

Case Report

Integrated Approach in the Management of Acid Reflux, Hypertension and Obesity

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ABSTRACT

Acid reflux and acidity are common gastrointestinal disorders having great impact on a patient's quality of life. The drugs usually prescribed to provide promising results often mask unresolved physiological problems and cause further complications.

The subject of this study is a 49-year-old female who presented at the Health Total centre with hypertension along with moderate knee pain and pedal oedema associated with her history of osteomalacia. Her medical history revealed parathyroid surgery and an aggravated acid reflux condition. The aim of this case study is to evaluate the impact of an integrated treatment regimen that comprises nutrition, herbs and lifestyle modifications on disease manifestation and progression.

The patient's gastritis symptoms were rectified with the use of this 'Integrated Approach.' She also showed a gradual and sustained reduction in weight and BMI, normalization of blood pressure, along with relief from knee pain.

Keywords: Acid reflux, Ayurveda, Hypertension, Integrated Approach, Nutrition, Obesity

INTRODUCTION

Physical stress and psychological stress when combined with health problems can lead to high blood pressure (BP).^[1,2] The constant discomfort due to acid reflux can also trigger release of stress hormones. The body's first response to stress is release of norepinephrine and epinephrine hormones leading to an increase in BP.^[3] Similarly, acid reflux can worsen hypertension mostly in those individuals who have high stress levels and are obese. By controlling acid reflux and reducing body weight, high BP can be managed.^[4-6]

Many studies have shown evidence pointing towards a moderate association between obesity and gastroesophageal reflux disease (GERD). One probable mechanism associating obesity with GERD may be that excess adipose tissue in obese individuals tends to create external abdominal pressure, causing an increase in intra-gastric pressure,

resulting in relaxation of the lower esophageal sphincter, that in turn allows the gastric contents to travel backwards from the stomach.^[7] Another mechanism may be the increased occurrence of hiatal hernia in obese individuals, resulting in GERD symptoms. Obesity leads to an increase in abdominal pressure that may force the gastric fluids to protrude through a weak location in the diaphragm, thus causing hiatal hernia.^[8] Epidemiological studies strongly suggest that the prevalence of GERD is increasing in the obese. The major contributing factor to this trend is the rising incidence of obesity.^[9]

Obesity also increases the risk of having fatty liver. Obesity, as well as being overweight has a shared background of GERD and fatty liver. Individuals who have a fatty liver are at a greater risk of being diagnosed with GERD. According to a study by Pacifico et al., non-alcoholic fatty liver

disease (NAFLD) is a risk factor for GERD and that the risk of GERD symptoms rises progressively with an increase in both visceral fat and liver fat. [10] Since GERD and fatty liver are largely lifestyle disorders, they are preventable to a great extent by a change in lifestyle, eating habits and exercise. [11]

CASE REPORT

The patient, a 49-year-old housewife presented at the centre for assessment and treatment of acidity and knee pain in October 2016. Comorbidities included hypertension, acid reflux and obesity. She had a history of osteomalacia since 2009 and she also complained of pedal edema (swelling of feet) and knee pain. For this, she was taking cholecalciferol and glucosamine. She had undergone parathyroid surgery in 2009 and was diagnosed with fatty liver in 2011. She also suffered from gastric problems, such as severe acidity along with acid reflux at night, leading to vomiting and was taking ranitidine for the same. She suffered from hypertension, for which she was taking olmesartan medoxomil. Simultaneously, she complained of perimenopausal symptoms such as irregular menses, average-to-low energy levels along with high levels of stress. Her appetite was good; she had sound sleep, had clear urine and regular bowel movements. Her family history showed liver cirrhosis in the father and liver carcinoma in the mother. She did not smoke and generally did not exercise.

The patient's pathology test results showed LDL cholesterol levels of 121.2 mg/dL. Her vitamin B₁₂ level was found to be 173.6 pg/ml, way below the normal range and for that she was taking a multivitamin capsule (containing vitamin B₁₂). Her BP was high at 150/90 mmHg at the start of the programme though at the time she had started olmesartan medoxomil a few weeks prior. Her weight was 118.4 kg and height was 5 feet 2 inches. Her body mass index (BMI) was 47.7 kg/m², which showed morbid obesity.

