TRANSCRIPT

S6 E6 – Pregnancy and the Skin

Dr Laxmi Iyengar: Welcome to *Spot Diagnosis*. My name is Dr Laxmi Iyengar, and I'm a GP and education fellow at the Skin Health Institute, a world-renowned centre of skin excellence located in Melbourne, Australia.

We would like to acknowledge the traditional custodians in the land on which we are recording this podcast today, the Wurundjeri people of the Eastern Kulin Nation, and pay our respects to elders past and present, and extend that respect to any Aboriginal or Torres Strait Islander people listening today.

I would like to welcome my co-host, Associate Professor Alvin Chong, the creator of *Spot Diagnosis*. Alvin, as you all know, is a consultant dermatologist at St. Vincent's Hospital and Head of the Transplant Clinic at the Skin Health Institute.

Associate Professor Alvin Chong: It's wonderful to be here. Thank you.

Laxmi: We have an interesting topic in store for you today, one that we haven't delved into previously on *Spot Diagnosis*, and that is the topic of pregnancy. Yes, pregnancy. With all the other physiological changes happening in the body, we don't usually think of dermatosis specific to pregnancy, but there are indeed some skin conditions that are signs of more serious underlying disease and can affect the foetus.

To talk about cutaneous manifestations in pregnancy, we have an expert panel in the studio today.

Alvin: I would like to introduce Dr Emma Veysey. Dr Veysey is a dermatologist with special interests in vulvar diseases, inflammatory dermatoses, as well as autoimmune conditions. She holds public hospital appointments as a consultant dermatologist at St. Vincent's Hospital, Melbourne, and Royal Women's Hospital. You might remember Emma from our podcast episode on female genital dermatoses from Season 4.

Welcome, Emma.

Dr Emma Veysey: Thanks, Alvin and Laxmi, for inviting me. I'm thrilled to be here talking about this important topic.

Alvin: I would also like to welcome dermatologist Dr Anita Lasocki, first time to *Spot Diagnosis*. Anita also holds public hospital appointments at St. Vincent's Hospital. We work together in the Monday Dermatology Outpatient Clinic there. Anita also works at the Multidisciplinary Vulvar Dermatology Clinic at the Royal Women's Hospital. She's a senior lecturer at the University of

Melbourne and chief examiner and coordinator of the Undergraduate Student Prize in Dermatology.

Dr Anita Lasocki: Thanks, Alvin. I'm a newbie to *Spot Diagnosis,* and I'm thrilled to be here.

Laxmi: Okay, so let's get right into it. Pregnancy is a time when there are so many exciting changes to the body, including the skin. Can you give me some examples of normal skin changes that women might seek advice about in pregnancy?

Emma: There are several changes that occur, both welcome and unwelcome in pregnancy. Stretch marks are the least popular and occur in around 80% of pregnancies. Other changes include increased pigmentation, usually around the nipples, areolae, and genital skin. A dark line can appear running from the symphysis pubis up to the umbilicus but can also extend further up the abdomen. This is called the linea nigra. Vascular changes can also occur, including spider naevi, usually appearing on the face, neck, upper chest, and arms, and pyogenic granuloma, palmar erythema, of course, varicose veins, haemorrhoids, and even vulvar varicosities.

Laxmi: Patients often worry that their naevi and spots darken in pregnancy. Why is that? Are you worried about it?

Anita: Melanocytes are the pigment producing cells, and these cells actually have estrogen and progesterone receptors. In pregnancy, the levels of these hormones are naturally higher, and the melanocytes increase their melanin production. So long as naevi darken uniformly, this is reassuring. We do need to take care and pay attention to anything new or changing, even in a pregnant patient, with careful dermoscopic examination, and if there are any concerns, perform a biopsy of the lesion in the same way we would do for a non-pregnant patient.

Laxmi: Following on from that, is there an increased risk of melanoma in pregnancy?

Emma: There doesn't seem to be, Laxmi, any increased risk of melanoma in pregnancy. As Anita said, if there is a suspicious lesion, this should be managed in exactly the same way as a non-pregnant patient.

Laxmi: Speaking of changes in skin pigmentation, that reminds me of a case I would like to discuss with you. A 34-year-old female patient who was in her third trimester of pregnancy presented for review. She had just returned from a holiday in Hamilton Island. She was concerned about these hyperpigmented facial lesions that she developed on her cheeks.

