say if they will be able to reduce the dose of thyroxin towards stopping it in the future?

***Keywords:*Comprehensive Care, Hypothyroidism Management, Lifestyle Modification**
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1. Introduction

Understanding the Prevalence and Impact of Hypothyroidism

The Rising Tide of Hypothyroidism: Unveiling Global Statistics

Hypothyroidism is becoming more common. It affects millions of people worldwide. According to recent studies, about 1 in 8 women and 1 in 7 men may experience this condition at some point in their lives. Though often overlooked, the consequences of untreated hypothyroidism can greatly reduce one's quality of life. From fatigue to weight gain, the impact is widespread.

The Silent Struggle: Exploring the Symptoms and Misdiagnosis of Hypothyroidism

Many people with hypothyroidism face symptoms like:

- Fatigue
- Weight gain
- Cold intolerance
- Dry skin
- Hair loss
- Depression

Due to these vague signs, diagnosis can sometimes be missed. Misdiagnosis can lead to inappropriate treatments, making educational awareness vital.

The Importance of Timely Diagnosis and Effective Management: Setting the Stage for this Case Series

Early diagnosis and treatment are essential. Proper management not only improves symptoms but also prevents potential complications. This article reviews three case studies, showing different aspects of hypothyroidism management.

Understanding and Managing Thyroid Problems: A Comprehensive Care

The world of thyroid issues is vast and often confusing, yet it can greatly impact well-being. Many people suffer from thyroid diseases without even realizing it. Knowing more about thyroid problems and how to address them can empower to take charge of health.

Thyroid problems affect roughly 20 million people in the United States, with many remaining undiagnosed. In fact, about 60% of those with thyroid disease are unaware of their condition.

Recognizing the Signs: Subtle Symptoms Shouldn't Ignore

Consider, who felt constantly tired and gained weight despite a healthy diet. After months of self-doubt and confusion, she discovered that her sluggishness was due to an underactive thyroid. Recognizing signs early can lead to quicker diagnosis and treatment.

Why Comprehensive Care is Crucial for Long-Term Well-being

Comprehensive care means tackling all aspects of your thyroid health. It's important for ensuring long-term health and preventing complications. This includes accurate diagnosis, effective treatment, and lifestyle management.

Types of Thyroid Disorders: Hypothyroidism vs. Hyperthyroidism

Hypothyroidism: Understanding an Underactive Thyroid

Hypothyroidism occurs when the thyroid does not produce enough hormones. "Thyroid function is vital for energy and metabolism," notes Dr. Smith, an endocrinologist.

Hyperthyroidism: The Challenges of an Overactive Thyroid

Hyperthyroidism, on the other hand, can lead to rapid heartbeats and weight loss, anxiety and sweating excessively. Can be an overactive thyroid. "Symptoms can be startling and disruptive," explains Dr. Allen, an expert in thyroid conditions.

Differentiating Symptoms: Key Differences to Note

- **Hypothyroidism Symptoms**: Fatigue, weight gain, dry skin.
- **Hyperthyroidism Symptoms**: Weight loss, increased sweating, anxiety.

Understanding these differences is crucial for seeking appropriate care.

Diagnosis and Testing: Uncovering the Root of Thyroid Problems

Comprehensive Blood Tests: What to Expect

Blood tests are essential for diagnosing thyroid issues. Common tests include TSH (Thyroid-Stimulating Hormone), Free T4, and Free T3 levels. These indicators help pinpoint whether have hypothyroidism or hyperthyroidism.

Imaging Techniques: Advanced Diagnostic Tools

In some cases, imaging techniques like ultrasounds are used. They can reveal abnormalities or nodules within the thyroid gland, providing further insights for doctors.

Consulting an Endocrinologist: The Importance of Specialized Care

Connecting with an endocrinologist is key for proper diagnosis and management. They possess specialized knowledge that general practitioners may not have, leading to better treatment plans.

Treatment Options: Tailoring Care to Your Specific Needs

Medication Management: Balancing Thyroid Hormones

Medications like levothyroxine for hypothyroidism and antithyroid drugs for hyperthyroidism are commonly prescribed. "Proper medication can restore balance and alleviate symptoms",advises Dr. Taylor, a thyroid specialist.

Lifestyle Adjustments: Supporting Thyroid Health Naturally

Support thyroid by:

- Eating a balanced diet rich in iodine, selenium, and zinc.
- Regular exercise to maintain a healthy weight.
- Staying hydrated.

