

The shape of the emotion

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Summary

The emotion is an active reaction with being eloquent of the emotions such as the change of the look with the physiological reaction which is strong in the automatic nerves system, the immune system, the endocrine system which occurs with the organolept which the creature felt.

However, the definition of the emotion is ambiguous.

It is different roughly every learning field and for it, there is not a strict distinction of the emotion and the feelings. The handling depends on the interval of the research area and the researcher.

There seems to be possibility to complicate the discussion of the concerning with anxiety, the amygdala which is the nucleus of the fear and a cerebral limbic system for the ambiguousness of the definition and to make difficult.

Therefore, we made a chart with the emotion, feelings and the mood, placing as the different reaction. In the tunnel of the tube-like of the comparatively gently long lasting mood, the feelings were wavering but supposed that doing of the eloquent of the emotion which is a physiological reaction and an active reaction didn't accompany.

On the other hand, it supposed that an emotion was accompanied by the reaction which is physiological which is strong in the automatic nerves system, the immune system, the endocrine system and doing of the eloquent of the emotion physiological strong, deviating from the feeling control by the ventromedial prefrontal cortex.

Moreover, it considered about the relation, too, about the amygdala which is the existence like a nucleus of the experience like an emotion and the chronic pain.

【 key words 】emotion, amygdala, feeling, mood, chronic pain

I mind-body correlation

It is represented as " the operation of the psychology and the physiology be in the correlation the kind with the condition which appears if feeling pleasure and a rage in the heart to support it at the body, too, " according to the Sanseido-Daijirin with being psychosomatic.

When saying in other words, the change of the heart has an influence on a state of the body and the physical change is having an influence on the change of the heart and is that the emotion which was caused in the cerebral limbic system by the internalness or the outward stimulation has an influence on the automatic nerves system, the endocrine system and the immune system

and causing various body symptoms¹⁾.

The cerebral limbic system is the general term of the part which manages instinct, mystic feeling, dormancy and dreams such as being eloquent of the emotions such as the feelings, the appetite, the lust, the dormancy greed, the conation²⁾. The Gyrus of cingulum, the amygdala, the hippocampus, the gyrus parahippocampalis, the nucleus accumbens and so on are equivalent to this. Among these, the amygdala is charged with the main role of the emotional reaction and the affect-memory specifically.

That is to say, it has an important role in the processing of the feelings of the likes and dislikes and comfort and discomfort and so on and the fear, the memory forming, the sharp

pain, the stress reaction, the anxiety-reaction and the fear reaction.

Also, it receives outward stimulation such as the sight, the hearing, the sense of smell, the taste, the splanchnesthetic sensibility and the somaesthesia straight from the olfactory bulb and the brain stem.

When the tension such as the strong anxiety and the fear continues in the long run as the possibility of the depression development, the glucocorticoid (cortisol) which is secreted from the adrenal cortex by the overactivity of the amygdala is secreted²⁾. It thinks that the cerebral limbic system influences communication with the other nerve cell because the withering of the nerve cell develops when it undergoes big influence and it is prolonged and that the depression develops.

Also, under the chronic pain and the stress, the amygdala is charged with the role that the prefrontal area calms down the excitement of the amygdala. However, when the chronic pain and the stress last, the excitement of the amygdala continues, a sharp pain is amplified and relation between the chronic pain and the amygdala, too, is recently pointed out³⁾.

II emotion

The definition of the emotion is ambiguous. It is different roughly every learning field and the various mechanisms are proposed by each scholarly position and are insisted on⁴⁾.

The emotion which is described with this article is an emotion based on the medical viewpoint. Therefore, the emotion means a very simple emotion like feelings that the duration is short comparatively, doing a judgement by the instinctive feeling such as comfort's being unpleasant in the amygdala when seeing or whether or not the person dislikes being favorite about something. However, because are accompanied by the change of being eloquent

of the emotions such as the look, the motion and the sound of the face, different from the feelings, observation from outside is possible and is accompanied by the automatic nerves system, endocrine system and immune system excitement like a physiology. On the other hand, it supposed that the feelings meant an emotion as the general judgement result which stands up in addition to undergoing the influence of the factors such as the commonplace value and the cultural habitude which is in the memory which was preserved in the cerebral cortex through the hippocampus, differentiating from the evaluation like an emotion of very primitive comfort the unpleasantness from the amygdala or the educational sense of values, the social environment, the infant experience, the human relations of the character⁵⁾. Also, the part which lasts gently among the feelings and is prescribed by the character is big and the mood mean a state of the psychology that such feelings account for the considerable time in the single day.

According to the cerebral science dictionary of the Japan Neuroscience Society supervision, in the original feelings which occur in the short run, it defines as the comparatively strong reaction about an emotion and it is distinguished from the mood which the in medium and long-term gently lasting strength is weak in. Also, it sometimes defines as being feelings, generically calling both of the emotion and the feelings, too. However, it supposes that there is not a strict definition which concerns the distinction of the emotion and the feelings and that the research area and the point that the handling depends on the researcher interval need note. It is a fact that the possibility to complicate the discussion of the anxiety, the amygdala which is the nucleus of the fear and the cerebral limbic system of this definition because of the ambiguousness and to make difficult can not be denied.

