# Schüssler Express #14

# Cell Death (Part I)

Cells are active participants in their environment, constantly adjusting structure and function to accommodate changing situations, demands, and extra-cellular stresses.

The Cell has a tendency to preserve its intracellular milieu within a relatively narrow range of physiologic parameters – it maintains normal homoeostasis.

As the cell encounters physiologic stresses or pathologic stimuli, it can undergo adaptation, achieving a new steady state and preserving viability. The principle adaptive responses are atrophy, hypertrophy, hyperplasia, and metaplasia. If the cell's ability to adapt is exceeded, cell injury develops. Up to a point cell injury is reversible; however, with severe or persistent stress the cell suffers irreversible injury and ultimately dies.

## There are two principle patterns of cell death

**Necrosis** most commonly coagulative necrosis, occurring after loss of blood supply, or exposure to certain toxins characterized by cellular swelling, protein denaturation, and organellar breakdown.

**Apoptosis** is best described as a more regulated event occurring in the normal manner, or life of a cell, or a 'programmed death' of a specific population under physiologic conditions such as embryogenesis, as well as a variety of pathologic states. The

histological appearance of apoptosis is more subtle than that of necrosis, but there is a considerable overlap in the ultimate mechanisms of cellular death in these two conditions.

The fact that cell death is one of the processes that healthy cells can, and often do undergo was first reported by Carl Vogt (1817–1895) in 1842. However, because it is such an efficient process, this observation was mad and forgotten many times throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries. It was only with the naming of this process 'apoptosis' by John Kerr in 1972, and the elucidation of the mechanisms that implement it, that interest in the process by which cells kill themselves has blossomed.

Whereas some cells e. g. cardiac and skeletal muscle fibres, CNS neurons last a lifetime, others, for example, epithelial and glandular cells, erythrocytes have limited life-spans, at the end of which they are genetically programmed to self-destruct, usually to be replaced by others formed by *mitosis* from surviving cells.

Whether a specific form of stress induces adaptation, causes reversible or irreversible injury depends not only on the nature and severity of the stress, but also on cell specific variables, including vulnerability, differentiation, blood supply, nutrition, and the state of the cell.

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### From the Patient notes of Dr. Schuessler

A young man complained of an unnatural appetite. He had to eat almost every hour, feeling such an intense craving for food, yet he felt exhausted and languid. There were no secondary symptoms or signs present. The tongue was clean, the urine was not increased, and evacuation of the bowels normal. Potassium phosphate "cured the patient in the course of two days"

An old lady had become bedridden for the last fortnight on account of the following ailment. She felt a considerable pain in the lower part of the thorax on the left side, which increased when she coughed. The cough was a slightly catarrhal one. The invalid felt very exhausted, and had no appetite. The tongue was dry, the pulse frequent, weak and intermittent. Potassium phosphate "cured her in the space of a week"

# Interesting case study from Dr Docetti Walker

dith M had an attack of rheumatism, excessive pain in her joints, and several of which much swollen. She was not able to move, worse when warm in bed, and fevered, unable to sleep. Ferrum phosphate a dose every hour for one day, and Potassium chloride in alternation removed all pain in two days. She continued the remedies for a little time longer, and made a rapid recovery.

Those pains which increase with warmth of the bed seem always to yield to potassium chloride.

## Patient with Ear Infection

atient suffering an unusual bacterial ear infection was treated over a period of some 28 days with 4 different antibiotics to reduce the swelling, and overcome the infection. Medical practitioner suggested that patient should also take a good Probiotic throughout the treatment explaining the effect they may have on preserving the bowel flora. The treatment was successful, but the patient suffered the inconvenient side-effect of increased bowel motions and diarrhoea. This led to an extremely uncomfortable and sore Anus – Itchy rash – and some pain. Standard creams purchased from the chemist provided little or no relief, medically prescribed cream also had little effect - however it was found that (liberal) application of Ferrum Phosphate cream (No.3.) three times per day achieved not only relief in the first day, but healing in less than three days.

# Interesting Note for the Practice

There are a number of prescribed medications in use for treating high Cholesterol, Zantac© for example contains RANATIDINE HYDROCHLORIDE.

Now it is of benefit to both practitioner and patient alike to be aware that this drug is an H2 Blocker.

H2 Blockers cause the depletion of calcium, folic acid, iron, vitamin B12, vitamin D and zinc.

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