Diet Recall

The patient's diet recall comprised a light breakfast consisting of tea with biscuits, fruits or khakra followed by chapatis with vegetables, rice and curd/dal for lunch. She would have bread for snacks in the evening and a light dinner consisting of either oats/dosa/poha, and sukha bhel. She would rarely have sweets and would eat out once a month.

Treatment and Follow-up

The patient's first visit at the Health Total centre was in the month of October 2016. After completing 6 months on the programme, she experienced significant relief from most of her health issues. Nutritional management of her condition consisted of a well-defined diet plan that included a low glycemic, high-fibre, complex carbohydrate diet and moderate-to-high protein intake with each meal. Along with the nutritional therapy, herbs and vitamin supplements were prescribed. A regular exercise programme consisting of moderate brisk walking for 40 minutes every day was also advised for weight loss.

DISCUSSION

Post review of her history and dietary recall, the patient was put on a health-promoting detox programme that was designed to help detoxify the system, help her lose weight, bring down her BP, alleviate her knee pain associated with osteomalacia, as well as ameliorate her gastric problems and improve her digestion, which in turn would help manage her GERD and fatty liver.

All health issues were managed with the use of herbs, vitamins and diet. Therapeutic lifestyle changes (TLC) to bring about the desired results were also introduced simultaneously. Another aim of the programme was to boost her energy levels and to lower her stress levels. She was asked to visit clinic once in a week to comply with the diet and manage her stress with the help of Ayurveda and counselling. For the detoxification process, we used Ayurvedic herbs like Haritaki as colon

cleanser [12] and Phyllanthus niruri as a liver cleanser. Garcinia cambogia was used for its weight reduction property, [13] while Amalaki (Emblica officinalis) helped as an immunostimulatory agent as it is an excellent source of vitamin C. [14] Nishoth (Operculina turpethum) was used to treat acidity and other gastrointestinal disturbances. [15] Cyperus rotundus was used in the treatment of nausea, vomiting and dyspepsia, [16] while Cinnamomum camphora was used to relieve pain and inflammation in the patient's joints and muscles. [17] Vibhitaki (Terminalia bellirica) was used for its anti-hypertensive properties. [18] Bacopa monnieri [19] and Punarnava ghanvati (Boerhavia diffusa) [20] were used as anti-stress agents. Another herb, Caralluma fimbriata was used as it aids in weight loss by fighting fatigue and increasing energy levels. The patient was also given multi vitamins, multi minerals and dietary supplements that included essential oils, B vitamins, vitamin D3 supplements, probiotics and antioxidants, both in natural and supplemental forms.

The patient showed a gradual and sustained reduction in weight and BMI. The swelling in her feet and knee pain also reduced from February 2017 onwards with the help of herbs and reduction in body weight. During each visit, her food plan was modified according to her progress.

The patient's blood pressure (150/90 mmHg at the start of the programme) was brought down to the normal value (120/80 mmHg) (Fig. 1) within 10 weeks of being on the programme, and her physician stopped the use of anti-hypertensive medicines in July 2017. She lost significant weight (from 118.4 kg to 93.1 kg) (Fig. 2) in approximately 6 months. Her fatty liver

problem was also resolved with the help of the 'Integrated Approach', where an ultrasonography (USG) report of the abdomen revealed normal sized liver with no abnormalities (Table 1). After significant success with weight loss, she decided to continue with the Integrated Approach at Health Total to gain more health benefits in terms of weight loss and improved digestion.

