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## Management of Bertolotti Syndrome through Ayurveda w.s.r. to *Gridhrasi*: A Case Study

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### ABSTRACT

Bertolotti's syndrome alludes to the nearness of anatomically related pain of hybridization of the last lumbar vertebrae. The predominance of Bertolotti's syndrome in the overall public is obscure due to under diagnosis. Deformation of the lumbar vertebrae is related with changes in spinal anatomy and biomechanics, with no broad understanding for its clinical centrality, in spite of the fact that Bertolotti's syndrome as a differential finding for low back pain. The ailment originates from *Gridhrasi*, referenced in Ayurveda under the umbrella of *Vatavyadhi*, and here is a penetrating sort of torment that confines the development of the influenced leg, making the gait of the person is very similar to vulture (*Gridhra*) hence the name is given as *Gridhrasi*. The case study being presented is of an 18 year old female patient suffering from *Gridhrasi*, in which the manifestations of agony begin from *Sphik* (buttock) and afterwards reach to *Kati*, *Prushta* (back), *Uru* (thigh), *Janu* (knee), *Jangha* (calf), and *Pada* (foot) just as *Stambha* (firmness), *Toda* (pricking torment), *Spandana* (jerking) and causes the *Sakthiutkshepa Nigraha* (confined development of leg raising). Patient treated with *Valuka Svedana* (fomentation by Sand), *Basti* (enema of medicated oils and decoctions), *Kati basti* and oral medications such as *Rasnasaptak kwatha*, *Dashmoola kwatha*, *Simhanada guggulu*. At the end of treatment patient got significant relief in symptoms like *Ruja* (50%), *Toda* (100%), *Stambha* (75%), Visual analogue scale for overall assessment (75%) etc.

### KEYWORDS

*Bertolotti's syndrome, Gridhrasi, Valuka Svedana, Erandamooladi Basti*



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## INTRODUCTION

Bertolotti's syndrome (BS) is a significant reason for low back pain (LBP) in young patients. The disorder influences 4% to 8% of the population. BS is portrayed by odd development of the transverse process of the most caudal lumbar vertebrae, which may associate with the sacrum or ilium and cause disengaged L4-5 disc disease. Most influenced patients have scoliosis. Anomalous mechanical pressure causes joint stiffness. A low spread of disc bulge or extrusion was found beneath the transitional vertebrae.<sup>1</sup> LSTV are innate inconsistencies that are either characterized as hybridization of the most minimal lumbar fragment or lumbarization of the highest sacral segment. It is common in the lumbo sacral region, either as lumbarisation (S1 becoming L6) or sacralisation (L6 fused with the sacrum, either wholly or partially). Sciatica is associated with the low back pain but may be the sole presenting symptoms. The pain radiates to the gluteal region, the back of thigh and leg. The pattern of radiation depends upon the root compression, the pain radiates to the postero-lateral calf and heel.<sup>2</sup>

It alludes to the back of the leg and sometimes to the foot. Injury to lumbosacral spine (*Abhighata*), postural deformities (*Vishamachesta*), over-

burdening (*Bharavahana*), sudden unbalanced movements (*Atichesta*), and inactive way of life just as mental components (*Chinta*, *Shoka*,) are considered as causative variables of the disease.

Almost all sign and symptoms of *Gridhrasi* resemble with Bertolotti's syndrome. The name of the disease itself proposes the particular gait of the patient, which is found with flying creature vulture which makes the leg tense and slightly curved. *Gridhrasi* is recorded under the heading where just the disease creates because of the episode of *Vata* just, for example *Nanatmaja Vatavyadhi*. *Gridhrasi* is referenced in two types, (1) *Vata Pradhan* and (2) *Vata Kapha* territory. According to *Charaka*, *Stambha*, *Ruka*, *Toda*, and *Spandana* are the sign and symptoms of *Vataja Gridhrasi*. *Aruchi*, *Tandra*, and *Gaurava* are additional symptoms of *Vata-Kaphaja Gridhrasi*.<sup>3</sup>

## CASE REPORT

An 18-year-old female patient with UHID No. (264240/001039) was admitted in IPD (female ward), Department of Panchakarma, ALLA, New Delhi, with the main complaints of pain in low back region radiating to left lower limb since one year. The patient complained of tingling sensation and numbness in her left lower



limb since four months. Since last one month patient also suffered with poor appetite and mild constipation. For this she took different treatment but could not get relief. Then she visited Panchakarma OPD of AIIA, in New Delhi, for treatment.

