

HYPOGLYCAEMIC PROPERTY OF SHILAJEET AND YASHADA BHASMA

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ABSTRACT: Hypoglycaemic activity of shilajeet and Yashada Bhasma was determined in normoglycaemic and alloxanized rats. Significant activity was observed in the treated groups. However, the activity was found to be comparatively milder in shilajatu treated rats compared to yashada bhasma treated rats.

INTRODUCTION

In Ayurvedic literature, shuddh shilajatu has been prescribed for a variety of ailments. Basically, it is mentioned as Naimittika Rasayana for prameha. Besides this, Shilajatu has also been recommended in cases of leprosy, epilepsy obesity, dysuria, dyspnoea and anaemia (Caraka). Certain recent experimental studies have demonstrated immunomodulatory (Ghosal, 1990) mast cell protecting (Ghosal et al., 1989), Antiulcerogenic (Goel et al., 1990), Anaboilic (Gupta et al., 1966) and memory promoting (Gupta et al., 1966) and memory promoting (Ghosal et al., 1993) activity in shilajatu. Similarly in some Ayurveda texts, Yashada Bhasma has been recommended in case of tuberculosis, common cold, indigestion, weakness and anaemia etc (Rasatarangini). Besides this, both of these mineral drugs are incorporated in several ayurvedic compounds used for the treatment of prameha e.g. Chandra Prabha Vati, Pramehahara Vati Vrihata somanath RAs. In view of the above facts, we investigated possible hypoglycaemic activity of shilajatu and yashada Bhasma separately in normal and alloxanised rats.

MATERIAL AND METHOD

In the present study, thirty adult albino rats (C.F strain), weighing 200 ± 20 gm each were used. The rats were housed in polypropylene cages (5 in each cage). These animals were fed commercial rat feed and water ad lib. The rats were divided in three groups of each. Group I- The rats of this group were used as control. Group II – Each rat of this group was administered shuddh shilajatu (250 mg/Kg. bw., orally) through gavage once daily for 15 days. Group III the animals of this group were given commercially available Yashada Bhasma (100 mg/Kg. b.w.p.o) once daily for 15 days. At the end of 15 days, blood from the retro orbital venous plexus of each rat was collected following overnight fasting. These blood samples were used for the determination of blood sugar levels using oxidase peroxidase methods (Trinder (1969).

Effect on Alloxanised Rats:

A total of thirty albino rats (c.f. strain) weighing 200 ± 20 gm were equally divided into three groups. Group I- rats served as

controls. The rats of groups II and III were administered shilajeet (250 mg/kg. b.w.p.o) and Yashada Bhasma (100 mg/kg b.w.p.o) respectively for 10 days. Thereafter, all rats of control and treated groups were injected alloxan (150mg/kg. b.w 1/p Sigma) after 36 hours of fasting; the administration of yashada Bhasma and shilajeet was continued for one week after alloxalization. At the end of 17 days blood from rats of control and pretreated alloxanised groups was collected individually from retro orbital plexus, following overnight fasting, the blood sugar estimation was done using the method described earlier. The data was statistically analyzed using student's 't' test.

RESULTS

In normoglycaemic rats, the administration of Yashada Bhasma for 15 Days significantly decreased the fasting blood sugar levels ($P < .01$) (Table - 1). Similarly, the fasting blood sugar levels were also observed to be lower in Yashada bhasma pretreated alloxanized rats as compared to control alloxanized rats ($P < .05$) Table -2).

Table - 1: Effect of Yashad Bhasma (100 mg/kg b.w) on fasting blood sugar in normoglycaemic rats. (Mean \pm S.E)

Control (10)		Yashada Treated (10)
60.2		51.905
± 2.134		± 1.486
Calculated Student's 't'	=	3.192
Tabular t_{18}	=	2.88
$P < .01$		Significant at 1% probability.

Table - 2: Lowering of fasting blood sugar levels in Yashad Bhasma Pretreated alloxanised rats as compared to controls. (Mean \pm S.E)

Control (10)	Yashada Treated alloxanised (10)
388.86	359.01
± 8.61	± 11.04

Shilajatu treated animals exhibited significant hypoglycaemic activity in normal rats ($P < .05$) as compared to controls (Table 30). The blood sugar levels were decreased in shilajatu pretreated alloxanized rats than the normal alloxanized rats (Table 4).

Thus, the observation recorded in the present investigations suggest that both Yashada Bhasma and Shilajatu possess hypoglycaemic activity. However, such activity is relatively more pronounced in Yashada bhasma treated rates than the shilajatu treated ones. Similar to our observations, Prasad and sharma (1989) also demonstrated hypoglycaemic activity of Yashada Bhasma in rats. Since, Yashada Bhasma and shilajatu are used along with many other drugs in a number of Ayurvedic antidiabetic compounds, it appears that synergism among various constituents might be responsible for antidiabetic effects of these compounds rather than the hypoglycaemic activity of individual constituents.

Calculated Student's 't'	=	2.13
Tabular t ₁₈	=	2.10
P<.05	Significant at 5% level of probability.	

Table - 3: Effect of (250 mg/kg b.w) on fasting blood sugar in normoglycaemic rats. (Mean ± S.E)

Control (10)		Yashada Treated (10)
60.2		54.299
±2.134		±1.576
Calculated Student's 't'	=	2.22
Tabular t ₁₈	=	2.10
P<.05	Significant at 5% level of probability.	

Table - 4: Lowering of fasting blood sugar in shilajatu Pretreated alloxanised rats (250 mg/kg b.w) (Mean ± S.E)

Control (10)		shilajatu Pretreated alloxanised (10)
388.86		359.01
±8.61		± 8.5
Calculated Student's 't'	=	2.46
Tabular t ₁₈	=	2.10
P<.05	Significant at 5% level of probability.	

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