

## MANAGEMENT OF OBESITY (*STHOULYA*) A SUCCESS STORY-A CASE STUDY

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### ABSTRACT

The present era is more challenged with various life style diseases. *Sthoulya* (obesity) is one such life style disease. Many among the Indian population have started to rely upon processed foods that contain a huge percentage of trans-fat, sugars, and other unhealthy and artificial ingredients. Obesity is considered as the core of many diseases. Increased weight significantly has its adverse effects on various other diseases. In order to overcome this, Life style modifications is a must. The available data is based on the clinical findings only. **Aim and objective:** To assess the efficacy of *Atarpana Chikitsa* in management of *Sthoulya*. **Setting:** *Swasthavritta* and *Yoga*, OPD and IPD, SDMCAH, Hassan. **Method:** *Udwarthana*, *Shodana*, *Shamana*, *Ahara*, and *Vihara* was advised and assessed before treatment and after treatment, advised for follow up. **Results:** The treatment adopted is effective in the management of *Sthoulya* and to improve the quality of life.

**Key words:** Obesity, *Sthoulya*, *Atarpana Chikitsa*, *Yoga*, *Udwarthana*

### INTRODUCTION

In recent years, the urban youth are particularly prone to life style diseases. A country where 270 million people live below poverty line, obesity seems to be a distant issue. India is under siege. Junk foods, alcohol, and sedentary life styles are leading us to silent self destruction, making one in every five Indian men and women either obese or overweight. In the year 2013, US topped the list

with 13% of the obese people worldwide. China and India accounted for 15% of world's obese population, with 46 million and 30 million obese people. According to study the number of overweight and obese people globally increased from 857 million in 1980 to 2% billion in 2013<sup>1</sup>. India saw significant rise in obesity from its 19<sup>th</sup> position for both men and women in 1975 to rankings 5<sup>th</sup> and 3<sup>rd</sup> respec-

tively in 2014, reflecting increasing obesity rates among women worldwide<sup>2</sup>.

In *Ayurveda*, obesity has been described as *Sthoulya* or *Medoroga* in *Santarpanotha Vikara*. i.e the disease caused by over nourishment<sup>3</sup>. *Kapha* is an *Ayurvedic* humour which is dense, heavy, slow, sticky, wet and cold in nature. In a balanced state, *Kapha* gives nourishment to the tissues and govern all organs However, when it is aggravated; *Kapha* which is heavy and dense in nature abnormally accumulates in weaker channels of the body, causing their blockage<sup>4</sup>. In the case of an obese person, *Medovaha Srotas* (fat channels) is affected and the site of metabolic disturbances in an obese individual is *Medho dhatu* caused mainly due to excess intake of *Madhura* and *Snigdha Ahara*<sup>5</sup>, When the body produces more fat tissues, it causes an increase in weight. *Nidana* (causative factors) of *Sthoulya* can be classified as *Aharatmaka Nidana*, *Viharatmaka Nidana*, *Manasika Nidana* and *Anya Nidana*<sup>6</sup>. In *Ayurveda* management of any disease is divided into three parts a) *Nidana Parivarjana*, b) *Shodana*, c) *Shaman*<sup>4</sup>. *Acharya Charaka* has mentioned

*Guru Cha Atarpana*<sup>7</sup> as the line of treatment. In this case *Santarpanotha Janya Sthoulya* has been treated.

#### CASE STUDY:

- A 45 year old female patient came to OPD of *Swasthavritta* and yoga with complaints of increased body weight since 5 years. Associated with c/o Fatigue with minimal work and Pain over right side of lower back region. Past history revealed that patient was not a known case of hypertension, diabetes mellitus, bronchial asthma, hypothyroidism, PCOS. There is a family history of increased weight and obesity from her maternal side. *Astavidha Pariksha*, *Dasha vidha Pariksha*, systemic and general physical examinations with anthropometry of the patient was done. Investigations showed normal Hematological report but changes were seen in the biochemical tests with special reference to lipid profile. Considering the examinations, BMI (>29.99Kg/m<sup>2</sup>), lab investigation findings, patient was diagnosed as obese Class III.

