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TRANSCRIPT

S5 E5: Vignettes in Dermatology - Infective Folliculitis and Pseudofolliculitis Barbae

Dr Laxmi Iyengar: Welcome to® *Spot Diagnosis; Vignettes in Dermatology*, short segments on how to manage commonly encountered skin problems. My name is Dr Laxmi Iyengar, and I'm a GP, research and education fellow at the Skin Health Institute, Centre of Excellence for Skin Diseases in Melbourne, Australia.

I begin today by acknowledging the Wurundjeri people of the Eastern Kulin Nation, Traditional Custodians of the land on which we record this podcast and pay my respects to their Elders past and present. I extend that respect to Aboriginal and Torres Strait Islander peoples listening today.

Associate Professor Alvin Chong: And I'm Dr Alvin Chong, specialist dermatologist at Skin Health Institute, St. Vincent's Hospital, Melbourne, and adjunct associate professor at the University of Melbourne. We're your co-hosts. Today, we're going to talk about two conditions that sound familiar but are actually quite different in terms of pathophysiology and management. These two conditions are infective folliculitis and pseudofolliculitis barbae. "How are they different?" you might ask. Well, keep listening, spotters, and the truth shall be revealed.

Laxmi: Shall we start with infective folliculitis? This is a commonly encountered condition in general practice, and yet so challenging to manage. Recently, I saw a young gentleman who presented to me for pimples and sore bumps on his thighs and buttocks.

Alvin: That's interesting, Laxmi. Would you like to tell us more about this patient?

Laxmi: Well, he's a fit young man of Italian background in his mid-twenties who works as a builder. He's also a keen sportsman who plays football recreationally and likes to go to the gym. Over the past few months, he has been troubled by a rash on his thighs and buttocks. He describes crops of pimples that come out, and they take a long time to settle down, sometimes weeks. These pimples can be sore, especially when he sits down or when they contact clothing. Sometimes, one of the pimples can form a boil, which can be very sore. He has been prescribed a short course of oral antibiotics by another GP, and these help, but the course is only for a week, and the pimples recur soon after. He's otherwise fit and well and on no medications.

Alvin: Thanks, Laxmi. That's a fairly classical history for infective folliculitis. And I assume you examined the patient, Laxmi?

Laxmi: Yes, I did.

Alvin: Okay, and then tell us what you found on examination.

Laxmi: On examination, he had a fairly polymorphous rash on his thighs and buttocks. He had some follicular pustules, some follicular papules on his thighs and buttocks, with some healed areas with hyperpigmentation.

Alvin: Okay, so some of you may have heard the term follicular pustules and follicular papules. We'll explain what that means. If you look at a pustule, which is like a little bead of pus, and there's a hair coming out of the centre of the pustule, then the pustule is based on a hair follicle and we called it a follicular pustule. If you find a red bump, have a good look at it, and if there is hair coming out of the centre of the papule, then it is a follicular papule. When you see both of these, the pathology is centred around the hair follicle, and so infection centred around hair follicles is called infective folliculitis.

The other thing is that infective folliculitis is often very polymorphous because these lesions can come out in crops, and then they heal, so everything you see is at various stages of evolution. You can see fresh crops of bumps or pustules and then healed areas with post-inflammatory redness or hyperpigmentation, so the thing just looks a little bit messy.

Laxmi: Thanks, Alvin. You call this infective folliculitis. What can cause infection in the hair follicles?

Alvin: Well, here in Australia, the commonest cause of infective folliculitis is bacterial folliculitis, so it's bacteria. And the commonest pathogen is community-acquired Staphylococcus aureus, known to us as golden staph. Staph aureus can sometimes colonise the nasal passages, and when it does that, it can lead to recurrent attacks of folliculitis. And if you don't treat the carriage, you won't be able to clear the folliculitis.

Laxmi: I've heard of hot tub folliculitis. What is this?

Alvin: It's an interesting name, isn't it? It really describes outbreaks of folliculitis caused by a gram-negative bacteria called Pseudomonas aeruginosa, which is found in water. And occasionally, you have Pseudomonas aeruginosa in the water of hot tubs. So often, the people who are in the hot tubs together will get an acute folliculitis soon after being in that hot tub. Now, this is an acute thing, so unlike the chronic infective folliculitis, hot tub folliculitis is much more monomorphic, so everything comes out at once. And you get many, many follicles, often on the back, on the buttocks, infected at the same time.

