Testing research about a kind of edible plants desiccant toxicity

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【 abstract 】 **Objective**: to observe the acute toxicity reaction and deaths after irrigatting the maximum desiccant to White mouse for 8 days.

Methods: We did not get LD50 to SPF Kunming mouse afer irrigatting the edible plants desiccant,so making the maximum tolerated dose test. Take the edible plants desiccant three times a day and interval 6 hours everytime according to the maximum volume of 0.4 ml/10g, the maximum concentrations of 0.12 g/ml .Animal did not die, equivalent to 240 times to the 60 kg adult day dosage.

Conclusion: so irrigatting edible plants desiccant to mice stomach are no acute toxic effect , and the desiccant are belong to the non-toxic traditional Chinese drug, it can be safely used clinically.

【keywords】 **edible plants desiccant ; acute toxicity; mice**

The edible plants desiccant was synthesized from Herba Bouttuyniae, China soapberry seed, Cunninghamia Lanceolata and Ketsumeishi, which using biological enzymolysis wall-broken extraction technology to extract the effective ingredients and mixed dregs which made from high temperature and activation powder by science preparation. It have good antibacterial moisture absorption effect,and has been widely used in food and daily chemical field.In order to confront the present damage to human especially for young children which caused by the widely usage of silica gel. Through the irrigation of edible plants desiccant to mice stomach experiment and the observation of maximum dosage to discuss the acute toxicity effection of edible plants desiccant on mice .

1 The experiment materials

1．1 animal

Use the Kunming Mice：clean level, 18-22 g， provide by the Shanghai Slik experimental animals limited liability company, animal qualified number: SCXK (Shanghai) 2007-0005.

1．2 Samples

Edible plants desiccant (fujian institute of traditional Chinese medicine preparation). Batch NO.: 20110308.1.0 g/bag, every gram medicine is equivalent to 1.15 g curde drug. Dosage for adult is twice a day, one bag each time. Before experiment the drug with distilled water containing is configured for 100% content of suspension liquid, Use now match now。

2 methods and results

2．1experimental method：

Pilot test: Made edible plants desiccant subjects into the maximum concentration solution of o. 3 g/ml (crude 0.345 g/m1), mice stomach tolerance's maximum volume (0.4 ml/lOg weight), give 10 only kunming laboratory mice (bisexual each half) one-time irrigation to stomach.
Before irrigation to stomach it should be fasting but water offered normally for 12 hours. Feeding conventionally after the mice are taken drugs.In the day of the drug are taken to mice, their activities, mental state, diet, drinkingr ,and defecation, are all normal. Continuous observation for 7 days. Finding no death lesd to no testing for LD5O.It print out the preparation is safe, so do the maximum dose test to mice.

maximum dose test：Take 20 kunming mice (bisexual each half) to different cage to raise three days. Fasting and drinking 12 hours before testing,irrigating edible plants desiccant to stomach every time according to the maximum volume 0.4 ml / 10 g and the maximum concentrations of 0.3 g/ml, give medicine three times a day, each time 6 hours interval.mice activity, spiritual activities, breathing, appetite, defecation and its color, and if their nose, eyes, ears, mouth have exception secretion. Change in weight and situation of death, all above are continuous 7 days observation.

2.2 Experimental data statistics

The software SPSS13.0 for processing

3 result

3．1 Acute toxicity experiment to Mice (maximum dosage testing) weight statistics (results are analyzed in table1)

Table 1 edible plants desiccant using on acute toxicity experiment to mice (maximum dosage testing) weight statistics ($\bar{x} \pm s$)

group	sex	Animals no.	dosage (g/kg)	Initial body weight	Weight after taking the medicine (g)	
Desiccant				(g)	3 DAYS	7 DAYS
	♀	10	80	20.64±0.85	23.66±1.34	25.54±1.62
group	♂	10	80	20.76±0.87	23.46±0.67	27.36±2.34
total		20	80	20.70±0.81	23.56±1.05	26.45±2.13

The test results show that, after the treatment within 7 d, animal did not die, all in good condition. Normal in Diet,and defecation.And appearance, fur, behavior, breathing are all normal. nose, eyes, mouth no abnormal discharge. The food-intake has no significant differences, all organ normal, did not see the other obvious abnormal reaction.

So the multiples between the plant desiccant maximum dosage to mice and adult dosage ：

maximum dosage multiple to mice = maximum dosage a day/ mice average weight (20 g)

×adult average weight (60000g)/ adult daily consumption

= (0 . 12g / m1)× (0 . 4ml×2) ×3/20g× 60000g/1.0g×2×1

=432(times)

4 Disscussion

The edible plants desiccant was synthesized from Herba Bouttuyniae, China soapberry seed, Cunninghamia Lanceolata and Ketsumeishi. Plants with Herba Bouttuyniae, China soapberry seed, Cunninghamia Lanceolata and Ketsumeishi as the main raw material, through special process of making particle, it is widely used in food, daily chemical field, because at present widely use of silica gel with potential toxicity risk, it have been banned many countries. So, it has the extremely vital significance to make toxicity research on the product , and for looking for a safe and reliable, non-toxic, succedaneum,. irrigating edible plants desiccant to stomach every time according to the maximum volume 0.4 ml / 10 g and the maximum concentrations of 0.3 g/ml, give medicine three times a day, each time 6 hours interval. animal did not die, equivalent to 432 times of 60 kg adult dosage,. So the plant desiccant irrigation to stomach take no acute toxicity effection in mice, it's non-toxic.