



## Apoptosis in Cancer: Cell Death

Rebecca Wong\*

Department of Human Biology, International Medical University, Bukit Jalil, Malaysia

### DESCRIPTION

Apoptosis is a form of programmed cell death, or “cellular suicide.” It is different from necrosis, in which cells die due to injury. Apoptosis is an orderly process in which the cell’s contents are packaged into small packets of membrane for “garbage collection” by immune cells. Apoptosis removes cells during development, eliminates potentially cancerous and virus-infected cells, and maintains balance in the body [1].

You may believe that dying cells in your body is a terrible thing. In many circumstances, this is correct: it is undesirable for cells to die as a result of an injury (for example, from a scrape or a harmful chemical). However, it’s equally crucial to note that some cells in our bodies do die - albeit in a controlled manner [2].

Have you ever wondered how your fingers got their shape? It turns out that while you were still an embryo; the cells between your developing fingers were told to die. You’d have webbed hands if they hadn’t done so, or maybe just paddles of tissue with no fingers at all if they hadn’t done [3].

Apoptosis, a typical form of programmed cell death, killed the cells between your embryonic fingers. When cells are exposed to certain triggers, they commit “cellular suicide,” or “planned cell death.” Apoptosis is the death of a cell for the benefit of the entire organism (for instance, by letting fingers develop or eliminating potential cancer cells). We’ll look at apoptosis in more detail in this post, including when it occurs and why it’s crucial [4].

Apoptosis is a different and far more organised process that occurs in cells. On their surface, they shrink and grow bubble-like protrusions (technical name: “blebs”). Some organelles of the cell, such as the endoplasmic reticulum, break down into fragments, and the DNA in the nucleus is split up into minute bits. In the end, the entire cell is divided into little pieces, each neatly wrapped in a membrane packaging [5].

Where do the chunks end up? They send out signals that attract phagocytic (debris-eating) immune cells like macrophages. The dying cell fragments also have a lipid molecule called phosphatidylserine on their surface. Phosphatidylserine is normally found on the inside of the membrane, but when it is found on the outside, it allows phagocytes to adhere to and “digest” cell fragments [6].

Apoptosis research has held the promise of identifying targets whose modulation would either allow the removal or preservation of specific cells in sick tissues virtually since its inception. The promise of being able to identify these targets without having a thorough understanding of the illness process remains appealing. As a result, the main therapeutic goal of apoptosis research is still to figure out how to induce apoptosis or stop its improper activation in certain cells. The purpose of this study is to discuss how near apoptosis research is to reaching this goal and to guess on what impact apoptosis research will have on cancer and other illness therapy in the future.

### REFERENCES

1. Hadshiew IM. Burden of hair loss: stress and the underestimated psychosocial impact of telogen effluvium and androgenetic alopecia. *J Invest Dermatol.* 2004; 123(3):455-457.
2. Prado RBR, Neme CMB. Emotive family-related experiences in women with alopecia areata. *Estudos em psicologia.* 2008; 25(4): 487-497.
3. Taheri R, Behnam B, Tousi JA, Azizzade M, Sheikvatan MRM. Triggering role of stressful life events in patients with alopecia areata. *Acta Dermatovenereol Croat.* 2012; 20(4):246-250.
4. Díaz-Atienza F, Gurpegui M. Environmental stress but not subjective distress in children or adolescents. *J Psychosom Res.* 2011; 71:102-107.
5. Jung CG. *Estudos experimentais.* Petrópolis Vozes. 2013;3.
6. Ito N. Human hair follicles display a functional equivalent of the hypothalamic-pituitary-adrenal axis and synthesize cortisol. *FASEB J.* 2005; 19(10):1332-1334.

**Correspondence to:** Rebecca Wong, Department of Human Biology, International Medical University, Bukit Jalil, Malaysia, E-mail: Rebecca@gmail.com

**Received:** 02-Mar-2022, Manuscript No. JCM-22-380; **Editor assigned:** 04-Mar-2022, Pre QC No. JCM-22-380 (PQ); **Reviewed:** 18-Mar-2022, QC No. JCM-22-380; **Revised:** 22-Mar-2022, Manuscript No. JCM-22-380 (R); **Published:** 30-Mar-2022, DOI: 10.35248/2157-2518.22.13.380

**Citation:** Wong R (2022) Apoptosis in Cancer: Cell Death. *J Carcinog Mutagen.*13:380.

**Copyright:** © 2022 Wong R. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.