

Abstract

Every living creature meets with pain up to these days. Many researches are made in labour conditions, we try to find out how the pain works and how we can suppress it or how we can utilize it in our welfare. Our work is focused on the effect of aging, season, acclimatization and ambient temperature on thermal and mechanic pain threshold in laboratory rats. We were interested how these factors affect the results of the research. Adult male Wistar rats were used in all experiments. Thermal pain thresholds were measured by withdrawal reaction of three body sites: forelimbs, hind limbs and tail. Mechanic pain thresholds were measured by von Frey filaments and a skin temperature was measured by IR thermometer, both of three body sites. Our results demonstrate that : (i) aging have effect on nociceptive pain threshold; (ii) there is presence of cranio-caudal distribution of nociceptive sensitivity in aging and in changing of ambient temperature – forelimbs have lower latency than hind limbs; (iii) thermal pain threshold depends indirectly on ambient and skin temperature; (iv) there was no effect of repeated measurement on nociceptive thresholds of the three body sites; (v) hind limbs and tails are more sensitive to changes of ambient temperature than forepaws; (vi) mechanic pain threshold not change with changes of temperature. These findings show the importance of recording laboratory conditions in experiments and their influence of the results.