Alternative Therapies: Exploring Complementary Approaches

While some seek alternative therapies, caution is needed. Always consult healthcare provider before trying supplements or herbal remedies, as they can interfere with prescribed medications.

Managing Thyroid Conditions: A Holistic Approach to Well-being

Dietary Considerations: Foods to Include and Avoid

Incorporate:

- Leafy greens
- Fish rich in omega-3s Avoid:
- Highly processed foods
- Excessive soy products

Stress Management: Minimizing Its Impact on Thyroid Function

Practicing mindfulness, engaging in yoga, or even simple breathing exercises can make a significant difference. Managing stress helps maintain hormonal balance and overall well-being.

Regular Monitoring: Maintaining Optimal Health

Periodic check-ups are essential. Regular blood tests can help you and your doctor monitor thyroid levels, ensuring your treatment plan remains effective.

Material and methods

Inclusive criteria

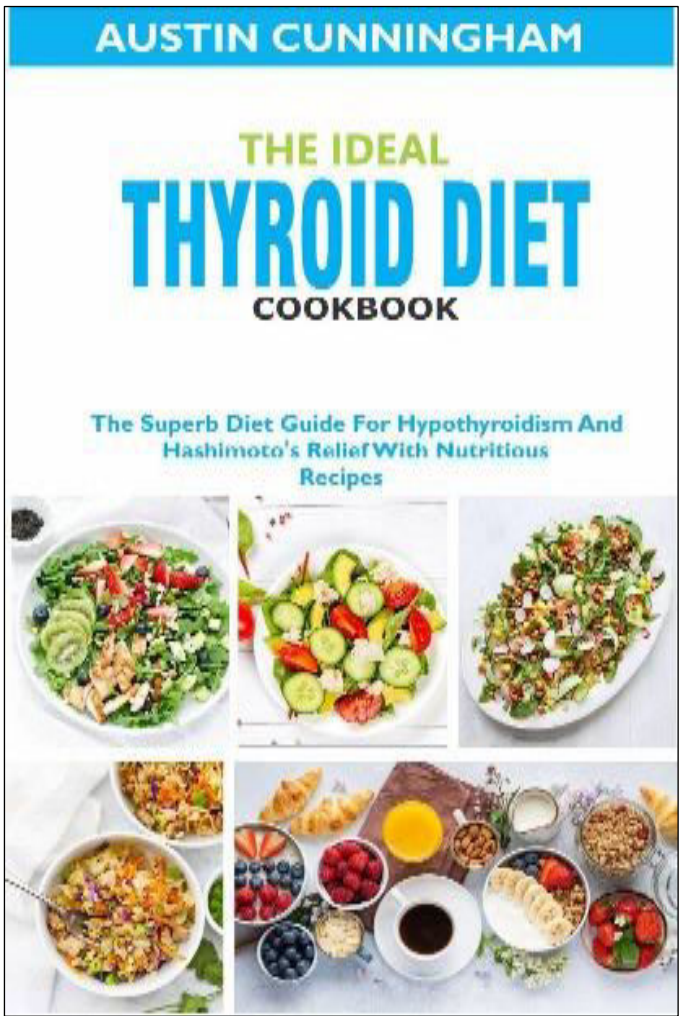
1. Patient known case of hypothyroidism on treatment
2. Subclinical hypothyroidism control but symptoms difficult to subside.
3. Patient willing to participate in case study.

Exclusive criteria

1. Not willing to participate in study.
2. Patient taking medicine and any other then thyroid diseases which can deranged thyroidprofile and symptoms**.**

Picture 1: Exercise for hypothyroidism
https://www.acko.com/health-insurance/health-guides/yoga-for-thyroid/

Diet should Change in hypothyroidism as follows:



Picture 2: Diet for hypothyroidism
https://images.app.goo.gl/H4hrQvzsfkNjbfFg8

Picture3: Eowote-Resistance-Equipment-Stretching-Multicolor/dp/B0DDYBMK5H

Picture 4: Wolpin-Resistance-Workout-Exercise-Stretching/dp/B0B7S4BQ45/ref=asc_df_B0B7S4BQ45/?tag=googleshopdes-21&linkCode=df0&hvadid=709855563276&hvpos=&hvnetw=g&hvrand=16096094282061556010&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9061770&hvtargid=pla-1934261542270&psc=1&mcid=e2143d3e1c33342e81cbe8c986b0c27f&gad_source=1

Calcium, Vitamin D, Mg, Zn, CoQ10 with Selenium supplement atleast 1 year.
Every two-month thyroid profile to done and examination to reduce symptom of hypothyroidism.

