

Why has acne become so resistant to treatment?

Over the past decade, acne has become more and more resistant to treatment. Pimples, comedones, whiteheads, blackheads and pustules are all part of the acne spectrum. They can also present as cysts on the face and body and heal with severe scarring. Acne, though more common during teenage years, can occur at almost any age. A baby can be born with pimples, called neonatal acne, it or can also affect people for the first time in their thirties or later, called late-onset acne. This disorder of the sebaceous gland can affect up to 80%-90% of individuals and can recur later on in their lives, after being treated during the teenage years.

This disease is basically an abnormality of the sebaceous gland, which is present all over the skin, except the palms and soles. These glands are under the influence of certain hormones, like androgens, thyroxine, oestrogens, progesterone and insulin-like growth factors that can either increase or decrease the secretion of sebum. When there is an increase in androgens and insulin-like growth factors, the excess sebum produced causes an increase in oiliness of the skin. However, when the duct conducting the sebum to the surface of the skin gets plugged, the oil accumulates under the skin and this results in acne. Certain bacteria in the skin (*P. Acnes*) can also breakdown the sebum and increase inflammation in the skin, resulting in pustules and inflamed areas.

There are many causes for acne to become more resistant to and recurrent after treatment. Basically the causes are multifactorial and their impact is difficult to measure. However, one can correlate stress, certain food, obesity, global weather instability, pollution, certain medications, supplements, poor habits and overzealous cosmetics use to the increase and persistence of pimples.

Stress plays a factor in almost all major skin diseases. Our brain and skin develop from the same embryological tissue and thus are closely related. Many common diseases like eczema and psoriasis are very resistant to treatment if the stress factor is not addressed. As far as pimples are concerned, one tends to have a breakout during very stressful times, like examinations or during big projects. This might be due to certain hormones produced that stimulate the sebaceous glands. However, it is very difficult to measure the true impact as not everyone is affected.

Certain foods have been implicated with acne for more than half a century. Many dermatologists have disputed this fact for years, however, many new publications have reached more conclusive answers. High glycaemic diet, skimmed milk, chocolates and consumption of excessive sweets can cause acne in susceptible individuals. Most of our foods are processed nowadays and many have been enhanced with hormones and growth factors. These do have a negative impact on our skin and stimulate the sebaceous glands to produce more oil, resulting in pimples.

The percentage of overweight individuals have increased over the last three decades. People are consuming more take-away foods and are exercising less. This increase in body mass index has resulted in more insulin resistance, leading to derangement in many hormones that stimulate the sebaceous glands. In cases of severe resistant acne, patients (especially females) benefit from weight loss. This normalises the androgens and improve the insulin resistance, impacting positively with the sebaceous glands.

Our skin is an organ, which is exposed to the external environment and protects the internal organs from water loss, the sun, pollution, and invasion by infectious organisms and most harmful stimuli. Thus global weather instability causes added stress to our skin can this can manifest as an increase in sebum production. More harsh weather can dry the skin and this results in a negative feedback mechanism to the brain, which produces more oil to lubricate the epidermal layer. This increases acne incidence in people who are prone to it. Pollution in cities can also increase the production of keratin in the epidermis, causing the blockage of the pores, resulting in acne. The impact of global warming and pollution on the production of sebum is difficult to measure.

The incidence of systemic and psychiatric diseases have increased considerably in all populations. The more developed the country, the higher the rate of psychiatric diseases. Thus many patients are but on medications that can stimulate the sebaceous glands to produce more oil. Many mood stabilisers, anti-depressants and anti-epileptics cause acne. Steroid use as medication or for bodybuilding also increases the incidence of acne. Several medications treating systemic diseases have been implicated in late-onset acne, therefore, once has to check the package insert properly. These pimples tend to be resistant to treatment and at times one has to substitute the causative drug. As for high dose gym supplements, they tend to contain an anabolic substance that increases the androgen levels, leading to acne formation.

Excess consumption of alcohol and smoking do have an impact on our skin and all the organs in our body. Smoking renders acne more resistant to treatment and excess alcohol use, can cause vasodilatation of small arteries that supply the facial skin. This results in over stimulation of the sebaceous glands leading to acne and aggravating diseases like acne rosacea. The use of excessive cosmetics can also block the pores and stimulate the production of sebum. The basic rule in dermatology is that if there is no skin problem, do not use any cosmetics or products and create the problems. One has to be very careful and choose only products from reputable companies that have been properly tested. Products developed in South Africa are cheaper and tend to agree more to our skin.

Acne can affect the self-confidence of many patients. It can lead to horrible permanent scars on the face and body, which can never be fully reversed. It is no longer considered as a disease of teenagers but more as a chronic disease that can occur at any age. Thus early help with the proper health professionals and perseverance with proper medications is the key in fighting it.

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