

Why Won't It Go Away?

A Personal Tale of Acne Distress

by

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Part I – Bumps and Blood

Jin was in his mid-twenties and for the most part life was going well, except for one thing that weighed on him every single day: his acne. Since puberty, he had dealt with breakouts, but in recent years, things had taken a turn for the worse. His face, especially from the jawline to his neck, was constantly inflamed and covered with large, itchy, pus-filled cysts. The pain was one thing, but waking up to blood and pus on his pillow and more open lesions was an additional level of distress. He often found himself unconsciously picking at the blemishes, and sleeping made it worse as the acne rubbed against the pillowcase. The sight of his scabbed, bleeding skin was becoming normal to him, and with it came a growing sense of insecurity.

Eventually, Jin decided to see a dermatologist. At the clinic, Dr. Sung welcomed him with a kind, professional demeanor.

“How can I help you today?” she asked.

Jin explained his struggle with severe, unrelenting acne. Dr. Sung listened with empathy and made note of his medical history, lifestyle, and any allergies, before gently examining his skin and snapping a few photos to track his condition.

Jin shared that the acne had started in his early teens with the appearance of just a few bumps. In 2020, after injuring his ankle and spending more time at home, things escalated. He’d been wearing a mask all day due to COVID-19 and eating a lot of protein bars. He mentioned reading something about whey protein possibly causing acne and wondered if that could be a factor.

Dr. Sung nodded, explaining that acne does not usually have one clear cause. Hormonal changes, like those during puberty, can alter skin pH and make it more welcoming to bacteria like *Cutibacterium acnes*. She collected a sample to culture to confirm the identity of the bacteria. Dr. Sung then showed him a model of the skin, pointing out how dead skin cells and oil can clog hair follicles, creating the perfect environment for breakouts. Microcomedones, which are the invisible starting point of acne, set the stage for its development, gradually leading to inflammation over time. She reassured him that certain foods, including greasy meals and protein supplements, might play a role too. Changes in diet were something worth examining.

Still, Jin was puzzled. “I ate protein bars back in high school and didn’t break out like this. Why is it so bad now?”

Dr. Sung explained that it could be a mix of things; changes in diet, mask-wearing, lack of physical activity, or even just the natural progression of his condition. Acne can be frustratingly unpredictable. But instead of focusing on the “why” right now, she encouraged him to focus on a treatment plan that could help clear his skin and restore his confidence.

Jin nodded. For the first time in a while, he felt heard and hopeful.

