TRANSCRIPT

S4:E3 – Female Genital Dermatoses

Dr Anneliese Willems: In general practice, one day, I noticed a new patient had booked in with me, a somewhat frail 73-year-old woman. This lady came into my consulting room and said, "Doctor, I need to get tested. I've got an STI." I was somewhat surprised, but in medicine, I've learned never to jump to conclusions.

Further inquiry revealed that her husband had passed away some years prior, and she had not had any further sexual partners. In fact, the nature of her symptoms were a five-year history of intractable vulvar itch and skin fragility. She had used many over-the-counter treatments for thrush, and nothing would improve her symptoms. The itch would wake her most nights, and she would struggle to walk distances as she would have a tearing sensation and pain. I asked why she thought it could be an STI, and she commented, "Surely nothing else would cause these symptoms. I must have picked it up off a public toilet seat."

I examined this lady; sure enough, she had classical vulvar lichen sclerosus. I'm pleased to report that her STI screen was all normal. It has been almost two years now, and her symptoms are well controlled, and quality of life vastly improved with the treatments we've initiated.

Dr Sarah Adamson: Welcome to Spot Diagnosis, a podcast about all things dermatological brought to you by the Skin Health Institute in Melbourne, Australia. My name is Dr Sarah Adamson, and I'm a research and education fellow at the Skin Health Institute and a dermatology fellow at the Royal Women's Hospital.

Anneliese: My name is Dr Anneliese Willems. I'm a GP, medical educator, and research fellow at the Skin Health Institute. Today, we are going to take a dive into the various types of female genital dermatoses, including lichen sclerosus, lichen planus, genital herpes, vulvodynia, and malignancies of the vulva.

Sarah: We'll be covering how do these conditions present? How common are they? Why do they develop, and how are they treated? Joining us today is Dr Emma Veysey, a consultant dermatologist who specialises in female genital dermatoses.

Dr Emma Veysey: Hi, thanks for inviting me. I'm very happy to be here.

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Anneliese: Also joining us is Dr Hong Tran, a consultant, obstetrician, and gynecologist who has expertise in all aspects of pregnancy, including IVF, high-risk twin and multiple pregnancies, and a wide range of gynecological services with a special interest in vulval pathology.

Dr Hong Tran: Hi, thanks for having me here.

Sarah: This is a special episode because both Dr Veysey and Dr Tran are integral members of the vulva disorders multidisciplinary team at the Royal Women's Hospital in Melbourne, and Anneliese and I have both held the dermatology fellow position in the past two years in this clinic.

Anneliese: Let's start with the basics and ensure we're all on the same page. Hong, what are we referring to when we discuss the vulva? Which anatomical bits, so to speak, does it include?

Hong: Remember, the vulva is the external female genitalia. It's the extension of the skin, so when you look at the vulva work from outwards inwards, so go from the mons pubis from the top, labia majora, labia minora, the interlabial sulci, clitoris, festival external urethra meatus, and the vaginal orifice.

Anneliese: Emma, a very common presentation I see in general practice is vulva itch. What are some causes of this?

Emma: Well, Anneliese, thrush is probably the most common cause, then dermatitis or eczema. They describe the same thing, which is usually caused by irritants such as washing and soap but can also be allergic in nature. People with a background of atopic dermatitis will be more susceptible to this. Then much less commonly but an important cause of its lichen sclerosus. Other conditions we encounter that can cause itch includes psoriasis and lichen planus. However, lichen planus or LP is more likely to cause soreness and pain rather than an itch.

Sarah: You mentioned lichen sclerosus. What is this, and how common is it?

Emma: Lichen sclerosus, or LS, is a chronic inflammatory skin condition that affects the vulval skin in particular and perianal skin in women, and the glans, penis and foreskin in men. It can also be found elsewhere on the body when it is known as extragenital lichen sclerosus. It isn't common, and the true prevalence is unknown mainly due to underreporting and misdiagnosis and vary significantly between studies but is probably around 0.5 to 1% and increases in frequency with age.

Sarah: What age does it normally present?

Emma: It can affect women of any age, including children. However, it's more common post-menopausally.

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Anneliese: Aside from itch. What other symptoms do women with LS present with?

Hong: LS can occur around the vulval and anal area, and so you can get symptoms which include irritation, discomfort, and fissures, but also some patients can notice a change with sexual intercourse. Things like dyspareunia due to stenosis or bleeding when they're getting tearing at the perineum. Sometimes patients can also notice a change in the appearance but remember in 10 to 15%, patients will not have any symptoms at all.

Anneliese: Emma, do we know what causes LS?

Emma: Frustratingly, we don't know exactly what causes it, but there's some evidence to support autoimmune and genetic factors, but there's nothing conclusive. Around 10 to 30% of women will have a family history of LS, and there are some weak HLA associations. Autoimmune conditions appear to be more common in women with LS, especially thyroid disease and vitiligo. There was one small study that is often cited showing an autoantibody to a skin-based protein called ECM1, in a higher proportion of women with LS. However, these findings have never been confirmed since epigenetic and hormonal triggers have also been implicated, and local trauma can trigger LS as it's one of the skin conditions that Koebnerize.

Sarah: For those who might not be familiar with this term Koebnerize, the Koebner phenomenon is the appearance of new skin lesions on previously unaffected skin, secondary to trauma. The new lesions appear clinically and histologically identical to their underlying skin disease. This can also occur in skin conditions like psoriasis. Now back to lichen sclerosus. Emma, how is it diagnosed?

Emma: LS is usually diagnosed clinically as it has very characteristic features. These include white sclerotic plaques and fine wrinkled cigarette paper-like skin, classically distributed in a figure of eight pattern around the clitoral hood, labia minora, perineum, and perianally. It has a predilection for the partially keratinized mucosa. That's the interlabial sulci, the clitoral hood, and posterior fourchette. Signs of more severe and active disease include hyperkeratotic thickened rough areas, fissures, erosions, petechiae, and purpura.

Sarah: What are some structural changes you might see with it?

Emma: In more advanced disease, you do indeed get structural changes, including resorption of the clitoral hood, burying of the clitoris, loss of the labia minora, and midline fusion.

Sarah: What's the role of a diagnostic biopsy?

Emma: Well, when the features are subtle, such as a localised white plaque or there's unexplained architectural changes or any suspicion at all of VIN and SCC, which I think we'll talk about later- then a biopsy is always indicated. However, biopsy results can also be inconclusive, especially

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when the clinical features are subtle, so have to be interpreted carefully. The take-home message with biopsy is that if there's any uncertainty, it is important to do and to try and provide a woman with a definitive diagnosis, given the long-term implications, including the risk of scarring and SCC developmental Squamous Cell Carcinoma, and a requirement for ongoing treatment and monitoring.

Anneliese: I think it's time for our first **skin tip**. If you are unsure of the diagnosis but suspect it might be lichen sclerosus a biopsy is required due to the long-term implications of this diagnosis.

Sarah: I've seen many patients who are quite distressed by how this diagnosis might affect their ability to engage in sexual intercourse. How exactly might it affect this?

Hong: In a number of different ways. If the skin itself is not under control, then the skin can easily be irritated and develop fissures, but additionally, patients can get dyspareunia and tearing from the narrowed introitus and webbing of tissue on the anterior and posterior fourchette. Furthermore, a lot of patients become very self-conscious, and this can then impact a patient's libido as well. If they're getting ongoing pain and irritation every time they're having intercourse, it's going to cause a negative impact on them.

Anneliese: What treatment options are available for LS?

Emma: The mainstay of treatment is with topical steroids, which is generally highly effective. The typical regime is to start with a super or ultra-potent topical steroid such as clobetasol propionate or betamethasone dipropionate. We start by doing what's known as a blitz treatment, which is daily or twice-daily application for one month. Then second daily for a month, then ongoing maintenance depending on the woman's response, which might be to use the topical steroid once or twice a week on an ongoing basis. It is recommended to use about a fingertip's unit of topical steroid, apply to the vulva, and to show a woman via photos or with a mirror where exactly to apply the ointment.

The hair-bearing vulval skin over the labia majora should generally be avoided to prevent what we call steroid rosacea, and only a small amount is needed in the perianal skin due to the occlusive effects at that site.

Anneliese: How do you decide between all these different topical corticosteroids?

Emma: We decide according to the severity of the disease. Generally, we start with a super or ultra-potent topical steroid, as I've described, and these include clobetasol propionate, and this is available only as a compounded preparation in Australia. The standard strength is 0.05 %, but we do increase to 0.1% for severe recalcitrant cases. Betamethasone dipropionate OV is available as a proprietary treatment in Australia and is also classed as a super or ultra-potent topical steroid. The

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OV means Optimized Vehicle, which allows for better penetrance of the steroid, so it is more potent than standard betamethasone.

However, it is expensive for patients as it's not available on the PBS. Moving down in strength of steroid to the moderate potent steroids, we use these for maintenance treatment and these include standard betamethasone dipropionate and methylprednisolone aceponate usually in fatty ointment. It's important not to confuse a much weaker topical steroid called clobetasone butyrate with clobetasol propionate. The first is available over-the-counter and is a much weaker steroid and often patients can present with a flare in their disease, as there's been some confusion over which steroid they should use, and they've been using a significantly weaker one. Finally, it's always preferable to use an ointment rather than a cream, as creams are more likely to cause irritation or allergy.

Anneliese: Emma, you mentioned clobetasol propionate is available as a compounded preparation. Is this something that can only be prescribed by dermatologists?

Emma: No, not at all. GPs can prescribe it, and it's a matter of knowing where patients can get it either locally and give patients good information about affordable chemists that will compound this for them.

Sarah: What's a typical maintenance regimen for clobetasol propionate or betamethasone dipropionate OV? How can they be weaned?

Emma: It depends very much on the symptoms and clinical findings. Once a woman is asymptomatic and able to resume usual sexual activity without it flaring, and their skin is essentially normal on examination, then we might reduce the strength of steroid to a moderate potency. Steroids such as methylprednisolone aceponate in fatty ointment two to three times a week. If a woman is flaring regularly, then we would stick with a high-potency steroid more frequently. The maintenance regime needs to be tailored to the individual patient, and they can have control over increasing and decreasing their treatment as needed.

Generally, we advise they continue with maintenance treatment, even if they are completely asymptomatic, rather than applying the ointment only in response to symptoms. A good rule of thumb is to tell patients to use a maximum of 30 grams of a potent topical steroid in three months. This reassures them that they're not overusing the steroid generally.

Anneliese: Do you get worried about cutaneous atrophy?

Emma: No, I'm more worried about women undertreating themselves.

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We really never see cutaneous atrophy over the inner vulva. By that I mean the vestibular wall, clitoral hood, labia minora area. We do sometimes see atrophic changes and what's known as steroid rosacea over the labia majora and perianal region, but that can be avoided with careful education of the patients about where to apply the ointment and how much. Also, those changes are largely reversible once the steroid is ceased.

Sarah: Hong, I know you see many patients with LS in our vulva disorders clinic as well. What's the gynecologist's role in detecting and managing LS?

Hong: The gynecologist would have the same role as the dermatologists in helping diagnose and manage lichen sclerosus. For those patients who are stable, having a yearly review looking for any precancerous and cancerous changes, but additionally, it's very important to also review the impact on bowel, bladder, and sexual function. For anyone who is needing surgical treatment for any pre-cancerous or cancerous lesions, the gynecologist will be able to manage this as well as helping surgically with any scarring that is causing a functional impact.

Anneliese: Hong, you mentioned pre-cancerous or cancerous changes. Could you expand on that a little bit further?

Hong: In 3% to 5% of untreated patients, vulval squamous cell carcinoma can develop. It is very important in detecting patients with lichen sclerosus, providing the education from the beginning, and also then getting them on treatment and having ongoing follow-up and monitoring.

Anneliese: What types of signs or symptoms might patients with precancerous or cancerous changes present within LS?

Hong: Patients can have ongoing irritation that's no longer responding to their medication, or they can notice a new lesion, but I would also always reassure patients that just because they have these symptoms, they don't necessarily have cancer. It's always worth getting it re-looked at earlier just to exclude it. From a person who's looking at the vulval area, if there is a focal area of a raised white or red area, then these should be biopsied.

Anneliese: I think many doctors might feel a bit apprehensive in performing a biopsy on the vulva for the first time, is a vulval punch biopsy any different from a punch biopsy elsewhere on the body?

Hong: In general, it's the same technique, but a couple of things just to be mindful of when it comes to the vulval area. You have got to be careful, rethink about the location quite carefully. There's certain areas you want to avoid. The clitoral area, which has got a very good nerve supply, but also just be mindful of patients with the thin labia minora. If you do a punch biopsy there, there's a high risk of creating a buttonhole through this. In general, when I do a biopsy, I use 2%

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xylocaine using a 25 gauge needle, so the smallest needle you can find. It's a four-millimeter punch biopsy, so aiming it at 90 degrees to the skin and then snipping or suturing the base.

Most of us gynecologists would not put a stitch in a four-millimeter punch biopsy, but we would then use Monsel's paste to help decrease bleeding. Be very careful not to crush the specimen, and if it's in the inner mucosal area, this area is quite fragile and so alternatively, you might use the suture and snip technique.

The suture and snip technique involves using a suture into the fragile tissue so that you can easily pull the tissue away without crushing the specimen, and then you just cut around at the base. It does create a bigger specimen, and often with these, then you do need to have a stitch to close the area. There's no problems with punch biopsies also closing the area with a dissolvable suture. Usually, we would use a Vycral Rapide, the smallest needle coming in the size of a 3-0.

Sarah: Do patients with LS need to stay on lifelong maintenance treatment?

Emma: Well, LS is a chronic condition and ongoing maintenance treatment will provide better symptom control, limit further scarring and architectural changes to their vulva and probably reduce the risk of SCC development. We don't really have the data regarding the likelihood of it becoming inactive and being able to stop treatment. Our current advice to women is that treatment will need to be long-term, like taking a blood pressure medication or thyroxin for example.

Sarah: What general vulval skincare advice do you offer these patients?

Emma: This is an absolutely critical part of successful treatment. As part of the initial consultation, it's important to review all their current washing and cleaning habits. What they use in the shower, how many times a day do they wash, as some women will wash many times a day and whether they use wet wipes, and what else they're putting on their vulva. Before receiving a diagnosis of LS, women will try all sorts of home remedies and often wash more, as water can provide some relief for the itch. This will then probably produce a secondary irritant dermatitis.

Anneliese: What do you recommend that they use to wash or bathe with?

Emma: I then advise them to use something extremely bland, such as Epiderm or emulsifying ointment. I recommend applying this ointment to the vulval skin before they hop in the shower and once into the shower, just to use their hand rather than a face washer as this can be abrasive to wash with. This acts as a barrier to the water, and I reassure them that it will clean the skin adequately and also warn them that the skin will feel a little greasy afterwards. Other products such as aquious cream can also be used for this purpose, but they shouldn't be left on the skin. I

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recommend a soap-free wash for the rest of the skin and to avoid any soap at all running onto the vulva and to avoid shampoo running down the back.

Anneliese: What kind of post-shower or bath routine do you recommend?

Emma: After showering, I suggest applying a simple bland emollient consisting of white soft paraffin and liquid paraffin such as Dermeze or Vaseline, and specifically to avoid anything cream based. Depending on a women's preferences and tolerance to that feeling of greasiness, this can be applied a couple of times a day and before bed. It serves to reduce friction and act as a barrier if there is any incontinence and can also be used as a lubricant. I write all of this down and explain that if it's not on the sheet I give them, then don't put it on their vulva.

Sarah: I think that calls for another **skin tip**. Patients with a diagnosis of lichen sclerosus will have to be on lifelong treatment with topical steroids, which will be tailored to their clinical findings and likely need to be adjusted over time. Baseline vulval skincare is an incredibly important part of their management, requiring a soap-free wash or bland emollient into the shower followed by application of a barrier ointment, such as Dermeze, immediately after the shower and throughout the day.

Anneliese: Emma, do you offer any additional advice to women with urinary incontinence?

Emma: Yes. This is often a big problem for women as it will exacerbate any preexisting vulval condition, including LS, and create new problems such as irritant dermatitis. I recommend the application of a barrier ointment consisting of white soft paraffin in liquid paraffin such as Dermeze as I already mentioned. However, some women really don't like this. They feel it slides off their skin. Alternatives include zinc-oxide-based creams, such as Sudocrem. It's essential to find a barrier cream or ointment that they like and will use. I recommend reapplying this every time they go to the bathroom.

Anneliese When do you recommend GPs refer to a dermatologist or gynecologist for the management of LS?

Emma: Well, many GPs are able to diagnose and manage LS. However, as a general rule, I would recommend referring all women with suspected LS, any woman with persistent itch, despite simple treatments for thrush and dermatitis, and any woman who reports a change in their vulval skin or architecture. Women can be asymptomatic, and those skin or architectural changes might be an incidental finding when they go for cervical screening or a change of their IUD, and they should also be referred.

Sarah: Back to the other causes of vulval itch. How do we exclude these causes in our LS patients? What tests do we perform to diagnose and exclude these causes?

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Emma: It's important always to remember other conditions that can coexist with LS, in particular, eczema or dermatitis and thrush. Thickened eczema or lichen simplex chronicus may arise from chronic scratching of the underlying LS. Otherwise, irritant contact, or less commonly, allergic contact dermatitis can arise in the setting of LS. Clues in the history for a coexistent irritant dermatitis are their washing practices. Are they washing with Imperial leather soap or Dettol, which is common. Do they have some level of urinary incontinence? Are they using wipes to clean and how often are they washing?

Just water alone will trigger irritant contact dermatitis. Dermatitis will present with more widespread erythema, particularly over the labia majora, extending into the inguinal creases and perianal area, often with areas of lichenification. Thrush may also coexist with LS and present with a flare and itch. Clues in the history for thrush include a premenstrual flare and itch, associated discharge, soreness, burning, recent antibiotic use, the use of a local estrogen, a history of poorly controlled diabetes, and diabetic medication that increases urinary glucose, such as the SGLT2 inhibitors, and also it'll get worse with the topical steroids.

Sarah: Apart from itch, what symptoms might patients with thrush experience?

Emma: Women will commonly experience soreness, burning, burning and stinging with urination, along with vaginal discharge and pain with intercourse and a post-coital flare in the itch.

Anneliese: What are the different causative organisms for thrush?

Emma: Most commonly, it's Candida Albicans, but around 10% to 20% of chronic recurrent thrush will be non-albicans, namely Candida Glabrata. It's important to do a swab, particularly if they haven't responded to the initial treatment.

Anneliese: What examination findings would you expect?

Hong: Often, in these cases, the vulva's quite red and swollen. There'll be fissures in the inter-sulci area, as well as the perineum. They can also have white discharge coating the vulva area. If you look closely, they'll also have these satellite red lesions that can spread from the labia majora going out to the perianal area. Be mindful to monitor and look in the other areas of the body, in the groins, under the breasts, and on the perineum as well. Sometimes if you do the examination during their cycle when they're menstruating, the findings can look completely normal as well.

Sarah: Should we routinely perform a swab to confirm thrush?

Emma: Ideally, yes. However, this is often not practical and many women will report that they know exactly what their thrush feels like, and they can self-manage this. However, particularly in recurrent thrush or itch not responding to treatment, then a swab is important.

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Sarah: How do you treat simple thrush?

Emma: Usually, this can be self-managed with over-the-counter treatments, such as a single dose of fluconazole, 150 milligrams, or a vaginal azole cream, such as clotrimazole inserted at night as a single dose or nightly for three to seven days or a clotrimazole pessary as a start dose.

Anneliese: Recurrent vulvovaginal candidiasis is a particularly common issue that I see in GP. How do you approach managing this?

Emma: There are many different approaches depending on which country you're practicing in. My regime, which is based on several different guidelines is to use fluconazole 150 milligrams every third day for three doses, then 150 milligrams once a week for six months. This generally works very well in suppressing recurrence while on treatment, but unfortunately, relapse is high on stopping. If they're unable to take the fluconazole, then I would use nystatin cream nightly for two weeks. Then once a week, also for six months or an azole cream or pessary. New therapies are available in the US, but unfortunately, not yet in Australia.

Sarah: What about thrush in pregnancy?

Hong: This is actually very common. The increase in hormones in pregnancy puts patients prone to getting thrush. A lot of patients though are not symptomatic from their thrush in pregnancy, so only treat if they are symptomatic. If they're having issues with itch or irritation, the preferred management would be a six-day course of clotrimazole. Often they need to repeat this a few times as well. Alternatively, they can safely use nystatin cream or pessaries as well. Unfortunately, in pregnancies, we would not be using fluconazole, boric acid, or itraconazole. These are contraindicated during pregnancy, but safe to use whilst breastfeeding.

Anneliese: Are there any risk factors for developing recurrent candidiasis? Is there anything patients can do to modify their lifestyle to prevent future recurrence?

Emma: All patients will ask you this and want to know what they can do differently. In particular, what dietary factors might be playing a role? Most have tried a low yeast or low sugar diet; for example, I reassure them that thrush and chronic thrush generally affects healthy women. That there is nothing wrong with their immune system and that unless they have poorly controlled diabetes, then diet won't be playing a role. The only proven risk factors, as I mentioned earlier, are poorly controlled diabetes, topical estrogen, broad-spectrum antibiotics, and certain diabetic medications, namely the SGLT2 inhibitors, which increase glucose in the urine. It is not related to dietary sugar or yeast. Importantly, reassure them that treating their sexual partner does not make any difference, and neither do probiotics.

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Anneliese: Now moving on to a different genital dermatosis: lichen planus (or LP). What is this and what causes it to develop?

Emma: LP is also considered to be an autoimmune skin condition, but the exact cause is unknown. We don't know what the triggers are either, unfortunately.

Sarah: How does the presentation differ LS and where else on the body might you find it?

Emma: It tends to present less with itch and more with soreness and pain with sexual intercourse in particular. There are three main types affecting the genital skin. The most common is erosive LP. The other types are classic, and very rarely, hypertrophic. Erosive LP is a typical appearance of erosions and glazed erythema around the vestibular wall often with a hyperkeratotic border.

You may see classic Wickham's striae, which is a white lacy appearance over the labia manure. It can also result in severe scarring and can coexist with LS. Many patients often have overlap features of both conditions. Importantly, it can affect the vagina and these women require speculum examination to examine the vaginal mucosa. You also need to examine the rest of their skin for signs of LP elsewhere, including the scalp, mouth, and nails.

Anneliese: Is there a role for biopsy?

Hong: Biopsy is important in this situation. It helps them determine the type of lichen planus, but remember, you are also going to be giving the patients a chronic diagnosis, so confirming it from the beginning is important. Additionally, if you're uncertain about the unusual red area, having a biopsy can help exclude cancer as well.

Anneliese: Does LP affect sexual intercourse any differently than LS does?

Hong: With lichen sclerosus, most of the area involved is going to be on the vulva area. Rarely does it involve the vagina. Whereas when it comes to lichen planus, especially erosive lichen planus, up to 70% of females can have vaginal involvement. This can cause not only a shortening in the length of a vagina, but also can cause a narrowing in the opening as well. Patients can result in bleeding and pain with intercourse.

Sarah: How is Lichen planus treated? Is it any different from the treatment of LS?

Emma: It's treated very similarly to LS, but unfortunately, can be much more resistant to treatment. Usually, you start again with a super potent topical steroid as for LS, but may need to continue with the more frequent application and for longer. Women with erosive LP will often require second-line treatment. In the first instance, we would typically start an oral corticosteroid of around 0.5 milligrams per kilogram.

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Then weaning dose and add in methotrexate depending on the patient's comorbidities and other medications. Often ongoing dual immunosuppressive therapy is required to achieve good control. We use other agents, such as hydroxychloroquine and mycophenolate mofetil, and we are starting to use biologic agents, but these have no proven efficacy at this stage.

Anneliese: Do patients with LP also have to stay on lifelong treatment?

Emma: LP is a chronic disease like LS and needs to be treated that way. It may become inactive, but I generally advise women that treatment is very long-term, if not lifelong. Also, they need regular review to check for disease activity, progression of scarring, and any feature suspicious of VIN or SCC. Although the malignant potential of erosive LP is not known and probably much less than LS.

Anneliese: I think it's time for another **skin tip**. Both Lichen sclerosus and lichen planus need lifelong monitoring of disease for complications such as scarring and look out for any suspicious features for VIN or SCC that need to be biopsied.

Sarah: Hong, what's the gynecologist's role in detecting and managing LP?

Hong: Once again, our role is very similar to the dermatologist in terms of helping with the diagnosis from the beginning, but also, importantly, to minimise scarring by starting treatment early and monitoring for vaginal involvement, having regular vaginal examinations. If there is vaginal involvement, some patients may need surgical correction for this. Also, every time the patients are having an assessment, we are also screening for cancer and pre-cancerous changes as well.

Anneliese: How can GPs contribute to the management of LP and LS?

Emma: Well, once your satisfied symptoms are well controlled, and skin changes have largely resolved, at the women's hospital, we will discharge women back to their GP for ongoing follow-up and monitoring, that is, if their GP is comfortable managing it long-term. We recommend a maintenance regime with topical steroids and that they're examined at least annually. This is always with the understanding that they can be re-referred with a flare-up or new clinical findings.

Sarah: What are other common causes of vulval pain?

Hong: We can break it down to several different categories, but importantly, there's an infection, dermatosis, pre-cancerous changes, and cancer. People often think about vulvodynia, but remember, this is a diagnosis of exclusion, so you do want to exclude all the other causes first.

Anneliese: What is vulvodynia?

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Hong: The true definition of vulvodynia is chronic pain or discomfort around the opening of the vagina where there's no identifiable cause found, and the pain has lasted for more than three months.

Sarah: What is provoked vestibulodynia?

Hong: Provoked vestibulodynia, if you break it down to the two components, so vestibulodynia is just referring to the sight of where the pain is, and that's in the vestibular area and provoked means when the area is pressed, you can reproduce that again every time you do an examination.

Sarah: Do we know what causes either?

Hong: Vulvodynia, there are two types. There's the primary where people can be born with it. They only first realise or are aware about it when they try and insert a tampon or first try and be sexually active. For patients with secondary vulvodynia, often they have been able to be sexually active previously, and then, at some point onwards, they noticed that every time they are sexually active, they get pain. Often, this change in the event has been caused by some sort of trauma to the vulval area, and this trauma can come in the format of chronic infections such as thrush, vaginal delivery, or painful dry intercourse.

We do also know that in these areas, they've got this increased nerves. When the area is touched or triggered, patients will classically describe the sensation as a burning or sharp shooting pain. The pain can still continue even after the stimuli is taken away.

Anneliese: Emma, as a dermatologist, how do you encounter this clinically?

Emma: We often get referred patients to rule out a dermatological cause of the pain, such as erosive lichen planus, or dermatitis, but often, we're looking back for that episode of trauma or infection that Hong mentioned. We will go back and identify that they actually did have thrush or they had a traumatic vaginal delivery and a tear, and ever since, they've had pain with intercourse.

Anneliese: Hong, are there any treatment options for vulvodynia?

Hong: There are certainly a number of different treatment options, and we do know that with each of them there is about a 60% to 70% effective rate, but when you combined all of these or a number of these together, the effective rate can improve. It is also important to explain to patients that none of these are going to be quick fixes. It's going to take time, and often by the time they start a management, it can take a good three to six months before they start to notice changes.

Often, they will need a multidisciplinary team, which includes then a doctor that would help prescribe some of the medications, and the medications would be nerve modulators, including

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either amitriptyline, nortriptyline, pregabalin, gabapentin, some examples, and some of these can come in the format of tablets or compounded as a cream. Just being mindful that if you are using a cream, 10% to 20% can get a local burning reaction from the cream.

Additionally to the medications, there's physiotherapy, and the physiotherapist will provide biofeedback, which often includes using dilators to help decrease the increased pressure around the ligaments. Psychologists can be quite important for CBT. In a small group of patients, surgery may be an option, and these patients would have a vestibuloectomy or even the periurethral glands would be removed. There are emerging evidence also for other methods of management, including Botox, TENS, and acupuncture, but there's limited research in these.

Sarah: Let's quickly touch on one of the other common causes of pain of the vulva, genital herpes. How does this usually present?

Hong: Often, it depends on whether it's a primary or recurrent, but usually, it's painful ulcers or blisters, which can be single or multiple lesions. If it's the first presentation, often they've got severe pain, difficulty, or inability to urinate, and the vulva is quite red and swollen as well.

Sarah: How do we confirm a diagnosis of a herpes simplex virus or HSV?

Emma: Clinically, you'll see typical features of a cluster of shallow ulcers on the vulva, including the mucosal skin, and this will be confirmed by PCR from a viral swab.

Anneliese: How is it best treated?

Hong: Antivirals is the mainstay, with either acyclovir or famciclovir as examples. If they've got multiple recurrent episodes, then they should also consider being on a prophylactic antiviral as well.

Sarah: What are the signs of recurrence? Do you have to have a vesicle for it to be active, or is vulva pain alone a sign of recurrence?

Emma: Typically, a recurrence will result in pain in association with the vesicles and erosions and the other accompanying symptoms, such as dysuria. You're most infectious when you have active lesions, however, there can be viral shedding one to two weeks after an episode, and even when completely asymptomatic. Reassuringly, though, and it's important to tell women this, studies have shown that transmission of the virus is extremely low between outbreaks.

Anneliese: I often say first episodes of genital HSV in general practice. These consultations are often very distressing for those impacted. Hong, what advice do you give your patients with HSV in regard to future sexual partners?

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Hong: Understandably, these patients will feel quite self-conscious about the diagnosis. Often, I refer them to the Melbourne Sexual Health website, have some great information about how they can disclose this to their partners as well. Worth referring them to that website. Firstly, it's about being quite encouraging of patients to say that it's important for them to notify partners because then they're aware they can go and get screened if they do start to have symptoms. Also, we do know that the risk of transmission can definitely be reduced by having an open relationship and open disclosure between partners so that they are treated and avoid being sexually active when they've got active lesions but also encouraging them to use condoms as well.

Sarah: What features are suggestive of recurrent genital ulcers being due to a diagnosis other than HSV?

Emma: If there's a history of genital ulcers, then you have to think about a wide range of possible causes from non-sexually acquired genital ulcers, simple aphthous ulcers. Inflammatory causes such as Behcet's or Crohn's disease, drug reactions, in particular, fixed drug eruption, and blistering diseases such as mucous membrane, pemphigoid, malignancy, and, of course, infectious causes.

The most common cause of ulceration we see, in particular, in teenagers and young women is aphthoses and non-sexually acquired genital ulceration. Non-sexually acquired genital ulceration will typically follow a febrile illness such as tonsillitis and are most often due to the Epstein-Barr virus. Unlike the multiple erosions of HSV, however, there'll be only one to three well-defined, punched-out ulcers with a yellowish sloughy base on the mucosal or adjacent skin.

Unlike HSV, they will be exquisitely painful and be associated with dysuria. There may also be local enlarged lymph nodes. Simple aphthous ulcers are essentially the same as non-sexually acquired genital ulceration. However, less severe and not associated generally with a proceeding illness or EBV. These patients may also report a history of mouth ulcers, and generally, non-sexually acquired genital ulceration and simple aphthous ulcers will respond rapidly to potent topical steroids, whereas, HSV won't.

Crohn's ulceration is always an important one to think about. Although unusual, tends to have deep linear ulcers known as knife-cut fissures, often in the labial creases and perianal skin. The ulcers of Behcet's, which dermatologists always think about, can resemble simple aphthous ulcers, so it must be considered if there are other features such as oral ulcers, pathergy, ocular involvement, et cetera. As I said, there are a huge variety of causes including nutritional, connective tissue disease-related, immunobullous, infective, and malignant. These all need to be considered.

Anneliese: We mentioned earlier some red flags for malignancy of the vulva. What types of malignancy or pre-malignant lesions do you find on the vulva?

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Hong: For malignancies, squamous cell carcinoma is the most common, but then you've got the less common such as your adenocarcinoma, melanoma, sarcoma, and Paget's disease. For pre-malignant lesions, we've got the HPV or the non-HPV-related precancerous change.

Anneliese: What is Vulval Intraepithelial Neoplasia or VIN?

Hong: This is considered a pre-cancerous condition, usually, a noninvasive squamous lesion. If left alone, 30% can progress on to cancer.

Sarah: What are the two types of VIN?

Hong: They can be split into two types. HPV-related or non-HPV-related, which is considered the skin dermatosis such as associated with lichen sclerosus. In a broader category, these can be called differentiated VIN.

Sarah: How do these present clinically?

Hong: Sometimes they can be quite asymptomatic, but other patients may notice an area of irritation of pruritis that continues to persist. Often, they've been treating it for recurrent thrush. Rarely do they present with just pain.

Anneliese: What are the main risk factors for these pre-malignant or malignant lesions?

Hong: For the HPV-related lesions, the risk factors would be smokers. Those with HPV on the cervix. Those who are immunocompromised. Whereas, for non-HPV related, it will be patients with skin dermatosis such as lichen sclerosus, and to a lesser degree, lichen planus.

Anneliese: How can these pre-malignant or malignant conditions be prevented?

Hong: For the HPV-related ones, having the vaccine early. Preferably before they are sexually active. Ensure that their skin conditions, their lichen sclerosus is well controlled and if they do smoke, for them to quit. Also importantly, with these conditions, having regular screening on the vulval area

Sarah: How do we usually investigate? Do you usually biopsy or send straight to theatre for excision by the gynecology team?

Hong: Biopsy is always very important because sometimes what seems to be a precancerous change may not. You don't want to be excising or going to surgery unless you need to. The biopsy is a smaller sample of the area. As a routine practice, we would prefer a biopsy first, but also sometimes you may get caught out and it can actually be cancer. We would know then at the time of surgery, they need to have a significantly deeper excision with a clearer margin as well.

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Sarah: How are these lesions treated?

Hong: For HPV-related VIN, the options would include surgery, and surgery would include either excising it or laser treatment of the area. