Face skin changes caused by face mask during the COVID-19 pandemic

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With the prolonged COVID-19 situation, wearing a face mask has become daily routine and we studied facial skin changes caused by wearing a mask for preparing possibilities on changing skin characteristics. The skin characteristics changed for about three months from mid-June to mid-September, and compared to skin changes caused by wearing a mask during the day. Measured areas were divided into two groups. Cheeks, perioral area and chin were mask-wearing area and forehead was non-mask-wearing area. Skin temperature, redness, hydration, keratin, elasticity, pores, color, and trans-epidermal water loss (TEWL) were measured. Skin changes caused by long-term wearing of mask were shown in TEWL, skin hydration and keratin. Compared to June, TEWL was increased significantly on the cheeks, perioral area and chin. There was significant difference in TEWL increase in the cheeks and perioral area compared to the forehead. Also, skin hydration was significantly decreased on the cheeks. Skin hydration of perioral area was also decrease. There was significant difference in skin hydration decrease in the cheeks compared to the forehead. Compared to June, skin keratin was increased in the perioral area and chin, and keratin was decreased on the forehead. There was significant difference in skin keratin increase in the cheeks and chin compared to the forehead. In previous studies, skin characteristics that were quickly affected by wearing a mask were skin temperature and redness. On the other hand, TEWL, skin hydration and keratin were more affected by wearing for a long time so there was difference short-term and long-term effect of mask in changed skin characteristics. In the effect of long-term wearing a mask on the face skin, this result is meaningful in that we studied the effect of wearing a mask in daily life for ordinary people, not those who wear mask in the occupational environment.