Result

Case 1

Known case of Hypothyroidism, first time when done test due to sever Lower limb swelling, puffy face, generalized edema, body weight gain, memory loss, sleepiness.
When drive car, even during exercise slept, drinking tea slept.
She had stressed induced hypothyroidism, diet insufficiency, father sick, sister sick both get admitted, Physical and mental stress.
Investigation done results showed-TSH 160 ulu/ml, free T3 1.1 pg/ml, free T4 0.6 ng/dl, Anti TPO slight increased about 40 IU/ml, others test included cholesterol, CBC, KFT, LFT, Glucose were with in normal range.
Started thyroxin 100 mcg,increase upto 125 mcg BBF daily.
TSH was under control 0.6 ulu/ml.
But she had fluctuations of weight gain, fluctuation of TSH level up to 15.7 ulu/ml. Leg edema, unhealthy feeling, pain even on walking, tiredness, memory slow down, response to situation slow, repeatedly accident while driving car. She was continued at treatment.
Started exercise yoga, massage thyroid gland, fresh vegetables, fruits, meditation. Some benefits seen but was slow recovery.
She was started taking Cap Selenium, CoQ10, Calcium magnesium, Zn, Vitamin D3 also continue followed up by edema decreased, pain lower limbs reduced.
High first classprotein, vegetables and fruits 50 % of plates.
On vigorous exercise like kathak, spine and limbs stretching exercise, started remarkable improvement weight reduce, wellbeing improved, leg pain gone, dose thyroxine reduced.
Still difficult to tell that when can fully control thyroid function because TSH report 7.0 ulu/ml.

Picture 5: Some real pictures: Before diagnosis

Picture6: After comprehensive life style modification and supplement vitamin D, calcium, selenium, CoQ10, exercise for hypothyroidism

Case 2

24 years F, present in OPD JNU hospital.
Know hypothyroidism on thyroxin 75 mcg BBF 6 years with weight gain, constipation, oligomenorrhea.
Glucose- 61 mg/dl
LFT, KFT, lipid profile-WNL
TSH -7.01 ulu/ml
Free T3- 4.25 pg/ml
Free T4- 7.01 ng/dl
When given Selenium and Coq10, exercise continue weight gain, lower limb pain reduced.

Treatment Plan and Monitoring Strategies: A Step-by-Step Approach seen improvement and reduce dose to 37.5 mcq

Treatment plan future included:

1. Starting Levothyroxine at 50 mcg daily.
2. Follow-up blood tests after six weeks.
3. Regular monitoring every three months.

Case 3

47 years/F, resident of Jaipur, present in Medicine OPD, know case of hypothyroidism 2 years on thyroxin 100 mcg BB F.
For 3 months not taken medicine.
Her Hb 11.5 gm /dl, TLC 8.5×10*5
Glucose R 107 mg/dl, free T3 0.74 pg/ml, free T4 0.612 ng/dl, TSH 100 ulu/ml.
Cholesterol 209 mg/dl.
Triglycerides 263.88 mg/dl.
HDL cholesterol 34.03 mg/dl.
LDL Cholesterol 132.58 mg/dl.
VLDL Cholesterol 52.78mg/dl.
Given Selenium and CoQ10, Calcium, Atorvastatin for dyslipidemia, restarted Thyroxine 100 mcg BBF.
Leg pain swelling, weightreducedremarkably, Thyroid function test reached subclinical level.

Treatment Plan and Monitoring Strategies: A Step-by-Step Approach

4. Starting Levothyroxine at 100 mcg daily.
5. Follow-up blood tests after six weeks.
6. Regular monitoring every three months.

Depression may accompany hypothyroidism. Recognizing and treating mood disorders alongside thyroid issues is important, as shown in Sarah's case where counselling and medication were integrated symptom of depression controlled and dose also reduced to 88 mcg daily.

Table 1: After Comprehensive treatment improvement of hypothyroidism symptom in + grade (1+ mild, ++ moderate, +++ good improvement, ++++ completely improved

S, No Case	Oedema	General symptom hypothyroidism	Constipation	Leg pain
1	++++	+++	+++++	++++
2	++++	++	++++	++
3	+++	+++	+++++	++++

Table 2: After comprehensive treatment, remarkable TSH decreased of all and normalised Free T3 and T4 of all

S, No Case	TSH	Free T3	Free T4
1	9.7uIu/ml	2.0 pg/ml	1.1ng/dl
2	5.7 uIu/ml	2.1 pg/ml	1,3ng/dl
3	6.2 uIu/ml	2.0 pg /ml	1.4 ng/dl

Remarkable improvement of symptoms but not controlled completely. Still to find some more research to control. Question to complete cure and stop medication still?