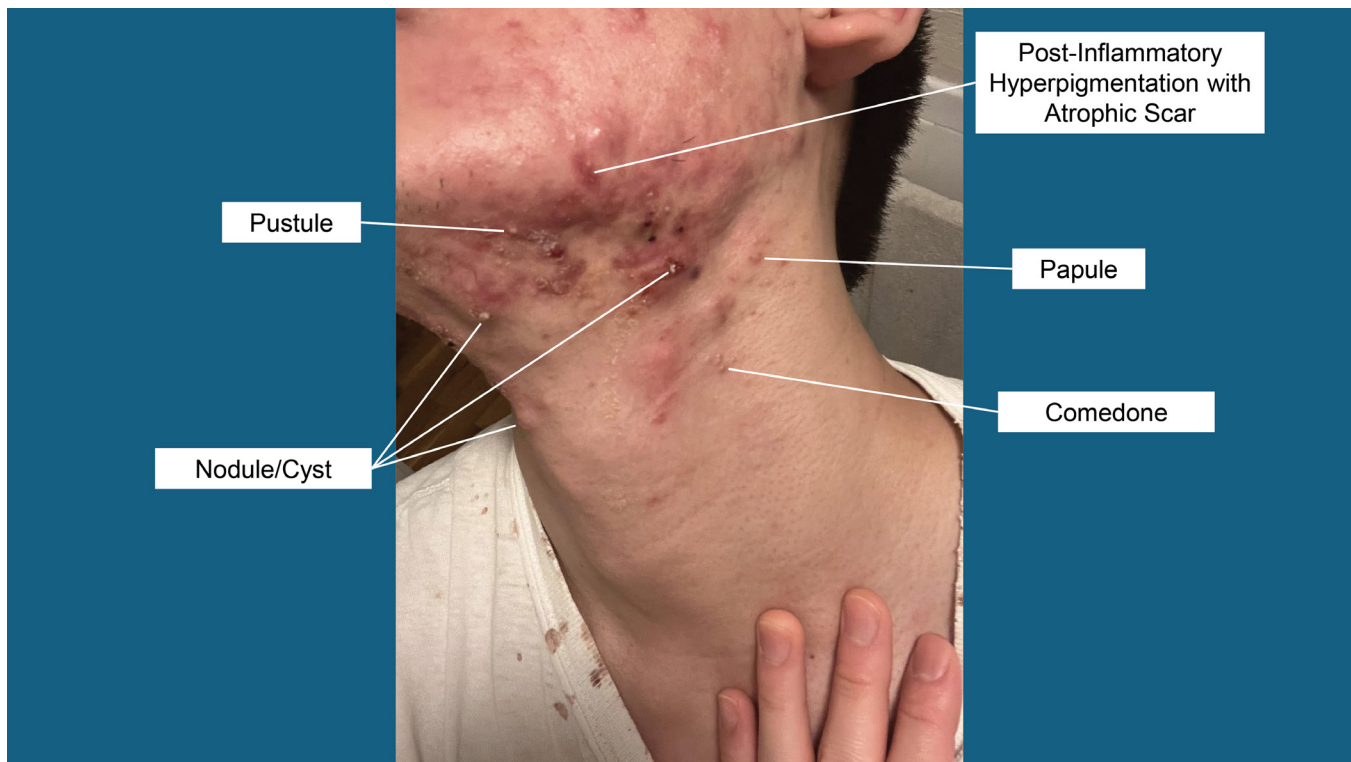


Figure 1. Image of Jin's acne. Post-inflammatory hyperpigmentation (PIH) with atrophic scar resulted from squeezing a cyst and is seen as a red depressed area. Additional cysts are observed under the neck area. Microcomedone (not visible) and comedones are located at the lower neck and are noted as little red dots. Nodules, cysts, papules, and pustules are also seen over Jin's neck area.

Questions

1. What is acne? Describe at least two causes or contributing factors.
2. Jin's acne development occurs in stages. Using the terms from the image (Figure 1), complete the table below to show the different stages of acne progression.

Table 1. Stages of acne development.

<i>Stages</i>	<i>Description</i>	<i>Inflammation?</i> [No/Yes]	<i>Pain?</i> [No/Yes/Maybe]	<i>Visible?</i> [No/Yes]
1. Microcomedone	Clogged pore begins	No	No	No
2.	Whitehead or blackhead			
3.	Red bump; <5 mm			
4.	Pus-filled pimple; < 5 mm			
5.	Painful lump; > 5mm			
6.	PIH with scars			

3. How might wearing a mask have worsened Jin's acne? Explain your reasoning.

4. Which areas of the body are least likely to develop acne, and why? List at least two areas and explain.
5. The culture results confirmed the presence of *Cutibacterium acnes*, leading Dr. Sung to conclude that this is the most likely underlying cause of Jin's condition. Where exactly does *C. acnes* colonize the skin, and how does this bacterial colonization contribute to the development of acne?
6. Dr. Sung showed Jin an integumentary system model to explain where the bacterial colonization occurs. Using Figure 2 below:
 - a. Indicate the exact location of the *C. acnes* bacterial colonization.
 - b. Label the layers of the skin on the right side of Figure 2. Please include the subcutaneous (hypodermis) layer that is not part of the skin.
 - c. Label the structures on the left side of Figure 2 using the following terms: *sebaceous gland*, *hair*, *hair follicle*, *blood vessels*, and *adipose tissue*.