**Table 1:** the International Classification of adult underweight, overweight and obesity according to BMI<sup>8</sup>

Classification	BMI(kg/m <sup>2</sup> )	
	Principal cut-off points	Additional cut-off points
Underweight	<18.50	<18.50
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
Normal range	18.50 - 24.99	18.50 - 22.99
		23.00 - 24.99
Overweight	25.00	25.00
Pre-obese	25.00 - 29.99	25.00 - 27.49
		27.50 - 29.99
Obese	30.00	30.00

Obese class I	30.00 - 34.99	30.00 - 32.49
		32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49
		37.50 - 39.99
Obese class III	40.00	40.00

- **SETTING:** Department Of *Swasthavritta* and *Yoga*, OPD and IPD-SDMCAH, Hassan.
- **METHOD:** *Atarpana Chikitsa* was adopted and assessment was done before and after treatment

**Table 2:** Anthropometry And Personal History before starting the treatment, increased body WEIGHT and BMI can be observed.

B.P.	130/80 mm of Hg
Pulse	80 bts/min
Ht.	149.9 cms
Wt.	93.6 kg
BMI	42.12 kg/m <sup>2</sup>
C.C	112 cms
A.C	118 cms
M.A.C	Rt hand -33 cms , Lt hand -34 cms
M.T.C	Rt leg -60 cms , Lt leg -57 cms
W.C	115 cms
H. C	133 cms
<i>Ahaara</i>	Mixed diet, Non-Veg, once in 15 days.
<i>Vihara</i>	Avyayama, Divaswapna, Sedentary life style.
Appetite	Good
Bowels	Regular, normal in consistency, once in a day.
Micturation	Normal, 2-3 times in Day, 1-2 times in Night
Sleep	Good, sound sleep
Habits	Fond of bakery items, Junk food, sweets and curried items

**Table 3:** General Physical Examination. Patient had a Bulky appearance, endomorphic built and was well nourished with normal built.

Appearance	Bulky
Built	Endomorphic
Nourishment	Well nourished
Gait	Normal
Pallor	Absent
Icterus	Absent
Cyanosis	Absent
Clubbing	Absent
Edema	Absent
Lymphadenopathy	Absent

**Table 4:** Systemic Examination, No evident changes were noted.

RS	B/L, NVBS heard
CVS	S1 S2 heard
P/A	SOFT, NAD
CNS	Well oriented, conscious to time, place and person.

## INVESTIGATIONAL HISTORY:

**Table 5:** History of Laboratory Investigations.

HB	10.8 gm %
W.B.C	8,300 cells / cu mm
E.S.R	38mm / hr
Neutrophils	54%
Lymphocytes	43%
Monocytes	01%
Eosinophils	02%
Platelets	2.75 lakhs cells / cu mm
RBC Count	4.58 millions/cu mm
F.B.S	77.2 mg /dl
Blood urea	15.3 mg / dl
Serum creatinine	0.8 mg/ dl

**Table 6:** Haemogram Report

P.C.V	35.8%
M.C.V	78.2 fL
M.C.H	24.7 Pg
M.C.H.C	31.6%
RDW	48.9Fl

**Table 7:** Lipid Profile

Total cholesterol	180.0 mg/dl
H.D.L cholesterol	83.8 mg/dl
L.D.L cholesterol	85.0 mg/dl
Triglycerides	207.0 mg/dl
V.L.D.L cholesterol	41.4 mg/dl

- USG ABDOMEN and ECG showed NORMAL study, there were no significant changes noted

**Table 8:** Dashavidha Rogi Pareeksha

Prakriti	Dwandwaja, Vata Kapha
Vikrita Dosha	Kapha
Dushya	Rasa, Mamsa and Meda.
Sara	Madyama
Samhanana	Madyama
Satva	Madyama

<i>Aahara Sakthi</i>	<i>Abhyavahara</i>	<i>Pravara</i>
	<i>Jarana Sakthi</i>	<i>Pravara</i>
<i>Vyayama Sakthi</i>	<i>Avara</i>	
<i>Satmya</i>	<i>Madyama</i>	
<i>Vaya</i>	<i>Madhyama</i>	
<i>Pramana</i>	<i>Pravara</i>	

