not reported yet. Therefore, in the present study we investigated anti-inflammatory effect of whole BV extract in the arthritis animal model, and further investigated the mechanism of BV-induced anti-inflammatory effect in a murine marcrophage cell line Raw 264.7 cells. The present data showed that whole BV extract has a preventive effect on the mycobacterium butyricum-induced arthritis, and blocks lipopolysaccharide (LPS)-induced induction of COX-2, PLA2 and iNOS expression, and the production of NO and PGD2 through inactivation of $NF-_kB$.

[PA1-55] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Effects of glycine on the development of tolerance to and physical dependence on morphine in mice

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This study was performed to investigate the effects of glycine on the development of tolerance to and physical dependence on morphine. Repeated adminstration of morphine developed tolerance and physical dependence. Glycine (100, 200 and 400 mg kg^{-1} i.p.) was administered intraperitoneally to mice for 7 days once a day 30 minutes prior to the morphine (10 mg kg^{-1} s.c.). Analgesic resposes were estimated at 0. 30. 60. 90, 120 minutes by the tail flick methods 24 hours after the final injection of morphine. The inhibitory degree of morphine tolerance development of the test morphine (10 mg kg^{-1} s.c.) by i.p. administration of glycine was evidenced by the increase in analgesic response to morphine (5 mg kg^{-1} s.c.). Glycine inhibited the development of tolerance to morphine.

In addition, we separately measured the naloxone (5 mg kg^{-1} i.p.)-precipitated withdrawal sign (jump) in mice that had received the same morphine (10 mg kg^{-1} s.c.) for 7 days. Glycine (100, 200 and 400 mg kg^{-1} i.p.) inhibited naloxone-precipitated withdrawal in morphine dependent mice.

These results sugest that glycine might be useful the prevention or treatment of morphine tolerance and physical dependence.

[PA1-56] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Inhibition of glycine on morphine-induced hyperactivity, reverse tolerance and postsynaptic dopamine receptor supersensitivity in mice

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We examined the effects of glycine on the morphine-induced hyperactivity, reverse tolerance and postsynaptic dopamine receptor supersensitivity in mice. A single administration of morphine (10 mg kg^{-1} s.c.) induced hyperactivity as measured in mice. The morphine-induced hyperactivity was inhibited dose-dependently by the pretreatment with glycine (100, 200 and 400 mg kg^{-1} i.p.). In addition, repeated administration of morphine (10 mg kg^{-1} s.c.) to mice once a day for 7 days causes an increase in motor stimulation induced by a subsequent morphine dose, an effect known as reverse tolerance or sensitization. Glycine (100, 200 and 400 mg kg^{-1} i.p.) also inhibited morphine-induced reverse tolerance, in a dose dependent manner. Mice that had received 7 days-repeated administration of morphine also developed postsynaptic dopamine