Laxmi: Can other organisms cause infective folliculitis?

Alvin: Well, we've talked about two bacteria, but occasionally you can also have a yeast causing an infective folliculitis, such as the pityrosporum yeast. We've come across pityrosporum in other conditions like pityriasis versicolor. Well, no surprise. It can come down hair follicles and cause a low-grade folliculitis. Pittosporum folliculitis tends to be monomorphous and on the backs and chest rather than the lower part of the body.

Laxmi: Is there a differential diagnosis of folliculitis?

Alvin: Yes, there is. If you get an eruption on the face, the back, and the chest, and you see comedones, it's more likely to be acne, acne vulgaris rather than folliculitis. There is pseudofolliculitis, and we can talk about that later. If you have, if you're actually on oral corticosteroids, you can get something called steroid folliculitis and that tends to be a lot more monomorphous and comes out when you taper the dose of steroids. There's a condition called hidradenitis suppurativa, where you get inflammatory papules and pustules in the groin, axillae, and sub-mammary area. That can cause scarring and sometimes can be difficult to tell apart from infected folliculitis.

Sometimes, and quite rarely, you can have folliculitis, which is non-infective. For example, eosinophilic folliculitis. This is seen in HIV, and it's a good mimic for infective folliculitis.

Laxmi: Is there a population that is more prone to infective folliculitis, and are there any triggers?

Alvin: Yeah, well, look, infected folliculitis is something which tends to occur mainly in fit, healthy people who exercise a lot and this makes sense because when you sweat, you spread the infection to other hair follicles. There can also be seasonal elements. We find that in a place like Melbourne, which has four seasons, infective folliculitis tends to be more of a problem in the hot months. but if you are in the tropics, then infected folliculitis can occur year-round. If you wear something that occludes your hair follicles, for example, compression garments, or you wear baseball caps and then underneath the band of the cap, you can actually get folliculitis from occlusion.

Then things that you do that can really spread it include things like shaving. If you shave an area with infected folliculitis, you basically just spread the infection to other follicles. If you wax the area, the same thing can occur, and if you use thick, greasy, occlusive moisturisers or thick, greasy makeup.

Laxmi: So, how does this affect patients?

Alvin: You know, I don't think anyone likes having folliculitis, but it's not one of these conditions that destroys your life, okay. In mild cases, I think patients find that it is a bit of a nuisance. But if you have a severe case, for example, if you've got folliculitis affecting your buttocks, your thighs, and you have difficulty sitting down and walking, it can certainly cause a lot of inconvenience, discomfort, and also embarrassment. We find that some of our patients get embarrassed by it that they stop working out, they stop wearing shorts, they don't want to be seen in public. And it can have a negative and detrimental effect to their mental health.

Laxmi: Alvin, is folliculitis usually a clinical diagnosis?

Alvin: Yes, it is a clinical diagnosis. And this is where a good examination helps. Remember, you need to look closely. You're going to look at a hair follicle, see if the pustule or the papule is based around a hair follicle. But, you know, having a diagnosis of folliculitis just means you've got infection or inflammation of the follicles. You still have to work out the pathogen. And to do that, you need to get a microbiological diagnosis. And I'll tell you how to do that, Laxmi. If you see a pustule, what you do is you get a fine gauge needle, like a 30-gauge needle, prick it, and send a little swab of that off

for bacterial microscopy, culture, and sensitivity. And if it is positive for staph aureus, like I think about 90% of them tend to be, then you need further swabs to check for carriage in the nose, groin, and axillae. And if you find it, you need to try to eradicate it.

Laxmi: I have found some cases of folliculitis very difficult to manage. What is your approach to managing bacterial folliculitis?

Alvin: Well, I kind of divide the management strategy into two parts. The first part is try to find a pathogen involved, okay? Otherwise, you're flying blind, so try to do swabs if you can find papules and pustules. Now first line in terms of management, general measures. So general hygiene, you know, after you exercise and you're hot and sweaty, have a shower, change out of your sweaty clothes into clean clothing. That actually reduces the risk of the spread of folliculitis. I like using antiseptic washes that contain triclosan, particularly after exercise. Something like Phisohex wash that's available over the counter. Now if that's not enough, then we start looking at second line treatments.

