

**PHARMACOLOGICAL EVALUATION OF AV MEMVITA
CAPSULES FOR ANTIPARKINSON ACTIVITY**

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ABSTRACT:

Ayurveda, the ancient Indian medical science, dealing not only with treatment of some diseases but is a complete way of life which emphasizes prevention of disease to avoid the need for cure. Herbal medicine remains as one of the common forms of therapies available, since the drugs from the plant origin have no side effect and more efficacy than synthetic ones.

Parkinsonism is one of the commonest neurodegenerative diseases, which is characterized by a selective and progressive degeneration of dopaminergic neurons, causing a series of symptoms which might ultimately induce programmed cell death. Plant drugs are frequently considered to be effective, less toxic or freer from side effects and relatively cost effective as compared to synthetic ones. Thus, the present study aims to open new avenues for the improvement of medicinal uses of indigenous herbal formulations in selected area for parkinsonism.

A. Sanction of protocol:

The protocol for the study was passed under the title “**Evaluation of Anti-parkinsonism activity of AV memvita capsules.**”

All the animal study will be carried out according to the Ethics Committee Guidelines.

B. EXPERIMENTAL WORK:

I. Acute toxicity study:

Animals : The Swiss albino female mice weighing 20 to 25 grams were used for the study. They were fed with standard pelleted laboratory diet and water. The study was designed to evaluate acute toxicity of the AV memvita capsules.

Procedure:

The objective of the present study was to investigate potential adverse effects, if any, of AV Memvita capsules in mice.

The dose level to be used as the starting dose is 5 mg/kg bw. Animals were observed individually after dosing at least once during the first 30 minutes, periodically during the first 24 hours, with special attention given during the first 4 hours and daily thereafter, for a total of 14 days.

Groups	Dose level (mg/kg body wt)	Observation of mortality (upto 14 days)	Weight of animal (g)	
			Initial wt.	Final wt.
Normal Control (0.9% NaCl)	5	No mortality	24.00±0.29	25.50±0.76
	50	No mortality	24.83±0.44	26.67±0.44
	300	No mortality	22.83±1.09	24.33±0.83
	2000	No mortality	23.33±0.73	25.00±0.87
AV Memvita Capsules	5	No mortality	22.43±0.81	25.43±0.54
	50	No mortality	23.67±0.27	26.00±0.81
	300	No mortality	22.93±0.87	25.10±0.49
	2000	No mortality	23.00±0.63	26.33±0.24

II. Antiparkinson activity:

The activity was studied using Haloperidol induced Parkinson in mice. Animals were housed individually and were maintained on a normal diet and water *ad libitum*. Parkinson was induced by injecting Haloperidol at a dose of 0.5mg/kg i.p to the animals after 30 mins of administration of the formulation. The animals were maintained under careful observation, throughout the experimental period and motor tests such as catalepsy and muscle rigidity using rota rod was carried out for evaluation of antiparkinsonism activity.

Table 1: rotarod test (AV Memvita capsules)

Fall of time (mins)	Groups					% activity (formulation)		% activity (standard)
	Normal control(0.9 % saline)	Positive control (haloperidol - 0.5 mg/kg)	Standard (syndopa®)	Treatment		22mg /kg	44mg/ kg	
				22mg/ kg	44mg/ kg			
30	25.3±1.18	6.00±1.48	11.2±1.53	22.8±1.45	16.17 ±1.30	9.9%	36.1%	55.47%
60	47.17±1.08	10.67±1.82	15.83±1.90	27.17 ±1.38	20.5± 1.23	42.40%	56.54%	66.44%
90	55.50±0.99	20.50±2.14	25.67±2.34	32.33 ±1.48	25.67 ±1.36	41.75%	53.75%	53.75%
120	63.33±1.22	24.33±1.94	29.50±2.12	35.83 ±1.54	29.17 ±1.38	43.42%	53.94%	53.42%
150	74.50±1.50	28.67±1.82	33.83±1.99	40.17 ±1.49	33.5± 1.34	46.08%	55.03%	54.59%
180	89.00±1.13	24.00±1.41	29.17±1.62	37.17 ±1.64	30.5± 1.48	58.24%	65.73%	67.23%
210	84.50±0.77	19.17±1.60	24.83±1.57	34.17 ±1.28	27.5± 1.29	59.56%	67.46%	70.62%
240	83.00±1.21	17.00±1.69	22.67±1.60	31.17 ±0.98	24.83 ±0.95	62.45%	70.08%	72.69%

Table 2: Chimney test (AV Memvita capsules)

Fall of time (mins)	Groups					% activity (formulation)		% activity (standard)
	Normal control(0.9 % saline)	Positive control (haloperidol - 0.5 mg/kg)	Standard (syndopa®)	Treatment		22mg /kg	44mg/ kg	
				22mg/ kg	44mg/ kg			
30	17.17±1.49	7.67±0.88	12.17±0.70	21.5±0.43	15.67±0.88	-	8.74 %	29.12%
60	28.17±1.08	12.33±1.17	16.83±1.01	25.83±0.40	20.00±1.07	8.31 %	29.00 %	40.26%
90	36.50±0.99	22.00±2.15	26.50±1.84	34.17±0.48	28.17±1.14	6.38 %	22.82 %	27.40%
120	44.33±1.23	25.83±1.96	30.33±1.65	41.83±0.65	35.83±1.14	5.64 %	19.17 %	31.58%
150	55.50±1.50	30.17±1.82	34.67±1.50	49.50.67±	43.5±1.26	10.8 1%	21.62 %	37.53%
180	71.67±2.25	25.67±2.06	30.17±1.74	44.67±0.67	38.67±1.17	37.6 7%	46.0 4%	57.90%
210	67.17±2.24	21.33±2.04	25.83±1.72	39.67±0.67	33.67±1.17	40.9 4%	49.8 7%	61.55%
240	65.67±2.50	19.33±1.91	23.83±1.58	34.67±0.67	28.67±1.17	47.2 1%	56.3 4%	63.71%

Table 3: catalepsy test (AV Memvita capsules)

Fall of time (mins)	Groups					% activity (formulation)		% activity (standard)
	Normal control(0.9 % saline)	Positive control (haloperidol - 0.5 mg/kg)	Standard (syndopa®)	Treatment		22mg /kg	44mg/ kg	
				22mg/ kg	44mg/ kg			
30	253±11.7	103±1.2	125±1.78	196.83 ±3.66	187.83 ±2.57	22.3 0%	25.86 %	50.53%
60	275±11.6	108±1.54	130±2.03	201.67 ±3.30	192.17 ±2.57	26.7 1%	30.16 %	52.76%
90	284±11.5	117.5±1.95	140±2.37	207.33 ±3.64	197.00 ±3.27	26.8 7%	30.51 %	50.68%
120	291±11.5	121±1.80	143±2.27	211±3.30	198.83 ±3.98	27.5 7%	31.75 %	50.68%
150	302±11.6	125±1.71	148±2.11	215.83 ±3.12	203.17 ±4.04	28.6 5%	32.83 %	51.07%
180	317±11.0	120±1.92	143±1.98	213.33 ±4.14	197.33 ±4.08	32.7 0%	37.7 5%	54.79%
210	312±10.7	116.5±1.89	139±1.98	210±4.97	192.83 ±4.15	32.8 %	38.2 9%	55.52%
240	310±10.7	114.3±1.80	136±2.02	206.67 ±5.95	187.00 ±4.26	33.4 8%	39.8 0%	55.96%

Results :

According to the results obtained the AV Memvita capsules shows significant results when compared with standard.

Future plan of work:

The same studies will be carried out for reserpine induced Parkinson model.