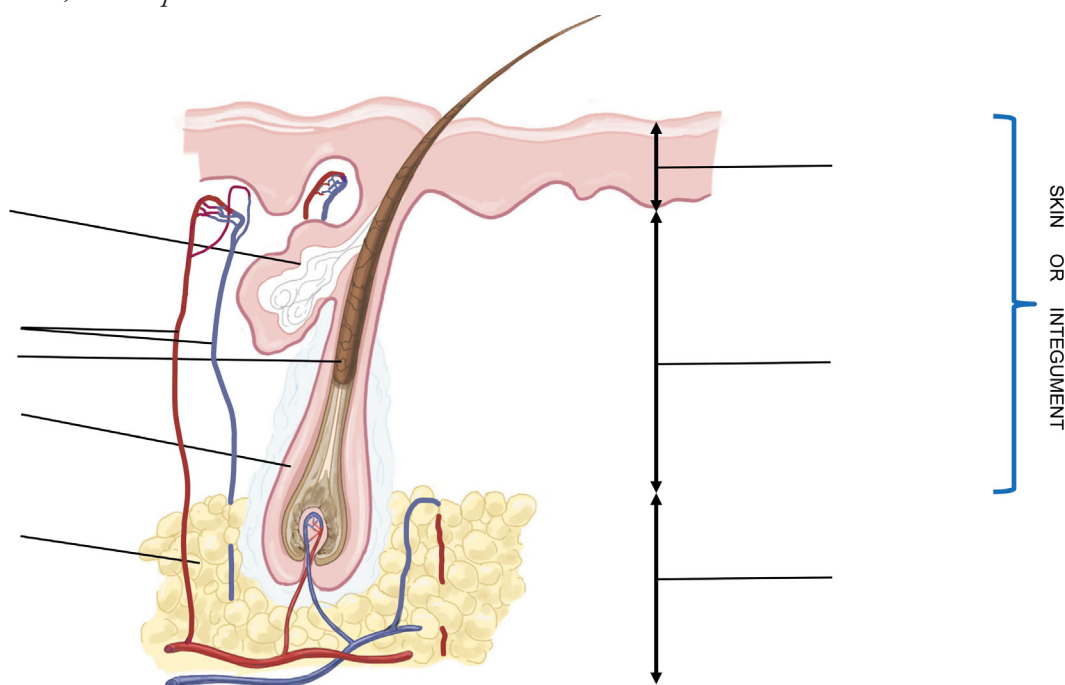


Figure 2. Integumentary system.

7. Given that Jin squeezes his acne nodules, causing pain and bleeding:
 - a. Which specific receptor(s) are being activated during this process? On Figure 2, draw and label where this structure is located.
 - b. In which layer of the skin is the rupture of blood vessels occurring?
 - c. Is the integumentary system's function compromised by the acne lesions Jin experiences? Explain how these lesions affect the skin's integrity and function.

Part II – Desperate Measures

As the examination continued, Dr. Sung gently asked Jin about his current skincare routine and what he had been using to manage his acne.

“I wash my face every time I shower, so twice a day with soap,” Jin explained. “But I’ve also been treating it myself by applying antibiotics directly to the spots after I squeeze them.”

Dr. Sung paused, visibly concerned. “Wait! Antibiotics? Where did you get those from?”

Jin looked uncertain. “I think they were leftovers from a treatment I had years ago. I’m not really sure. I just felt like I had to do something. I’ve been so embarrassed about my skin.”

He went on to share how deeply his acne was affecting him, not just physically, but emotionally and socially. It was impacting his confidence, his part-time job as a restaurant server, and even how he interacted with others. Feeling hopeless and ashamed, Jin had resorted to self-treating in secret.

Dr. Sung listened with empathy, recognizing both Jin’s frustration and the emotional toll acne can take. Acknowledging the significant psychological impact of his condition, she referred him to a psychologist for cognitive behavioral therapy (CBT) as an initial step in addressing his depression as part of a comprehensive, holistic treatment plan. She also firmly explained the risks of using antibiotics without medical supervision, especially old or expired medications, and advised him to stop this practice immediately. Together, they began exploring safer, more effective treatment options tailored to his needs.

Questions

1. Why was Dr. Sung concerned about Jin’s use of antibiotics without a prescription?

Dr. Sung observed numerous scabs and swollen bumps around Jin’s neck area. She noted that the acne was progressively spreading along his jawline and upper neck. The skin appeared red, inflamed, and irritated. To document the severity, she captured an image (Figure 3).

Dr. Sung expressed concern that Jin’s bacterial infection might be linked to wearing a mask for prolonged periods. She explained that the warm, moist environment created under a mask can promote the growth of microbes, which may worsen breakouts and trigger a stronger inflammatory response.

“This could be what we now call ‘maskne,’ a term that became common during the pandemic, combining ‘mask’ and ‘acne,’” she said reassuringly. “You’re definitely not alone, Jin.”

Jin nodded, visibly worried. As a biology student who regularly studied and handled microbes, he understood how certain bacteria could contribute to inflammation and disease.



Figure 3. Jin’s acne. The dark stains are the scabs where the blood on the face had clotted. Small bumps are inflammation caused by clogged hair follicles and proliferation of bacteria at the site.

Dr. Sung acknowledged his concern. “You’re right to make that connection. I’ve seen many patients with similar complaints lately. But remember, acne is complex. While masks might contribute, it’s hard to isolate one single cause.”

