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Olfactory, mysterious sense

Olfactory is quite mysterious function in human body. The olfactory and associated structure of human body starts to develop in four weeks in the mother's womb. (1) The sense is very early developed; the fetus recognizes the smells what mother eats. After birth, the sense is already completed enough to search and find mother's nipple.

There are roles for olfactory. First, it is to find foods, also the sense is included to check the foods are good, not poisoned for our body. Second, olfactory uses for searching the partner. Finally, it works as an alert, the place is safe or not. (2) Human's olfactory sense has gradually learned individually adopting their social culture. For example, it lists hydrogen Sulfide, something burning smell, moldy odor, foods rotten odor and so on. There is interesting theory about how to gain the smell sense. The new born baby does not know stools are stinky. It is learning during it grows process. Then it is used to know "the stools are stinky and dirty." (3) Olfactory has social function aspect as well. The functions and mechanism are very complicated. Many scientists are still searching the olfactory scientific evidences.

In Traditional Chinese Medicine (TCM), olfactory is one of diagnosis tools. The ancient Chinese observed human's reactions of smell and recorded their experiments based on philosophy, religion of Tao, 5 elements, Yin and Yang, Confucianism and Buddhism. When the finding odors from the patients (mainly bad odor), if it is Rancid means Liver and Gall bladder, Scorched means Heart, Rotten means Lung, Fragrant means Spleen, Putrid means Kidney, each odor relates in these organs' problems. Odor are signs of disease.

There is the sentences that talking about smell in Classic TCM book, Huang Di Nei jing.

Qi Bo said "the five smells enter the nose and are stored in the heart and lung. These are really the five qi of environmental energy that we breathe in. If illness occurs in the heart or lung, it will manifest in the nose." (4, page 47) "the five zang organs store the essence of jing/essence qi."(4. Page 46) According to these sentences of Hung Di Nei Jing, Five smells are essence qi.

The smell will be store in the Heart and Lungs. It is quite interesting. We smell from nose and detect in brain. However, there is big science finding by Brian K. Kobilka, is American physiologist and Robert J. Lefkowitz, is an American physician (internist and cardiologist) and biochemist. They found the odor receptors that are a kind of G-protein-coupled receptor. These receptors are in nose also found in the heart, lungs and blood. Of the total of around 1,000 receptors in the human body, about 800 of these are G-protein-coupled receptors. Half of these G-protein-coupled receptors sense and translate aromas. This article showed the example, sperm cells are already known to contain odor receptors, which are thought to play a role in helping the sperm locate the egg. He earned the Nobel Prize in chemistry in 2012. (5)(5-1)(5-2)

This surprised me, he showed smell related Heart and Lung which exact matches Huang Di Nei Jing. As written before, TCM is the experiments records. How ancient Chinese people expressed smell and the organs of Heart and Lungs?

Olfactory sense is in danger now. The patients who infected COVID19 loose the sense of smell. The research said COVID-19 patients are 27 times more likely to have smell loss but are only around 2.2 to 2.6 times more likely to have fever, cough or respiratory difficulty, compared to patients without COVID-19. This said that instead of loose sense of olfactory, other symptoms are very mild. (6) Instead of the main symptoms of COVID19 being severe, olfactory sense is damaged. Additionally, olfactory thresholds are associated with degree of dementia in Alzheimer's disease as well. (7)

Olfaction is the first senses to develop and decline to die. (8) We are smelling whole body and store the smell in heart and lungs. Ancient Chinese knew how smelling is important for us.

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