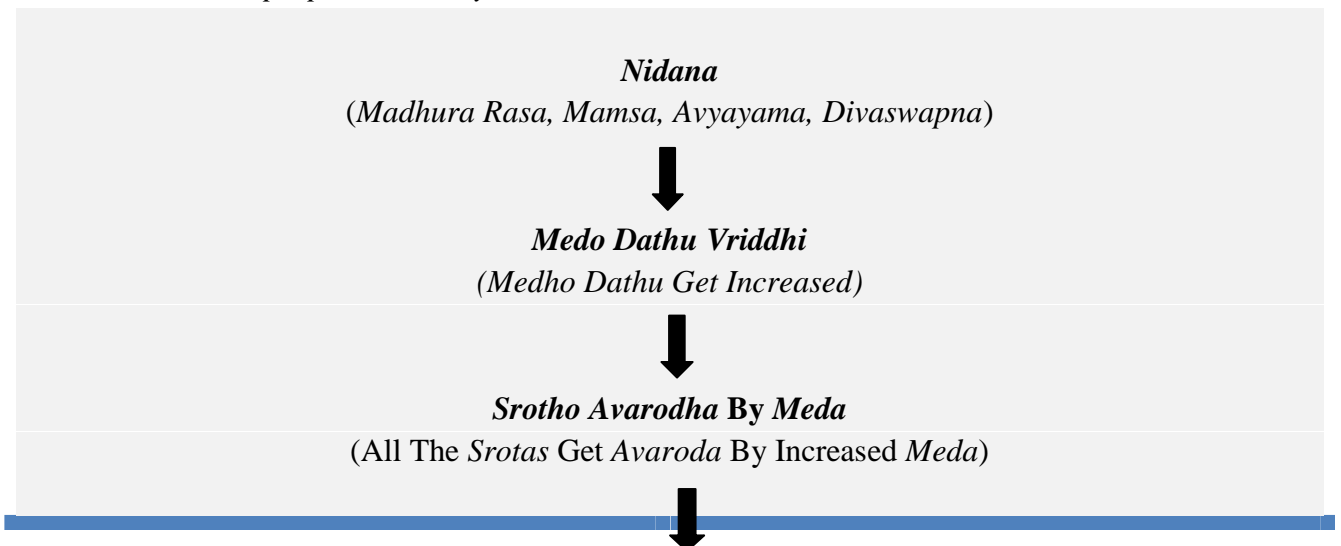
**Table 9: Astasthana Pareeksha**

<i>Nadi</i>	<i>Prakrita</i>
<i>Mala</i>	<i>Niraama Mala, Prakrita.</i>
<i>Mootra</i>	<i>Prakrita</i>
<i>Jihva</i>	<i>Aliptata</i>
<i>Sabda</i>	<i>Prakrita</i>
<i>Sparsha</i>	<i>Anushna Sheetha</i>
<i>Drik</i>	<i>Prakrita</i>
<i>Aakruti</i>	<i>Sthoola</i>

**Table 10: Nidana Panchaka**

<i>Nidana</i>	
• <i>Ahara</i>	<i>Madhura, Snigdha Ahara</i> like bakery items, junk foods, Sweets ,Etc <i>Mamsa Sevana</i> With More Fat Content Etc.
• <i>Vihara</i>	<i>Avyayama, Divaswapna</i>
<i>Poorvaroopa</i>	Nothing significant
<i>Roopa</i>	<ul style="list-style-type: none"> <li>• Enlargement Of <i>Spik And Udara (Specifically)</i></li> <li>• H. C : 133 Cms,</li> <li>• A.C : 118 Cms</li> <li>• <i>Aalasya, Trishna.</i></li> </ul>
<i>Upashaya</i>	Nothing Significant.
<i>Anupashaya</i>	<i>Santarpana Janya Ahara</i>