Discussion

Lifestyle Interventions in Hypothyroidism Management is key role in control symptom of hypothyroidism.

Dietary Recommendations for Thyroid Health: A Focus on Essential Nutrients: Essential nutrients include:

- Iodine
- Selenium
- These contribute to thyroid hormone biosynthesis, antioxidative defense and redox control of thyrocytes as well as to thyroid hormone metabolism. Severe and persistent selenium deficiency impairs thyroid hormone.
- Our study also seen some 30 % of improvement in leg swelling, edema, leg pain, tiredness, sleepiness, alertness, constipation and other with supplement of selenium, calcium, vitamin D, Coenzyme Q10, magnesium, Zinc.

Same other study which was done on supplementation with selenium and coenzyme Q_{10} in an elderly Swedish population low in selenium-positive effects on thyroid hormones found**.** (Urban et al., 2024).

Our study concluded that there is improvement in symptoms with supplement of Calcium+d3, Mg and Zn. The previous history also showed impaired metabolism of minerals like calcium, phosphorus, magnesium and copper can lead to various metabolic disorders. Preventive measures like supplementation of minerals or hormone replacement therapy can be initiated early to control these secondary disorders. (Athokpham et al., 2020)

The study revealed that improved leg pain, reduce oedema, reduce weight, improvement in memory, feeling subjective wellbeing with spine and leg stretching exercise with initially mild and gradually increase to moderate strength with help of wolpin resistance band for work out, Eowote 4 tube yoga pedal puller resistant band and yoga benefited significantly. As previous study also had finding different physical exercise does not have a significant impact on thyroid function, although its practice can lead to secondary outcomes related to physical and mental health. (Duñabeitiaet al., 2023)

Study seen effect of supplement of Cap Selenium, CoQ10, Calcium magnesium, Zn, Vitamin D3 also continue followed up by edema, pain lower limbs decreased some percentage 20%.

Our study revealed, high first classprotein, vegetables and fruits 50% of plates improved significantly. Previous study suggested that an online diet and lifestyle program facilitated by a multi-disciplinary team can significantly improve HRQL and symptom burden in middle-aged female subjects with HT. (Abbott et al.,2019)

Exercise and Physical Activity: Improving Overall Well-being

Regular physical activity can help combat fatigue and

weight gain. Aim for:

- 150 minutes of moderate exercise weekly.
- Strength training twice a week.

Stress Management Techniques: Minimizing the Impact of Stress on Thyroid Function

Stress can worsen symptoms. Techniques like yoga and meditation can promote relaxation and support thyroid health.

Thyroid Hormone Replacement Therapy: Optimizing Dosage and Medication Choice

Finding the right dose of Levothyroxine is crucial. Each patient's needs vary, requiring ongoing adjustments based on lab results.

Patient Outcomes and Long-Term Management: A Focus on Success

Continued monitoring kept health on track. Patient should highlight the importance adherence to medication and follow-up visits.

Conclusion

Ongoing studies sheds light on better management and treatment options of hypothyroidism.

- Our study also seen some 30% of improvement in leg swelling, edema, leg pain, tiredness, sleepiness, alertness, constipation and other with supplement of selenium, calcium, vitamin D, Coenzyme Q10, magnesium, Zinc.
- Our study concluded that there is improvement in symptoms with supplement of Calcium+d3, Mg and Zn.
- The study revealed that improved leg pain, reduce oedema, reduce weight, improvement in memory, feeling subjective wellbeing with spine and leg stretching exercise with initially mild and gradually increase to moderate strength with help of wolpin resistance band for work out, Eowote 4 tube yoga pedal puller resistant band and yoga benefited significantly.
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- Study seen effect of supplement of Cap Selenium, CoQ10, Calcium magnesium, Zn, Vitamin D3 also continue followed up by edema, pain lower limbs decreased some percentage 20%.

In summary, it is critical to acknowledge, diagnose, and manage hypothyroidism effectively. A supportive and holistic approach empowers patients to take control of their hypothyroid insufficiency.

Key Takeaways: Remember These Important Points

- Recognize symptoms early for quicker treatment.
- Regular blood tests and consultations are crucial, early start thyroxine and other modality of treatment according to diagnosis.
- Lifestyle choices significantly impact thyroid health.

By staying informed and engaged, can navigate the complexities of thyroid health as take steps towards a healthier tomorrow.

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