**On examination-** Antalgic gait found in the normal condition of the patient. Due to intense pain she was not able to walk and stand for more than minute. Lumbar scoliosis was also present. Blood pressure was 110/70 mmHg, Pulse rate was 76/minute, Weight-64 kg and Height - 158cm. SLR of Right Leg 30<sup>0</sup> and Left Leg 45<sup>0</sup>.

**Investigation** was done before the time of admission. MRI findings confirming the presence of Lumbosacral transition vertebrae with elongated bilateral transverse process of the L5 vertebrae to form pseudo-arthritis with the sacral ala. Associated marked marrow oedema is seen in the bilateral transverse processes of the L5 vertebra and proximal sacral ala with

hypo intense signal on T1W and hyper intense signal on T2W/STIR images(R>L).The surrounding muscle also showed mild oedema (R>L). No involvement of the sacroiliac joint is seen on either side. Mild hyper intense signal is also seen in the bilateral L5 nerve roots (R>L). After the examination, the patient was diagnosed with *Gridhrasi* (Sciatica) and was given Panchakarma treatment for 15 days, including oral medications.

## MATERIALS AND METHODS

**Table 1** Internal medicines during treatment.

Sr.no.	Drugs	Dose	Duration
1	<i>Dashmoola kwatha</i> + <i>Rasnasaptak kwatha</i>	20ml (BD) 20ml (BD)	15days
2	<i>Simhanada Guggulu</i>	2 TID	15 days
3	<i>Abhyarishtha</i>	15ml BD	15 days

**Table 2** Internal medicines after treatment.

Sr.no.	Drugs	Dose	Duration
1	<i>Rasnasaptak kwatha</i>	20ml (BD)	15days
2	<i>Simhanada Guggulu</i>	2 TID	15 days
3	<i>Ajamodadi choorna</i>	3gm BD	15 days

**Table 3** Showing Panchakarma procedures.

Sr.no.	Panchakarma Procedures	Duration	Drugs used
1	<i>Sarvang Svedana</i> Valuka	7days( first 7 <sup>th</sup> days)	<i>Valuk(Sand)</i>
2	<i>Kati basti</i>	8 days(8 <sup>th</sup> to 15 <sup>th</sup> days)	<i>Dhanwantarm taila</i>
2	<i>Sarvang abhyang</i>	8days(8 <sup>th</sup> to 15 <sup>th</sup> days)	<i>Saindhavadi taila</i>
3	<i>Sarvang svedana</i> bashpa	8days(8 <sup>th</sup> to 15 <sup>th</sup> days)	<i>Dashmoola kwatha</i>
4	<i>Yoga Basti</i> (Nirooha Basti For 3days)	8 days	<i>Makshik (madhu) 60ml</i> <i>Saindhav lavana-2gm</i> <i>Sneha-Guggulu Tikta Ghritam (90ml)</i> <i>Kalka-shatpushpa choorna(30gm)</i>





a. Degree to which the leg can be raised, while doing the SLR (Straight Leg Raising) test.

(a) SLR test (Straight Leg Raising) test.

**Table 6** Showing objective criteria for assessment.

76-90 degree	0
61-75 degree	1
46-60 degree	2
31-45 degree	3
Below 30 degree	4

**Table 7** Showing Observation and Result

Sr. no.	Sign and symptoms	Score Before treatment	Score After treatment	Percentage of relief %
1	<i>Ruja</i> (Pricking Pain)	4	2	50%
2	<i>Toda</i> (Pricking sensation)	4	0	100%
3	Radiation of pain	3	0	100%
4	<i>Stambha</i> (Stiffness)	4	1	75%
5	Visual analogue scale for overall assessment	8	2	75%
6	Verbal descriptive scale	4	1	75%
7	SLR test	4	1	75%

## DISCUSSION

It may be concluded that Bertolotti's syndrome equated with the clinical presentation of Sciatica, can be correlated to the *Gridhrasi* described in Ayurveda, which is characterized by spinal cord irritation and pain in the distribution of sciatic nerve. Modern medicine uses surgical treatments in sciatica but there are adverse effects associated with these

treatments. Initially *Rooksha Svedana*<sup>4</sup> with *Valuka svedana*<sup>5</sup> along with oral medications mentioned in Table no.1 were administered. In the early texts the *Valuka svedana* is indicated for *Vatakaphaja Jvara*. And in the later texts it is extended to other conditions like *Amavata*. The indication of *Valuka Svedana* is seen even under *Trikashoola*.

