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Distribution of cannabinoid receptor 1 (CB1) and 2 (CB2) in subcutaneous tissue and fasciae

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The endocannabinoid system is constituted by the endocannabinoid receptors (CB1 and CB2), by the endocannabinoids and the machinery for their biosynthesis and metabolism. Cannabinoid receptors have been localized in the central and peripheral nervous system as well as on cells of the immune system but recently they are discovered at epidermis and dermis[1].

The endocannabinoid system has been involved in different physiological processes, in particular many works in animal models have discovered an antinociceptive activities in inflammatory state and chronic inflammatory disease.

Those findings suggest the possibility that the endocannabinoid system interacts with different cells so it will be interesting to provide a description of endocannabinoid receptors distribution.

Immunohistochemical and molecular investigation for CB1 and CB2 localization was carried out in human skin and subcutaneous tissue and direct analysis on fibroblasts isolated from deep fascia[2] and subcutaneous tissue of human and rat samples.

The majority of endocannabinoid receptors were found in the keratinocytes of skin and mast cells close to subcutaneous adipose tissue, whilst in the deep fascia the presence is scarse. The CB2 receptors were more frequently highlighted respect to CB1 receptors.

The abundant distribution of cannabinoid receptors on skin, mast cells and subcutaneous tissue provides implications for an anti-inflammatory, and this suggests more studies to evaluate the therapeutic potential of endocannabinoids.

References

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Keywords

Endocannabinoid system; deep fasciae; fibroblasts.