Alvin: Sounds quite familiar. Laxmi, can you describe the clinical presentation in further detail?

Laxmi: The patient was otherwise systemically well, no allergies or regular medication. She had a Fitzpatrick skin phototype 5 and presented with hyperpigmented patches on her cheeks, forehead, and to a lesser extent, on her nose and chin. The borders of these lesions were well-defined, and the patches were not particularly itchy or painful. She had never experienced this before, and she was increasingly bothered and self-conscious about her appearance.

Emma: Laxmi, this sounds very much like melasma, which is very common in pregnancy, particularly for women who tan easily or have naturally brown skin. It presents as well-defined, blotchy hyperpigmentation, just as you describe, typically over the forehead, upper cheeks, upper lip, and jawline.

Laxmi: What causes melasma?

Anita: Our understanding of melasma is evolving. The key step is the overproduction of melanin by melanocytes. Some of this melanin is deposited deeper within the dermis, and at other times the melanin sits more superficially in the skin at the level of the epidermis. Ultraviolet light exposure, as well as visible light exposure, hormones and genetics, are probably the three key drivers. We also know that there is inflammation with oxidative stress in the skin and vascular changes with inflammation that are part of the condition.

Laxmi: If the clinical presentation is unusual or in a patient who doesn't have risk factors, for example, a lighter skin patient not on hormone therapy or has not had recent sun exposure, are there other differentials that our listeners should be keeping in mind?

Emma: The most likely alternatives are post-inflammatory hyperpigmentation, which can follow eczema or acne, or other inflammatory causes. Solar lentigines and freckling can also look a bit like melasma. Other possible differentials include congenital nevi such as nevus of Ota or Hori, although these are uncommon and usually are clinically quite distinct from melasma.

Alvin: Anita, now we know that melasma is benign, but if it presents during pregnancy, it can fade away within a few months of giving birth. It can also be very frustrating to treat, and cosmetically, if a patient's very concerned about it, how do you manage pregnant patients with melasma?

Anita: That's right, Alvin. Fortunately, melasma does improve gradually for the majority of women postpartum, but for some other patients, it can be really stubborn to treat. It can be slow to treat, and it can recur. Explaining to patients there is no such thing as a miracle cream and things may take months to improve.

As a general rule, the skincare should be simple and gentle, and laser is best avoided unless directed by a dermatologist in very particular cases. The cornerstone of treatment is meticulous photo protection with a daily broad-spectrum SPF 50 sunscreen, which protects against ultraviolet light. Broad-brimmed hats are a natural companion to the sunscreen as well.

Visible light protection is also really important, and that's different to ultraviolet light. I think taking the time to explain this to patients is helpful. The ingredient to look for here is iron oxide in the product. These are found in tinted sunscreens, BB creams, mineral powders, and in foundations. This can be applied over the top of the sunscreen to get that visible light protection.

In terms of pregnancy-safe actives to incorporate into the skincare routine, these include niacinamide, which is a form of vitamin B3, vitamin C as an antioxidant, usually in the form of L-ascorbic acid. Other actives that can be included are azelaic acid and Bakuchiol. Once

breastfeeding is complete, only then do we transition to prescription strength actives like hydroquinone and topical tretinoin.

Alvin: Another skin condition I would like to discuss that I've seen that can get worse in pregnancy is acne. About 40% of pregnant women get acne. This is interesting because many of the treatments that we use to treat acne are contraindicated in pregnancy. At once, we're trapped. There's very little we can do. Can you tell us how we manage it?

Emma: Yes, and women can be really troubled by their acne in pregnancy. It can improve or worsen and can be very distressing. As you say, it is a challenge to manage because many of our conventional prescribed treatments are contraindicated. For example, doxycycline is a tetracycline antibiotic, is category D, and can affect the development of both teeth and bones. The other main class of drug we use for acne are retinoids, which are vitamin A derivatives, such as topical tretinoin and oral isotretinoin. These are category X and can cause severe congenital anomalies. We advise women that they need to avoid conceiving for at least four weeks after ceasing isotretinoin, and of course, mustn't be used during pregnancy. Then finally, there are the antiandrogens, another useful class of drug in acne, which also are contraindicated in pregnancy. It's tricky.