The purpose of its indication is mainly to reduce the *Kapha* and *Amadosha*, in turn *Vata* can be easily pacified, by the depletion of *Kapha* the channels get clarified resulting in lightness of body. It is beneficial in all *Vata Kaphaja* conditions. It softens the channels and restores the *Agni*. It relieves *Angabhanga*, *Stambha* etc. of *Vata* and *Kapha* origin, after attaining *Niraamavastha Kati Basti* along with *Yoga Basti* were administered as per the schedule mentioned in Table no.3 & 4. *Kati Basti*<sup>6</sup> is *Snehana* (oleation) & *Svedana chikitsa* (fomentation therapy) in which Herbal medicated oil is retained over lumbo-sacral region for a period of 30-45 min. /each day. *Kati Basti* being *Snehana* and *Svedana* together helps to relieve *Vata Dosha*. *Vata Dosha* is major cause of muscle spasms, pain and firmness of the lower spine and fortifies the tissue around there. *Dhanwantaram Taila*<sup>7</sup> was used for *Kati Basti* contains drugs which are having the *Kapha vata shamaka* properties.



It is indicated in diseases of lower limb causing the altered gaits.

*Basti* has been described as treatment to correct the imbalances of *Vata dosha*. In the patient there was involvement of *Vata* and *Kapha Dosha*. Hence *Erandamooladi Kwatha Basti*<sup>8</sup> (Decoction enema) was selected. The contents of *Erandamooladi Basti* were having *Ushna Veerya*, which is indicated in *Shoola* of *Jangha, Uru, Paada* and *Trika, Pristha* region and it also praised for *Marutha-Nigrahana* (Control of *Vata*).

*Guggulu tikta ghritam*<sup>9</sup> was used as a *Sneha dravya* in *Nirooha basti*. *Guggulu tikta ghritam* contains *Tikta rasa pradhan dravyas*. *Guggulu* is one denoted as the best *Vatahara* drug in the classics, which is useful in *Vatavyadhi*. It acts as *Srotoshodhaka*, relieves the *Sroto sanga* and aids in bioavailability of nutrients to the site of action. *Ghrita* by its own inherent qualities of *Sneha, Madhura, Sheeta, Deepana* does *Tarpana* to the *Asthi Dhatu*. *Tikta rasa* is also *Asthi Dhatu Poshaka*. As *Basti* prepared with bitter drugs mixed with milk and *Ghee* is especially advised for disease of bones. This recipe administered as enema cures even severe diseases of *Vata*, even though lodged in the joints (of bones), bones and bone marrow.

*Anuvasan Basti* (medicated oil enema) along with *Saindhavadi taila*<sup>10</sup> was administered to the patient. *Bhavaprakasha*

has recommended the use of *Saindhavadi taila* in *Kaphja Nadi Roga*. It relieved vitiated *Kapha, Vata* and *Ama* due to its properties like *Ushna, Tikshna, Suksma, Snigdha* etc. The patient was put on oral medications (Table no. 2) for another 15 days after the Panchakarma regime was over. The patient was assessed on the basis of subjective and objective criteria's mentioned in Table no.5 & 6 before as well as after treatment. The results showed significant improvement. (Table no. 7)

## CONCLUSION

*Erandamooladi Basti* provided good relief in the symptoms of pain, radiation, stiffness, pricking sensation and fasciculation. The vital objective parameters like SLR test was improved. The functional ability has shown remarkable improvement in the quality of life of patient after completion of the therapy. Hence *Valuka Svedana, Kati Basti, Erandamooladi Basti* can be advised for the therapy of Bertolotti's syndrome (*Gridhrasi*) which is established by the result obtained in this case. And also it can be adopted for the therapy of *Gridhrasi* or other cases of Sciatica.



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