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ALOPECIA & FRIENDS®

# alopecia: what is it?

by *Claudia Cassia*

I firmly believe that things and events that engage us directly or at least very closely are better understood. This is why I asked Marta, dear friend of Alopecia & Friends, to support me in mine and our adventure in her fantastic and generous role as researcher who has always been dedicated to studying alopecia.

*Hello everyone! I am Marta, and I have suffered from alopecia areata since I was two years old. For many, however, I am also Dr. Bertolini, a researcher in the field of dermatology, in particularly trichology. After graduating in Pharmaceutical Biotechnology at the University of Padua, I conducted my PhD on Alopecia Areata in Germany at the laboratory of a renowned dermatologist trichologist. After my doctorate, I continued to work in Germany as a researcher, eventually taking over the laboratory for hair follicle research at a German university, as well the scientific direction of an emerging company focusing on dermatology and trichology. Therefore, for over nine years, I have dedicated all my energy on studying how Alopecia is triggered, what happens to the hair follicle and how we can successfully intervene therapeutically.*



Claudia Cassia



Dott.ssa Marta Bertolini

Alopecia is defined as the total disappearance of scalp or body hairs, or the reduction of hairs number, or the production of finer and shorter hairs. The causes are many, each patient has their own history, but all trigger mechanisms hinder the "normal" (physiological) function of the hair follicle, the mini-organ that produces the hair.

## Why are we losing hairs?

The hair follicle physiologically loses its hair. The hair follicle regenerates during the lifetime of a person, passing from a growth phase called anagen, during which the hair follicle produces the hair, to a regression phase called catagen, in which the production of the hair is stopped, and a phase of relative 'quiescence', in which the hair follicle prepares itself to restart the cycle. Once the hair follicle restarts the new cycle, the old hair is lost and the new one begins to be produced. In order for the hair cycle to continue undisturbed, a coordinated collaboration between the different hair follicle cell populations is essential.

## The most common forms of alopecia

Given that this disease is caused by many factors, the forms of alopecia are several but the most widespread are:

### Alopecia Areata

It begins most of the time with patchy hair loss in the scalp, beard or other parts in the body. In most cases, this hair loss resolves spontaneously. Unfortunately, however, in a growing number of cases, this hair loss becomes chronic and may progress to hair loss involving the whole scalp (Alopecia Totalis) or the whole body (Alopecia Universalis).

In this disease, the hair follicle is attacked by the immune system during the growth phase (anagen). For protection, it enters quickly into the regression phase, and therefore the hair is lost. Since Alopecia Areata is an autoimmune disease, in some people this disorder is due to genetic factors. Once the inflammation around the follicle disappears, the follicle can restart its cycle and to produce the hair. When Alopecia Areata becomes chronic, in the long run many patients also develop other autoimmune diseases.

### Androgenetic Alopecia

It is very well known in men, but it is also very common in women. In this case, the hair follicles in the frontal scalp do not produce anymore, thick and long hairs, but very thin and short hairs. The origin of this change is mainly due to hormonal factors and is due to a process called miniaturization in which the size of the hair follicle is reduced, and of consequence also the hair that it produces is reduced.

### Cicatricial Alopecia

It is triggered by an inflammation (attack by the immune system) directed to the hair follicle stem cells. This induces the loss of hair follicle stem cells and the lack thereof prevents the regeneration of the hair follicle which cannot produce anymore hair.

## WE NEED YOU!

Our great battle for the recognition of the disease began on September 26th 2017 at the Italian Parliament, where we presented our cause and our requests. This is just the beginning, now we need you and your support.

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