Laxmi: What can we safely use in pregnancy for women with worsening acne?

Anita: The basic elements of the skincare routine can just be continued, which would include a gentle cleanser, a moisturiser, and a sunscreen.

Then there are some skincare actives we can incorporate that are pregnancy-safe. For example, benzoyl peroxide used as a cleanser. I find just using that three or four nights a week would be adequate. Then looking for other actives, including niacinamide, azelaic acid, occasionally prescribed topical clindamycin for pustular lesions, I find quite helpful, and compounded Sulphur creams. I think Sulphur is also really great because there can exist an element of papulopustular rosacea, so this treats both conditions.

Having said that, often the over-the-counter products that are specific for acne are actually safe to use, so long as they don't contain a retinoid, as the general concentration of actives such as salicylic acid, for example, used is low. It's uncommon for pregnant patients to require systemic therapy, however, antibiotics such as cephalexin or erythromycin could be used in certain situations.

Alvin: Our listeners would love to hear your insights on how common skin conditions, such as psoriasis or atopic dermatitis, can present during pregnancy. In my experience, I've had patients with psoriasis report dramatic improvements during pregnancy, and I've also had patients with atopic dermatitis flare during pregnancy.

Perhaps, Emma, you can tell us, why does this happen?

Emma: There are many different immune changes that happen in pregnancy to help protect the foetus from rejection, and these can have effects on new or pre-existing diseases. Diseases like psoriasis, which are more Th1-driven, tend to improve. Atopic dermatitis, which is more on the Th2 pathway, can worsen or even appear for the first time during pregnancy. Other Th2 conditions that can worsen include cutaneous lupus, although this is much less common.

Laxmi: If patients do experience a flare-up of these conditions, are there any particular treatments that are preferred during pregnancy?

Anita: I think when it comes to eczema, it's important to reiterate the importance of general measures. They're boring, but they're essential. We've heard it all before, but I say it again to patients, shorter, cooler showers, avoiding soaps and irritants, and applying a moisturiser every day. We are comfortable prescribing topical steroids to body eczema, such as betamethasone dipropionate 0.05%, and also 1% hydrocortisone cream ointment to the face. At certain times, I am comfortable to prescribe pimecrolimus cream to small areas such as the face and eyelids. Narrow-band UVB phototherapy is also pregnancy safe.

When it comes to psoriasis, we tend to avoid products containing topical vitamin D analogues, in other words, calcipotriol, and we tend to avoid tar-based creams. Primarily, we choose topical steroids to the affected areas on the body. Phototherapy is also a pregnancy-safe option for psoriasis. Some patients may already be on a biologic agent, which is an injected treatment for their chronic eczema or chronic psoriasis. Most patients tend to cease their biologic agent prior to pregnancy, and yet others might continue it up to 20 weeks gestation. This is something that needs to be discussed on a case-by-case basis and probably is a topic for another day.

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 recognised 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 switch gears and talk about pregnancy-specific dermatoses. I would like to discuss another case with you. A 32-year-old female, approximately 28 weeks gestation, presented for review of generalised pruritus. She had an unrelenting itch that was keeping her up at night and driving her mad.

Emma: Laxmi, there are a few pregnancy-specific conditions that can present with an intractable itch. Can you tell me a bit more about what you found on examination?

Laxmi: On examination, aside from noticeable excoriation marks all over her limbs and trunk, I actually did not observe any specific primary skin lesions. The itch, however, was particularly prominent over the palms of her hands and the soles of her feet.

Emma: That sounds like a classic presentation of intrahepatic cholestasis of pregnancy or ICP. Were there any abnormalities on her investigations?

Laxmi: Yes, she had deranged liver function tests with an elevated ALT, AST, and GGT. Given her presentation and obstructive liver enzyme profile, I did request serum bile salt levels, and these were significantly raised.

