Viscero-cutaneous reflexes and chronic pain.

The central nervous system can be considered. A series of accumulated computers connected to each other. Each computer takes care of its own peripheral equipment. In case of a human being those are the organs and organ parts. Every organ(part) has its own computer and other organ(parts) to which it can communicate.

When an organ from the abdominal cavity or chest cavity communicates to an area on the skin this is called viscero-cutaneous reflex. On the other hand, an impulse of the skin area which incites a reaction in the matching organ(partly) has a cutano-visceral reflex.

In the living organisms this is not easy to see. An exception are the transparent glass eels. In an number of investigations with glass eels in 1919-1936 the Dane Wernøe demonstrated these viscero-cutaneous reflexes.

But a human being is not a glass eel.

In spite of all this physiotherapy is using these connections and reactions for many years, as though they have been proven in reality. A complimentary technique such as neural therapy and possibly acupuncture does this for over 100 years.

In 1962 the German professors Hansen and Schliack published an impressive reference work: "Segmentale Innervation: Ihre Bedeutung fúr Klinik und Praxis". Editor: Georg Thieme Verlag in Stuttgart. In this reference work all known publications of that moment have been summarized and described.

In 1966 the gynecologist professor Kloosterman published an article about "abdominal wall pain", a variant of abdominal pain. It became the base of the start to the nature of chronic pain.

Is chronic abdominal wall pain apart from the situation of the internal organs or can they cause chronic pain as well? Even though you can simply demonstrate that the painful spot is situated in the abdominal wall.

## Methodology

In order to judge this it must be concluded that viscero-cutaneous reflexes occur with human beings or must be excluded. In the last mentioned case abdominal pain in the abdominal wall comes from the abdominal wall. In the first mentioned case a disease of the abdominal organs on itself must be excluded.. How do you demonstrate viscero-cutaneous reflexes with human being who just is not transparent?

There are two possibilities: you stimulate an organ or you follow a process in an organ. In both cases you see what happens on the abdominal skin afterwards. Then the questions to be answered are: With what do I stimulate an internal organ? Which process of which organ do I want to follow? How do I find volunteers? With what do I want to follow that on the skin and for what reason?

A publication of a study was known about pain spots on the skin and it was concluded that 75% of the pain spots is colder than its surroundings. So temperature was a possible measuring parameter. In the early eighties there was a computer controlled measuring equipment (infrared thermography) that could measure the temperature without contact to the skin. Accurately to 0,1<sup>0</sup> Celsius. The measuring method was not a burden for the patient. Soon the stimulation was found; inserting IUDs. This often occurred in a general practice. Following an organ process was not difficult; pregnancies occurred often as well. For science and the patient

this was an extra.

If viscero-cutaneous reflexes would exist with human being and if thermography could observe this then deviations and failures of IUD insertion could be detected and the risks of an IUD as well. In case of pregnancies a deviating course would be visible sooner than this would be possible at that time via the usual methods.

Philips, one of the makers of thermographs, put one disposable for theses investigations. In the own practice sufficient volunteers appeared to be available for control measurements by thermography.

Apart from this it was investigated whether the pain in the abdominal wall had something to do with substances on which most available painkillers would show their effect and which painkillers would be most suitable for treatment.

From the results there could be indications that might tell if the complementary medical science form "neural therapy" could play a scientifically responsible treatment role in this.

At last, after processing all other investigation results, an investigation was set up with a substance that might give a circulation improvement and as a result of this could influence chronic pain complaints. By doing so a painkiller could be created without the disadvantages of the familiar painkiller.

Totally four investigations with sufficient volunteers to be able to expect results. However, publishing the results appeared to be a very difficult and time consuming process for which there was no time in a busy general practice.

Only after retirement in 2012 there was time. Having no connection with a universitary institute appeared to be crucial because of the obvious (and spoken) prejudice that no scientific investigation would be possible then. Yet, end 2014, I managed to have them published all four in a specialized "peer reviewed" worldwide appearing magazine. The results found were inserted in the regular practice. For that reason the patients cooperated. They are now available for others than those own patients.

Publications:

Veen PHE van der, Martens EP. Viscerocutaneous reflexes with abdominal wall pain: A study conducted in 1981 on pregnant women from a general practice. Thermography international. 2013;23(2): 56-63 Available at:

http://www.uhlen.at/thermology-international/index.php

Veen PHE van der. Viscero-cutaneous reflexes in relation to abdominal and pelvic pain. A study from 1982 in females with IUD insertions. Thermography international. 2013;23(3): 87-92 Available at: http://www.uhlen.at/thermology-international/index.php

Veen PHE van der. Infrared thermography for pain influenced by a Xanthine derivative: An attempt to assess chronic pain objectively. Thermology international Vol 24 (2014), No. 2: 39-48 Available at: http://www.uhlen.at/thermology-international/index.php

Abdominal Wall Pain: Veen PHE van der. Effects of Placebo Measured by Infrared Thermography. Thermology international 2014, 24(4) 157-165 Available at: http://www.uhlen.at/thermology-international/index.php

2014-12-06 PHE van der Veen