臺灣產蜂王漿之藥用動物學考察及藥理作用之研究

Studies on the Zoologic Pharmacognosy and Pharmacological effect of Taiwan Royal Jelly

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[摘要]

蜂王漿 (Royal Jelly) 為民間常用於滋補、強壯、益肝，治病後虛弱、風濕性關節炎等之藥品。已知具有抗菌、抗發炎、抗癌、免疫調節等藥理作用，但均為國外針對當地所產之蜂王漿所進行之研究，有關臺灣產蜂王漿之研究報導極少。由於蜂王漿成分之組成與含量，常因蜜蜂之品種、蜜源植物、養殖方式與採收季節等因素之不同而有所差異；因此，本研究首先擬針對蜂王漿之來源動物蜜蜂與蜂蜜之本草學、藥用動物學與蜂王漿之商品學等進行考察，以確立蜂王漿基原、養埴、採收與商品化之依據；並對臺灣產蜂王漿之抗癌、抗菌、解熱及改善學習獲得障礙等藥理作用進行探討，期能提供臺灣產蜂王漿應用時科學化之依據，以配合國家精緻農業政策及高價值藥用動物生藥之推廣。考察結果顯示，要獲得高產量、高品質之蜂王漿，除蜂王之品質要好外，蜂群要強、蜜粉要足、養殖管理要細等均為必須注意之要點。藥理研究結果發現，臺灣產蜂王漿水溶液 (0.1~1 mg/ml) 於 12~48 小時可以抑制人類肝腫瘤細胞 (J5) 內之 NAT 酵素之活性。臺灣產蜂王漿水溶液 (0.5 mg/ml) 對於革蘭氏陰性細菌 (Hemophilus influenza) 之生長具抑制作用。腹腔給予臺灣產蜂王漿水溶液 (0.1~1 mg/kg) 對室溫下致熱原 interleuckin-1b (IL-1b) 誘發之大鼠發燒現象，具有劑量依存性之解熱作用；且在此有效劑量臺灣產蜂王漿水溶液對正常大鼠之體溫並不影響。另外，腹腔給予臺灣產蜂王漿水溶液 (1~30mg/kg) 對 p-chloroamphetamine (PCA) 誘發之大鼠學習獲得障礙作用，具有改善作用。綜合上述研究結果可知，臺灣產蜂王漿水溶液具有抗癌、解熱、抗菌及改善藥物誘發學習獲得障礙之作用；其改善藥物誘發學習獲得障礙作用之機轉則可能與中樞 serotoninergic system 有關。

關鍵字:

蜂 王 漿	royal jelly
肝 腫 瘤 細 胞	liver tumor cell (J5)
N-乙醯化轉移酉每	N-acetyltransferase
流行性感冒嗜血桿菌	arylamine
致 熱 學習原	Hemophilus influenza
細 菌 內 毒 素	pyrogen , bacterial endotoxin
學 習 獲 得	acquisition
被 動 迴 避 學 習	passive avoidance

[摘要]

ABSTRACT

Royal Jelly is traditional remedy for nourishment, body-strengthener,liver nutrition, weakness in convalescence, and rheumarthritis. A number ofactive pharmacological-research reports have been studied in many other countrieson the production of royal jelly in local areas. Previous study showed that, royal jelly has antibacteria, treating bacteria, inflammation and cancer activity and to improves endocrine and hemopoiesis systems. However,there are only a few pharmacological-research reported published on theproduction of royal in Taiwan. Depending on the variety of bees used, the way thebees are raised, the plant where honey is extracted, and the season in whichroyal jelly is extracted, the composition of royal jellies may differ in manyways. The present research first focus to determine the origin of bees, theancient Chinese pharmacological text, the zoological pharmacognosy, and theproduction of royal jelly. This research also focus on the royal jelly'sfever-relief functions, bacteria restraining function, and medical induction onlearning- barrier attenuating effect. Thus, it will serves as the base to aid the agricultural policies and to promote the value of zoologicalpharmacognosy. In order to obtain high production and high quality of royal jelly, notonly the queen bee has to be high quality, but also the bees have to be strong, pollen have to be sufficient, and raising methods have to be carefully outlined. By 12 hours to 48 hours, the concentration of royal jelly fluid ranging from 0.1~1 mg/ml is able to suppress the NAT activity in humanliver tumor cells (J5). This royal jelly fluid (0.5 mg/ml) can also suppressthe growth of Hemophilus influenza. Furthermore this royal jelly fluid has antipyresis activity induced by interleukin-1b (IL-1b) in rats in a dose- dependent manner. Moreover, this royal jelly fluid (1~30 mg/kg) canimprove the medical induction on learning-barrier attenuating effect on theinjection of p-chloroamphetamine (PCA) into the abdominal cavity of normal rats. Taken together, the royal jelly produced in Taiwan has positive effect of fever-relief, antibacteria and improvement on inducing learning-barrier attenuating effect. Also, such an improvement in the inducedlearning-barrier attenuating effect could most likely be related to the centralserotoninergic system.