



Antitumor Effects of Oridonin on Xenograft Tumor of Human Papillary Thyroid Carcinoma in Nude Mice

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SUMMARY. This study aimed to evaluate the antitumor effects of oridonin (ORI) on xenograft tumor of human papillary thyroid carcinoma in nude mice. Human papillary thyroid carcinoma PTC-1 cells were implanted in nude mice to establish the xenograft tumor model. The modeled nude mice were randomly divided into Model, low-dose oridonin (ORI-L), middle-dose oridonin (ORI-M), high-dose oridonin (ORI-H) and doxorubicin (DOX) groups. The later 4 groups were treated with 10, 20, and 40 mg/kg ORI and 5 mg/kg DOX, respectively. The indicators related to animal and xenograft tumor growth and peripheral blood tumor necrosis factor- α (TNF- α) and interleukin-2 (IL-2) levels were determined. After treatment, the body weight in DOX group was significantly lower than other groups, the tumor volume in ORI-M and ORI-H and DOX group was significantly lower than Model and ORI-L groups, the inhibition rate in ORI-M and ORI-H groups was significantly higher than ORI-L group, the TNF- α and IL-2 levels in ORI-M and ORI-H groups were significantly higher than model group, and the kidney index and spleen index in ORI-L, ORI-M and ORI-H groups were significantly lower than DOX group (all $P < 0.05$). In conclusion, ORI has the antitumor effects on PTC-1 xenograft tumor in nude mice.

RESUMEN. Este estudio tuvo como objetivo evaluar los efectos antitumorales de la oridonina (ORI) en el tumor de xenoinjerto de carcinoma papilar de tiroides humano en ratones desnudos. Se implantaron células de carcinoma papilar humano de tiroides PTC-1 en ratones desnudos para establecer el modelo de tumor de xenoinjerto. Los ratones se dividieron aleatoriamente en grupo Modelo, dosis bajas de oridonina (ORI-L), dosis medias de oridonina (ORI-M), dosis altas de oridonina (ORI-H) y doxorubicina (DOX). Los últimos 4 grupos se trataron con 10, 20 y 40 mg/kg ORI y 5 mg/kg DOX, respectivamente. Se determinaron los indicadores relacionados con el crecimiento de tumores en animales y xenoinjertos y el factor de necrosis tumoral en sangre periférica α (TNF- α) y la interleucina-2 (IL-2). Después del tratamiento, el peso corporal en el grupo DOX fue significativamente menor que en otros grupos, el volumen del tumor en el grupo ORI-M y ORI-H y DOX fue significativamente menor que en los grupos Modelo y ORI-L, la tasa de inhibición en ORI-M y ORI Los grupos H fueron significativamente más altos que los grupos ORI-L, los niveles de TNF- α e IL-2 en los grupos ORI-M y ORI-H fueron significativamente más altos que los del grupo modelo, y el índice renal y el índice del bazo en ORI-L, ORI-M y ORI-H fueron significativamente más bajos que los grupos DOX (todos $P < 0.05$). En conclusión, ORI tiene los efectos antitumorales en el tumor de xenoinjerto PTC-1 en ratones desnudos.

KEY WORDS: nude mice, oridonin, papillary thyroid carcinoma, xenograft.

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