

Abstract

Extracellular and intracellular recordings were made from within the dorsal horn of 10 anaesthetised and gallamine triethiodide-paralysed cats. Inhibition of background and residual noxious-evoked discharge by cooling and warming was demonstrated in 7 out of 33 nociceptor-driven dorsal horn neurones. Five units were inhibited by warming of the noxious mechanical excitatory receptive field. Four units were inhibited by 100%. One unit was inhibited by 42%. Cold stimulation inhibited two units. The background and residual noxious evoked discharge was inhibited by 100%. Cooling (32-20 °C) excited two units; warming (32-43 °C) also excited two units. Heating above 43 °C excited 8 units; cold below 20 °C excited 3 units. The units inhibited by thermal stimulation may provide some neuronal basis for thermal analgesia.