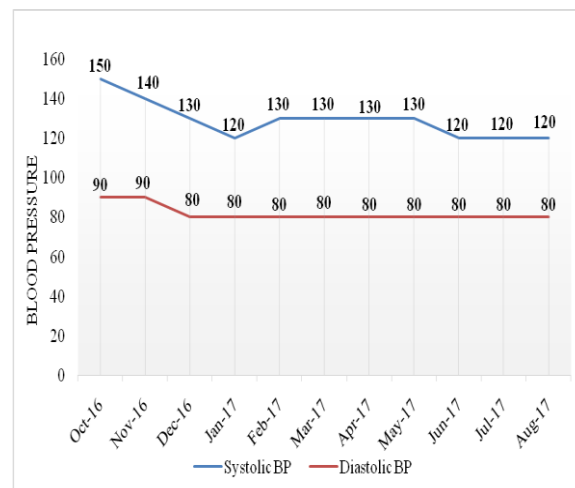


Figure 1: Effect of the 'Integrated Approach' on BP management

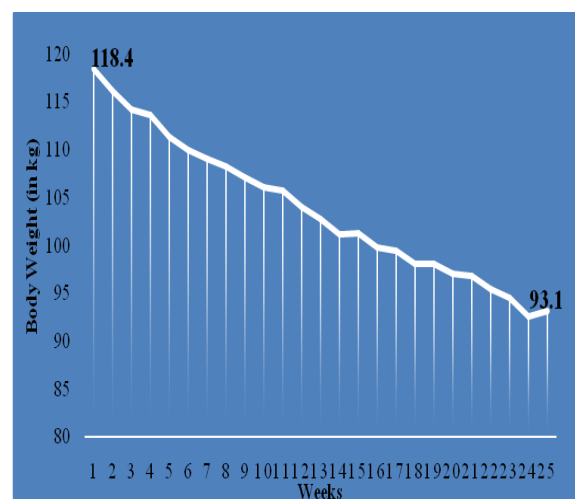


Figure 2: Effect of the 'Integrated Approach' on Body Weight management

Table 1: Effect of Integrated Approach on Fatty Liver Management

Ultrasonography (USG) Report of the Abdomen	
Prior to Health Total programme (07/10/2011)	After Health Total programme (09/03/2018)
Liver moderately enlarged Moderate increase in the parenchymal echogenicity, with moderate loss of the echoes from the walls of the portal vein radicles (peripherally)	Liver normal in size (13.6 cm cranio-caudal), shape & echotexture No intra-hepatic biliary radical dilatation Tiny calcified granuloma seen in right lobe of liver. No evidence of any other focal lesion
Impression: Grade-2 fatty liver	Impression: No significant abnormality detected

Initially, the patient suffered from acid reflux every night. Within the first week of being on the Health Total programme, her acidity improved and she stopped using ranitidine by the end of the first week (Table 2) and by December 2017 her acidity had totally resolved. The patient reported remarkable relief in her gastric problems. Her digestion improved considerably and she also reported improvement in energy levels. These changes positively impacted her quality of life by the end of the programme.

Table 2: Reduction in medications after enrolling for the Integrated Approach Programme

The patient was put on the Integrated Approach regimen in October 2016

Medication	Condition	Dosage	After being on the Programme
Olmesartan medoxomil (10 mg)	High Blood Pressure	1-0-0	Medication stopped by the patient's physician in July 2017
Ranitidine (20 mg)	Acidity & Acid reflux	0-0-1	Medication stopped by the patient's physician in November 2016

The Integrated Approach provided relief to the patient with respect to all her medical complaints, such as hypertension, acid reflux, knee pain and pedal edema, that she had at the start of programme.

CONCLUSION

Lifestyle changes comprising an appropriate food plan, detoxification, exercise and maintaining a healthy digestion, are emphasized as first line of therapy for acid reflux problems. The purpose of the 'Integrated Approach' was to not only help in weight reduction and acid reflux management, but also to improve liver health, energy levels and reduce hypertension. Exercising was made compulsory so as to raise metabolism, improve digestion, improve circulation and lose extra body fat.

The patient within 6 months showed an impressive clinical improvement. Her difficulty with acid reflux and acidity improved within 16 weeks of being on the programme. Vomiting and nausea at night due to acid reflux was also completely stopped (without medications). She lost significant weight, experienced improved digestion, improvement in fatty liver, achieved normal BP, along with improved energy levels, relief from knee pain and oedema and consequently felt de-stressed. By the end of 25 weeks, the patient managed to stop all her medication. Thus, the Health Total programme was able to not only improve her health and body weight, but also improve her quality of life. [21, 22]

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How to cite this article: Mukerjee A. Integrated approach in the management of acid reflux, hypertension and obesity. Int J Health Sci Res. 2018; 8(12):187-191.