If it's fairly mild, you can consider topical antibiotics. such as topical clindamycin lotion or bleach baths. Now bleach baths might sound a little bit scary, but actually it's a very, very dilute solution of bleach. Smells more like a swimming pool rather than, you know, actual bleach. You can use a quarter of a cup of household bleach in half an adult bathtub of warm water. You can soak in this dilute bleach solution for about 10 to 15 minutes, two to three times per week. This actually will cut down on the amount of bacteria that's on your skin.

What if this doesn't work? All right, then you start to look at systemic treatment. So, for third line treatment, hopefully, you would have had some microbiological results by then, and I'm assuming it's Staph aureus. I really like narrow spectrum antibiotics, such as oral doxycycline, 100 milligrams a day, given over one to two months. And you kind of also do it with the general measures.

Now, if you do that and the folliculitis doesn't budge, or if the folliculitis is resistant microbiologically, then a second line agent, such as trimethoprim, sulfamethoxazole, known as Bactrim, one tablet daily for a few months is often enough to do the job. Very importantly, you need to work out if the patient is carrying Staph aureus in the nose, and if so, you need to eradicate it. So, if a nasal swab is positive for Staph aureus, I would recommend Bactroban nasal ointment applied twice a day for a week. And if all of that fails and the patient's still very, very bothered, then consider a non-antibiotic treatment, such as systemic isotretinoin.

The main thing is to be patient. Treatment is often prolonged, and the condition can recur.

Laxmi: Alvin, many interesting points there. Thank you. I feel like I've learned a lot from today's discussion.

Alvin: *Ever wondered what the Skin Health Institute does? At the Skin Health Institute based in Melbourne, we aim to improve skin health for all our patients, and the research we conduct shapes clinical treatment and practice. We provide over 30,000 patient treatments each year and also deliver exceptional education programs for dermatologists, registrars and healthcare workers. We provide*

specialist training for visiting international medical graduates, workshops to upskill GPs and medical students, and public education programs aimed at improving skin health in the community.

The Institute also conducts clinical trials and research projects that are published and presented internationally. We make substantial contributions to the worldwide clinical care and management of skin diseases, skin cancer and melanoma, and are recognized globally for our medical research. We have multiple clinics for GPs to directly refer patients to. GPs can complete our online referral form available on our website at skinhealthinstitute.org.au/patientreferrals or email referrals to referrals@skinhealthinstitute.org.au.

Laxmi: Now let's move on to another condition that has the term folliculitis in it with a different etiology, pseudofolliculitis barbae.

Alvin: All right, well, let's start with a typical case. Laxmi, will you do the honours again?

Laxmi: A 30-year-old man of Afro-Caribbean background presents with a recurrent rash around his mandibular area. He describes his rash as being itchy, sometimes painful. He notices it the most two to three days after shaving when he gets crops of pimples under his mandibular area. This takes one to two weeks to settle. He's been placed on multiple courses of oral antibiotics to clear the rash, but it keeps recurring. He has noticed that on holidays, when he does not have to shave that frequently, the rash seems to be a lot better. He's otherwise well on no medications.

Alvin: Excellent. And what do you see on examination?

Laxmi: There were crops of papules around his submandibular area bilaterally.

Alvin: And here, might I suggest placing a dermatoscope on these papules. Now, you're just going to have to imagine this. You may see short hairs, which emerge from a follicle before immediately hooking into adjacent skin. It's really an ingrown hair. If you do, and you see this, then you have just confirmed the diagnosis of pseudofolliculitis barbae.

Laxmi: Can you shed some light on this condition?

Alvin: Excellent, I'll do that. The root cause of pseudofolliculitis barbae is short hairs which emerge from hair follicles, some of which have been damaged by shaving, and then they immediately penetrate inter or intrafollicular skin. The cause is unclear, but it is more common in people with curly or kinky hair. It may also be associated with an improper shaving technique. So, for men, the most commonly affected area is the beard area, particularly the submandibular part of the beard area. Occasionally, the posterior part of the neck. And in women, the most commonly affected areas tend to be around the groin creases or the bikini areas.