**Flow chart 1: Samprapti Of Sthoulya**



**Vata Specially Confined To  
Kosta And Causes Jatharagni Vriddhi  
(Sthulata, Atipipasa, Atikshudha, Alasya)**

**Table 11: Samprapthi Ghataka**

<i>Udbhava Sthana</i>	<i>Amashaya</i>
<i>Vyakta Sthana</i>	<i>Sarva Shareera</i>
<i>Adhistana</i>	<i>Medo Dhatu.</i>
<i>Roga Marga</i>	<i>Bahya</i>
<i>Agni</i>	<i>Teekshnagni</i>
<i>Dhatwangni</i>	<i>Mandha</i>
<i>Dosha</i>	<i>Kapha and Vata</i>
<i>Dushya</i>	<i>Rasa, Mamsa and Medo Dathu</i>
<i>Srotas</i>	<i>Medovaha, Rasavaha</i>
<i>Sroto Dusti</i>	<i>Sanga</i>
<i>Sadhya Asadhyata</i>	<i>Krichra Sadhya ( Difficult to traet )<sup>9</sup></i>

Considering all the examinations done and reported as in the above mentioned tables the disease was understood and diagnosed as **Sthoulya**. Patients *Agni* and *Bala* were assessed and *Udwartana* was started initially with *Udwarthana Choorna*<sup>10</sup> which contains- *Kulatha*- 4parts, *Yava*- 4parts, *Triphala*-

2parts, *Mudga*- 1part, *Methika*- 1part, *Sarshapa*- 1/4<sup>th</sup> part. Later *Sadyo Virechana* and *Shamana Aushadi* were adopted. Diet, *Yoga* and physiotherapy were given every day as a part of treatment. Taking into consideration the *Astavidha* and *Dashavidha Pariksha* the treatment plan was scheduled as follows.

**Table 12: Treatment Schedule Adapted From 07-11-2016 TO 22-11-2016**

Days	Treatment	Observation
Day 1- 7	<ol style="list-style-type: none"> <li><i>Udwarthana and Bhaspa Sweda</i></li> <li>Cap. Decrin plus - 2-0-2 [b/f]</li> <li><i>Asanadi kashaya and Varunadi kashaya</i> [ 7.5ml Each with 60ml-80ml of water to be taken at 6.45 am &amp; 6.45pm],</li> <li><i>Yoga and Pranayama,</i></li> <li>Physiotherapy,</li> <li><i>Pathyahara.</i></li> </ol>	<ul style="list-style-type: none"> <li>Appetite- Good</li> <li>Bowel- Passed</li> <li>Micturation- Passed</li> <li>Sleep- Sound</li> </ul>
Day 8 -12	<ol style="list-style-type: none"> <li><i>Udwarthana and Dhanyamla Pariseka,</i></li> <li>Cap. Decrin plus - 2 – 0 – 2 [b/f]</li> <li><i>Asanadi kashaya and Varunadi kashaya</i> [ 7.5ml each with 60ml-80ml of water to be taken at 6.45 am &amp; 6.45pm],</li> <li><i>Yoga and Pranayama,</i></li> <li>Physiotherapy,</li> </ol>	<ul style="list-style-type: none"> <li>Appetite- Good</li> <li>Bowel- Passed</li> <li>Micturation- Passed</li> <li>Sleep- Sound</li> </ul>

	6. Pathyahara.	
Day 13 – 15	Treatment	Observation
	<ol style="list-style-type: none"> <li>1. Sarvanga Uthsadana with Brihat Saindavadi Taila followed by Bhaspa Sweda,</li> <li>2. Cap. Decrin plus- 2-0-2[b/f],</li> <li>3. Asanadikashaya and Varunadikashaya [ 7.5ml each with 60ml-80ml of water to be taken at 6.45 am &amp; 6.45pm],</li> <li>4. Yoga and Pranayama,</li> <li>5. Physiotherapy,</li> <li>6. Pathyahara.</li> </ol>	<ul style="list-style-type: none"> <li>• Appetite- Good</li> <li>• Bowel- Passed</li> <li>• Micturation- Passed</li> <li>• Sleep- Sound</li> <li>• Weight- reduced</li> </ul>
Day 15	Treatment	Observation
	<ol style="list-style-type: none"> <li>1. Sarvanga Uthsadana with Brihat Saindavadi Taila followed by Bhaspa Sweda- day 3,</li> <li>2. followed by Sadyo Virechana with Trivruth lehya - 80gm and Drakshakashaya-150ml</li> </ol>	<ul style="list-style-type: none"> <li>• Virechana Aushadi given at 09:15am</li> <li>• Till 6 pm- no. of Vegas- 12</li> </ul>

- Here Exploratory dose of Asanadi kashaya and Varunadi kashaya [7.5ml each with 60ml-80ml of water to be taken at 6.45 am & 6.45pm] over all dose should reach 90 ml as the General dosage of Kashaya is 2 phala (90ml).

Based on the Agni and Vyadhi Avastha the Diet was planned and prescribed. The schedule of the Diet plan prescribed is illustrated in the following.

**TABLE 13:** Scheduled Diet During and After Treatment

Day 1-6	<ul style="list-style-type: none"> <li>▪ 6.30am - Jeeraka Sidha Jala- 250 ml</li> <li>▪ 8.30am - Mudga Yusha - upto 200 ml</li> <li>▪ 10.30am- Jeeraka Sidha Takra- 200ml</li> <li>▪ 1.30pm - 1 Yava Rotika &amp; boiled veg</li> <li>▪ 4.30 pm - Kushmanda Rasa- 200 ml</li> <li>▪ 7.30 pm - 1 Yava Rottika &amp; boiled veg.</li> </ul>
Day 7 –10	<ul style="list-style-type: none"> <li>▪ 6.30am - Amahara Kashaya- 100 ml</li> <li>▪ 8.30a - Mudgamalaka Yusha- 200 ml</li> <li>▪ 11.00am - Dashamoola Yavagu- 150m</li> <li>▪ 1.30pm - Shunti Sidha Takra- 250 ml and Mudga Yusha- 250 ml</li> <li>▪ 4.30 pm - Papaya juice / salad- 200 ml/gm</li> <li>▪ 7.30 pm - 2 Yava Rotika &amp; boiled veg.</li> </ul>
Day 11- 14	<ul style="list-style-type: none"> <li>▪ 6.30am - Amahara kashaya- 100 ml</li> <li>▪ 9.30am - Mudgamalaka Yusha-300 ml</li> <li>▪ 12.00pm - Jeeraka Sidha Takra- 150ml</li> <li>▪ 1.30pm -7.30 pm- advised to take Pani in sips– up to 750ml</li> <li>▪ 3.30pm - Dashamoola Yavagu – 200ml</li> <li>▪ 7.30pm - Anna, Rasam.</li> </ul>
Day 15	<ul style="list-style-type: none"> <li>▪ Virechana</li> <li>▪ Advised Peya after Vegas stopped</li> </ul>

	<ul style="list-style-type: none"> <li>▪ <i>Samsarjana Karma</i> up to 3 days On <i>Samsarjana karma</i> Day 1-<i>Peya</i>, Day 2-<i>Peya</i>, Day 3-<i>Kichidi</i>.</li> </ul>
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Types of *Asanas* and *Pranayama* including physiotherapy are listed below

**Table 14:** *Asanas, Pranayama, And Physiotherapy Advised*

❖ <i>Asanas</i> advised	❖ Names
<ul style="list-style-type: none"> <li>▪ Warm up exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loosening exercises from eye ball rotation to ankle rotation.</li> </ul>
<ul style="list-style-type: none"> <li>▪ <i>Surya Namaskara</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ 12 rounds.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Standing posture <i>Asana</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Trikonasana, Ardha Kati Chakrasana, Arda Chakrasana.</i></li> </ul>
<ul style="list-style-type: none"> <li>▪ Sitting posture <i>Asana</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Vajrasana, Gomukhasana, Ardha Matsyendrasana.</i></li> </ul>
<ul style="list-style-type: none"> <li>▪ Supine posture <i>Asana</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Pavana Muktasana.</i></li> </ul>
<ul style="list-style-type: none"> <li>▪ Prone posture <i>Asana</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Bhujangasana, Dhanurasana.</i></li> <li>▪ <i>Shavasana.</i></li> </ul>
❖ <i>Pranayama</i> advised	<ul style="list-style-type: none"> <li>▪ <i>Kapalabhati,</i></li> <li>▪ <i>Bhastrika,</i></li> <li>▪ <i>Surya- Anuloma Viloma,</i></li> <li>▪ <i>Surya Bhedana,</i></li> <li>▪ <i>Nadi Shudhi,</i></li> <li>▪ <i>Bhramari.</i></li> </ul>
❖ Physiotherapy	<ul style="list-style-type: none"> <li>▪ Stationary Bicycle Exercise -15min</li> <li>▪ Tummy Twister - 10min</li> <li>▪ Treadmill - 15min</li> </ul>