Question

2. How does bacteria cause inflammation? Complete the following matching exercise to explore the stages of the inflammatory process involved in acne development. Fill in the blanks by choosing from the following:

- A. bacterial colonization
- B. initiation (follicular hyperkeratinization and sebum build-up)
- C. resolution or scarring
- D. inflammatory response
- E. follicular rupture (severe inflammation)
- F. immune system activation

- _____ *Stage 1:* Dead skin cells and sebum clog the hair follicle, forming a microcomedone and creating a favorable environment for bacterial growth.
- _____ *Stage 2:* *Cutibacterium acnes* multiplies inside the clogged follicle, feeds on sebum, and contributes to pore blockage.
- _____ *Stage 3:* Bacteria release inflammatory mediators that activate the immune system. White blood cells (e.g., neutrophils) are recruited.
- _____ *Stage 4:* Immune cells release cytokines and enzymes to fight bacteria. This leads to redness, swelling, and formation of papules or pustules.
- _____ *Stage 5:* The follicle wall may rupture, spilling its contents into nearby tissue. This triggers deeper inflammation, forming nodules or cysts.
- _____ *Stage 6:* Inflammation subsides as the immune system clears the area. Severe cases may result in scarring or post-inflammatory hyperpigmentation.

Dr. Sung wrote a prescription for Jin, which he filled at his local community pharmacy later that day. The medication was isotretinoin. The pharmacist provided counseling on the proper use and safety considerations of isotretinoin, including its teratogenic effects, the need to avoid blood donation, the importance of not sharing the medication, the need to take it with food, and how to manage common side effects such as dryness and photosensitivity. A more detailed pamphlet was also provided. Jin began the treatment regimen immediately. He was eager for his acne to clear-up; he just wanted to feel and look normal again.

Questions

3. How does isotretinoin help eliminate *C. acnes*? Consult the following resources for assistance:
- Pile, H.D., & P. Patel. (2025). Isotretinoin. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing. <<https://www.ncbi.nlm.nih.gov/books/NBK525949>>
 - DailyMed. <<https://dailymed.nlm.nih.gov/dailymed/>>
 - MedlinePlus Drug Information. <<https://medlineplus.gov/druginformation.html>>
 - Drugs@FDA: FDA-Approved Drugs. <<https://www.accessdata.fda.gov/scripts/cder/daf>>
4. Why might Dr. Sung have chosen not to prescribe antibiotics in Jin’s case?

Part III – Mentality and Myths

Jin was feeling deeply depressed. He prayed that the medication would finally work. His acne wasn't just a skin issue; it had taken a serious toll on his academic performance, his job, and his social life.

He knew that wearing a mask during the pandemic had likely contributed to his acne getting worse, but ironically, he now wore it even more, using it as a shield to hide his face.

Working part-time as a restaurant server, Jin worried that his appearance was affecting his job. His tips were noticeably lower than those of his coworkers, and he couldn't shake the feeling that customers judged him the moment they saw his face.

He also began to worry about the future. Would this hurt his chances in graduate school interviews? The thought of sitting across from someone, face uncovered, made him anxious.

Every time he looked in the mirror, he found more painful, oozing cysts. It was overwhelming. Slowly, he began to fear going out in public at all, unless his face was covered.

Severe acne can cause low self-esteem, social withdrawal, anxiety, and even depression (Dreno et al., 2021, Zaenglein, 2018). Jin was experiencing these effects firsthand, as his acne deeply impacted his confidence and overall quality of life.

Questions

1. As part of his treatment plan, Dr. Sung recommended psychological support, specifically cognitive behavioral therapy (CBT). Why might CBT be useful in assisting Jin in his treatment? Consult the following resource:
 - Institute for Quality and Efficiency in Health Care (IQWiG). (2025). In brief: cognitive behavioral therapy (CBT). In: InformedHealth.org. [Internet]. <<https://www.ncbi.nlm.nih.gov/books/NBK279297/>>
2. In addition to consuming whey protein bars, Jin loved to eat chocolate and ice cream. Could this be related to his acne? Support your response with credible references.
3. What dietary changes could Jin make to help reduce acne? Explain which foods may improve skin health, and which foods should be limited to help prevent acne breakouts.
4. Review the following article:
 - Coutinho, T. J., S. Dodamani, A.J. Pai Khot, & V. Kumar. (2025). Evaluation of anti-acne activity of human whole saliva against acne vulgaris: an *in vitro* study. *Journal of Cosmetic Dermatology* 24, e16369. <<https://doi.org/10.1111/jocd.16369>>

Based on this resource, would you consider applying your saliva to acne lesions? Why or why not?

5. Visit the Acne Support website (<https://www.acnesupport.org.uk/>) and complete the “Fighting the Myths” questions. After completing the activity, describe the myth or fact that surprised you the most. Explain why it was surprising and how it changed or reinforced your understanding of acne.