Remember, we were talking about infective folliculitis, where you actually have infection that's centred around the hair follicle. Pseudofolliculitis barbae is not a true folliculitis. Rather, it's an irritation caused by the hair that's hooking back into the skin, so in the ingrown hair. And that's why they call it pseudofolliculitis barbae.

Laxmi: Alvin, what are the clinical features of pseudofolliculitis barbae?

Alvin: Well, you've got the history. A rash that occurs soon after shaving, and which lasts for a little while, and it improves if you don't shave for a period of time. Clinically, the- the papules can look like acne, and they can be itchy and tender. When you shave these areas, they can be quite sore and they can bleed. And then most importantly, on the dermetascopic examination, you see the ingrown hairs.

Laxmi: Are there any particular complications that we should be keeping in mind?

Alvin: Yes, you know, it can certainly go from pseudofolliculitis to true infective folliculitis, particularly if these areas become infected. It is more common in darker-skinned people, so you can get quite significant post-inflammatory hyperpigmentation. And in some cases, particularly if they're unlucky, you can get keloid or hypertrophic scarring, which can be very disfiguring if it's on the face.

Laxmi: How is pseudofolliculitis barbae generally treated? I have found this condition extremely difficult to treat due to its tendency to recur.

Alvin: All right, well, look, let's think logically. This is caused by hair that is cut, and then it just hooks in. Firstly, if you can, avoid shaving or trauma to the hair follicle. If you can grow a short beard, what often happens is that the bumps then become smooth, and then if you don't shave, they just don't recur again, okay? And essentially, you're cured. But not everyone wants to do it, nor can they do it.

If you must shave, here are some tips. Use a clean, new razor. So have a good look at what you're using to shave. If you see any rust spots, just discard it immediately. It needs to be clean and sharp. Secondly, before you shave, you need to prepare the area well. You need to wet the hair and apply shaving gel and give it a few minutes because wet hair cuts a lot easier than dry hair. Let everything soak into the skin before you shave. If you're shaving, you shave in the direction of the hair follicle and use short strokes. Immediately after shaving, wash the area, then moisturise the skin with an emollient.

And finally, if you want to, you can consider using an electric razor. My experience is that electric razors don't always solve the problem because you're still cutting the hair, which grows back. If this stuff doesn't work, then you're looking at second line treatment. Oral antibiotics such as doxycycline, 100 milligrams daily can help. Topical antibiotics such as topical clindamycin applied to the area after shaving may also help. And if an ingrown hair occurs and you can see it you can try to pick it out carefully with a needle. Once you actually pick the hair out, the inflammation tends to resolve.

Laxmi: I've heard that lasers can be used.

Alvin: Yeah, well, that's a good point, okay. Lasers can be used, but you need to have the right kind of hair and skin for it. The hair needs to be dark, and the skin needs to be fairer, okay. Otherwise, you know, the lasers are not really going to work very well. And you can basically use the lasers to reduce the density of the hair follicles in the area, okay. And hopefully, well, basically, you have to

do it, uh, over a period of time to reduce the density of hair follicles. But it won't work on people with blonde or red hair, and it won't work on people with very dark skin, or you need a special type of laser that won't burn the skin. And if all that doesn't work, then you really need to consider growing a short beard.

Laxmi: Thank you so much. Many interesting pointers there. That concludes our *Short Clinical Vignette on Infective Folliculitis and Pseudofolliculitis Barbae*. We would like to thank the education team at the Skin Health Institute and Balloon Tree Productions. We hope you've enjoyed this short clinical vignette. Remember, these podcasts are not meant to replace medical advice. If you have a skin condition that requires attention, we strongly encourage you to see your medical practitioner.

Alvin: For listeners who want more information on this subject, a transcript of this episode and links to other resources can be found on our website, spotdiagnosis.org.au. Please share *Spot Diagnosis* with your friends and colleagues. Rate and review us. Let us know what you think. We appreciate your feedback and any suggestions. And please note that *Spot Diagnosis* Clinical Vignettes is eligible for RACGP and ACRM CPD.

Laxmi: The Skin Health Institute would like to thank our exclusive institute partner, Melbourne Pathology, for their support of the *Spot Diagnosis* podcast.

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