After the scheduled treatment patient was assessed for any changes before and after treatment with special reference to anthropo-

metric measurements. Details are noted in the tabular column as follows:

**Table 15:** Assessment of Anthropometry Changes before and after treatment

Observation	Before Treatment	After Treatment
WT.	93.6 kg	86.5kg
BMI	42.12 kg/m <sup>2</sup>	38.96 kg/m <sup>2</sup>
A.C	118 cms	107 cms
M.A.C	Rt hand-33 cms Lt hand-34 cms	Rt hand-30 cms Lt hand-31 cms
M.T.C	Rt leg-60 cms Lt leg-57 cms	Rt leg-58 cms Lt leg-55 cms
W.C	115 cms	110 cms
H. C	133 cms	128 cms
W/H	0.86	0.85



## RESULTS:

On the day of admission dated 07.11.2017 patient's weight was 93.6 kg, which got reduced to 86.5 kg at the time of discharge on 22.11.2017. The results showed that there were significant changes in reduction of weight by **7.1 kgs in 15 days**.

Patient was discharged on 22<sup>nd</sup> November i.e on the 16<sup>th</sup> day. She was advised to continue *Shamana Aushadi*, diet and exercises (*Vyayama, Asanas, Pranayama*) for 45 days and asked to visit for follow up.

## MEDICINES ADVISED ON DICHARGE:

1. Cap - Decrin plus 2-0-2[ b/f ],
2. *Asanadi kashaya* and *Varunadikashaya* 7.5 ml each with 60-80 ml of water [6.45am, 6.45pm]
3. Advised to continue diet, *Yoga* and exercises.

## Composition of Capsule Decrin Plus 400mg (SOLAR HERBO PVT.LTD):

- *Amritha Guggulu* powder-250 mg,
- *Navaka Guggulu* Powder-60 mg,
- *Shudha Shiljithu* Powder-30 mg,
- *Agada Beeja* Powder-60 mg.

## DISCUSSION

According to *Ayurveda* the patient was diagnosed as a case of *Sthoulya*, predominantly *Kapha Vata* as *Vikrita Doshas* and *Rasa, Mamsa, Medha* as *Vikrita Dushyas*. Patient adopted sedentary life style, lack of exercises and day sleep with excess intake of *Madhura Snigdha Ahara* and improper dietary practices. Clinically patient presented with signs and symptoms such as increased body weight, fatigue and joint pains. Considering

*Sthoulya* to be the *Santarpana Janya Vyadhi* the line of treatment mainly includes *Lekhana Karma* [*Udwarthana*], *Virechana*, *Vyayama*, *Upavasa*, *Swedana*, *Shamana Aushadis*. Significant changes was observed, patient was advised to continue the oral medications for a month and was asked to continue the diet and *Yoga* regularly and was asked for follow up.

## CONCLUSION

Based on the signs and symptoms, *Sthoulya* was treated with *Sarvanga Udwardhana* and different *Swedana* procedures, *Virechana Karma* followed by the *Vishista Nidana Parivarjana* in the form of *Ahara Vihara* and *Aushada* showed remarkable changes in reducing the weight of the patient.

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**Source of Support: Nil**

**Conflict Of Interest: None Declared**

How to cite this URL: Mahesh Raju B Et Al:Management Of Obesity (Sthoulya) A Success Story-A Case Study. International Ayurvedic Medical Journal {online} 2017 {cited April, 2017} Available from:  
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