Emma: That clinical presentation and LFT profile certainly fits with intrahepatic cholestasis of pregnancy. You would also want to rule out other causes of itch without rash, including thyroid disease and anaemia. Intrahepatic cholestasis of pregnancy typically presents with pruritus or severe itch in the late second or third trimester and resolves rapidly after delivery. The itch can be worse on the hands and feet, as you described, and then spread to the rest of the body. No rash is seen except for the excoriations, and jaundice is rare. It occurs in around 1% of pregnancies, so not uncommon, and there is a high risk of it recurring in subsequent pregnancies. It is more common in multiple gestation pregnancy, chronic hepatitis C, if you have a prior or family history of ICP, and older maternal age. The accumulation of bile acids in the foetus and amniotic fluid carries significant risks for the foetus, including prematurity and foetal distress, and in severe cases, intrauterine foetal death and stillbirth. It is essential to recognise and treat early.

Laxmi: For the benefit of our listeners, could we briefly discuss how we could treat a pregnant woman presenting with intrahepatic cholestasis of pregnancy?

Emma: ICP is generally managed by the obstetricians, given the close monitoring required and increased foetal risks. The first-line treatment is ursodeoxycholic acid. However, the benefit of this might be small. Occasionally, additional rifampicin is required. As dermatologists, we would also offer general measures to help with the itch, including emollients, menthol, and aqueous cream, and appropriate antihistamines.

Alvin: Thank you for that. There is another pregnancy-specific dermatosis that I've actually seen quite a lot of, but probably not as much as our obstetrician colleagues, which is polymorphous eruption of pregnancy, also known as PUPPP.

Anita, could you describe to us a clinical presentation of PUPPP?

Anita: PUP is a common eruption seen in pregnancy, classically in primigravida women in the third trimester of pregnancy. These women are itchy. Fortunately, there are no associated health implications for the mother or the baby, and it tends to resolve fairly quickly after delivery. PUPPP, as the name implies, is a shapeshifter in terms of morphology. At times, it can be papular,

plaque-like, urticarial. The eruption can be dynamic; it can be migratory. Generally starts on the abdomen within the striae, and then it can become generalised across the body. The textbooks report that it spares the immediate skin around the umbilicus. How do we treat PUPPP? Keeping cool, menthol creams, oral antihistamines, occasionally topical corticosteroids, and phototherapy is a possibility.

Alvin: I've had to start some patients very severe PUPPP, low doses of prednisolone occasionally, with the input also from their obstetricians. It's whatever it takes to keep the patient comfortable until they can get past the delivery.

Anita: That's right.

Alvin: What's the pathogenesis of PUPPP?

Anita: We don't really know. It's complex. There are a few hypotheses. One is that the foetal antigens in the maternal circulation might be triggering an immune response. Another hypothesis is that the mechanical stretch on the skin of the abdomen itself elicits an immune response.

Laxmi: Anita, you mentioned peri-umbilical sparing earlier. Could you please elaborate on that?

Anita: In practice, I don't think it's such a reliable diagnostic sign, to be honest. The textbooks go on about it, but I don't believe it's that important. I think the morphology of the eruption is key. The main differential diagnosis is an uncommon autoimmune blistering disorder called pemphigoid gestationis. This also tends to start on the abdomen and can become generalised. It's also incredibly itchy. It can present with urticated annular plaques, however, the key clinical feature are bullae. It's essential to make an accurate diagnosis as pemphigoid gestationis is associated with complications such as prematurity, babies being small for gestational age, and foetal death in utero. Typically, we would suggest taking two-punch biopsies, usually three or four millimetres in size. One is taken from the edge of the blister, sent in formalin for histology, and the other is taken from perilesional skin, typically sent fresh on saline-soaked gauze for direct immunofluorescence. The characteristic finding here on histology is a sub-epidermal blister with a dermal perivascular infiltrate, but the clincher is the direct immunofluorescence showing linear deposits of C3 and IgG along the basement membrane.

Alvin: Emma, how do you manage pemphigoid gestationis?

Emma: These women really need to be managed alongside the obstetricians. There is not a great evidence base for treating this condition, but in the first instance, if the disease is quite localised, we'd start with generous use of high potency topical steroids, usually betamethasone, dipropionate 0.05% ointment. However, extensive disease or if it's not responding to topicals, which is unfortunately common, we would start oral prednisolone 0.5 to 1 milligram per kilogram of the pre-pregnancy weight, along with topical steroids, and usually antihistamines. If there is still an inadequate response, then our preferred second-line option is cyclosporine, which we often have to reach for in these cases.