Therefore, we attempted to show it with

the figure with the emotion and the feelings, placing feelings as the reaction which is different respectively (Fig. 1). That is, in the tunnel (tube) of the tube-like of the comparatively gently long lasting feelings (mood), the feelings (feeling) were wavering as the positive feelings and the negative feelings and supposed that doing of the eloquent of the emotion in the automatic nerves system which is which accompanies, the immune system in the physiological reaction and accompanies in the physical change which is in the endocrine system and the active reaction didn't accompany.

On the other hand, it supposed that an emotion was accompanied by the reaction which is physiological which is strong in the automatic nerves system, the immune system, the endocrine system and doing of the eloquent of the emotion physiological strong, deviating from the feeling control by the inner stomach prefrontal-area. The basic negative emotions such as the anxiety, the rage fear and the depression and the social high order feelings such as the envy and the perplexity - the sense of guilt and the disgrace exist but the kind of the emotion which the amygdala participates in is accompanied by the reaction which is physiological in both the emotions and the reaction with approaching and avoidance, attack and active look and so on.

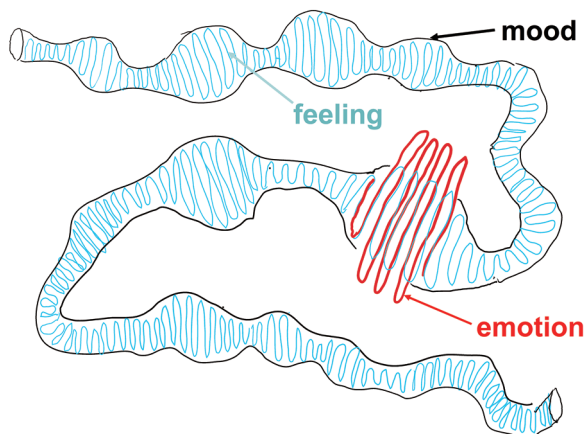


Fig.1 Tube of mood

III emotion and chronic pain

Are the seen one, the touching one and the one which was felt with the five senses safe for itself or evaluating whether or not it is danger very much instantly is essential when living⁴⁾. It is the amygdala that does a valued judgment to such organolepty. It describes that this is the replying which improves a survivability as the automatic result which occurs, supporting the situation which threatens the survival that the emotion occurred to the individual⁴⁾.

On the other hand, a sharp pain is defined as being " the experience like doing the sensuous with actuality which is unpleasant which accompanies an underlying tissue-damage perhaps or is described in relation to such damage - an unpleasant emotion accompanies or described " in International Association for the Study of Pain⁶⁾.

It stands up on the interconnection of the part which participates in the consciousness, the emotions and the reward systems such as the amygdala, the cerebral limbic system which contains an accumbens and prefrontal cortex, the insular cortex with the experience like an emotion⁴⁾. Therefore, as for the chronic pain, of course, the involvement of the amygdala is thought of, under the anxiety, the rage fear and the depressive state, the chronic pain lasts and does an exacerbation. Therefore, reducing a chronic pain by restraining the overactivity of the amygdala and remission seem to stand to the reason. We considered about the theoretical background and reported ^{7,8)}in the 23rd time in the department of psychosomatic medicine society (Sapporo - 2018) (Fig. 2). Then in 2 ① figures, it blocked a negative emotion to the accumbens from the amygdala and the hippocampus trestle ventral part, it showed an analgesic-effect by the blocking-off of stress input to the accumbens and then in ②, moreover, it reported relieving consequently than relieving

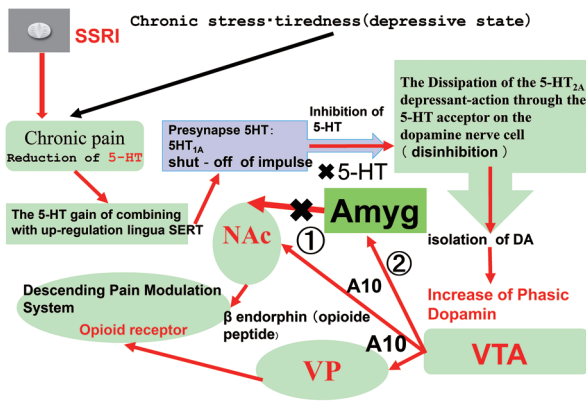


Fig. 2 chronic pain and amygdala

in the chronic pain in the anxiety disorder by restraining the overactivity of the amygdala by SSRI. It thinks that the effect of remission of the anxiety disorder by this SSRI brings about a antianxiety operation by SSRI's restraining the activity of the amygdala glutamic acid nerve through the serotonin concentration rise out of the cell from the result of the animal experiment.

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