Of course, close monitoring is required for, although the foetal prognosis is generally good despite there being an increased risk of prematurity and small for gestational age babies. Uncommonly, the baby can have blisters due to transfer of the autoantibodies that causes pemphigoid gestationis, but this tends to be mild and self-limiting without treatment. There are all the potential complications of being on high-dose steroids, of course, including increased gestational diabetes that needs to be screened for, for the mother. For the mother, the blisters generally resolve within a few weeks following the pregnancy, but this can be somewhat protracted, and they need ongoing treatment, but they can recur with subsequent pregnancy and unfortunately, is often worse.

Alvin: There is another pregnancy dermatosis worth a brief mention, and that is atopic eruption of pregnancy. It's also known as prurigo pregnancy. You see multiple excoriated papules and nodules on the limbs and trunks of pregnant women. It can actually resemble very closely prurigo nodularis. Fortunately, it's benign and not associated with any foetal or maternal risk. We sometimes do a biopsy to exclude other pregnancy dermatoses, but the biopsy tends to be nonspecific, and the direct immunofluorescence is negative. How do we treat this? Topical steroids, emollients, supportive therapy.

Laxmi: Thank you. That has been a great discussion so far on pregnancy-specific dermatoses, but can I tell you about a specific skin condition that I get asked about the most by pregnant patients? Stretch marks.

Anita: Stretch marks can appear commonly when the skin has been stretched rapidly. There is a rupture of collagen and elastin fibres deep within the skin, and sadly there is no evidence that any topical product can prevent the formation of stretch marks, and equally sadly, none that will work to improve their appearance once the striae appear.

Laxmi: Patients love using bio-oil to manage this. What are your thoughts on this?

Emma: Yes, bio-oil is widely used, but unfortunately, there is absolutely no evidence that it can prevent or reduce the appearance of stretch marks. Oils don't allow the skin to stretch more without this damage happening. It really is bad luck and quite genetically determined.

Anita: When stretch marks are fresh, they're often vividly red or purple, and over time, they fade to silvery lines. Occasionally postpartum, the red or purple striae can be treated with vascular laser to hasten the improvement in the colour. Energy-based devices have also been used to improve the texture and the contrast, but to my knowledge, none are particularly successful.

Laxmi: Women are also really bothered by rapid hair shedding after pregnancy. What is this, and how can it be managed?

Anita: During pregnancy, hair tends to remain in the anagen or growth phase, and so most pregnant women enjoy this period of time with really thick hair. The rapid drop in oestrogen postpartum shifts the hairs to a telogen or shedding phase, and lots of follicles experience this

simultaneously, and this is otherwise known as telogen effluvium. This accounts for the dramatic shedding some patients experience, typically starting two to three months postpartum.

Emma: Other factors may be contributing, including physiologic stress of sleep deprivation and potential nutritional deficiency, so it's important to check for iron levels and thyroid dysfunction, but essentially you can be very reassuring and tell the patients that this will slow down, the hair shedding will slow down, and slowly their hair will start to grow over the coming months.

Alvin: Yes, I think it can be quite variable. I've seen patients with postpartum telogen effluvium have a prolonged hair-shedding period, up to six months postpartum, and they can lose a lot of hair and have very, very thin scalp hair at the end of that period. Whatever happens, it will slow down, and then the hair will regrow, and when it regrows, it will regrow quite slowly. They might only see short hairs that grow a centimetre per month, so it may take another year before it actually starts to impact on their ponytail. Patients need to be patient.

Laxmi: That concludes today's episode. We would like to thank the education team at the Skin Health Institute and Balloon Tree Productions. We hope you have enjoyed today's discussion about pregnancy and the skin. 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.

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. That's spotdiagnosis.org.au. Please share *Spot Diagnosis* with your friends and colleagues, rate, and review us. Let us know what you think. We would really appreciate your feedback and any suggestions. Also, please note that *Spot Diagnosis* is eligible for RACGP and ACRRM CPD.

The Skin Health Institute would like to thank our exclusive institute partner, Melbourne Pathology, for their support of the *Spot Diagnosis* podcast and thank you to Pfizer for sponsoring this episode.

Ends-

www.skinhealthinstitute.org.au/podcasts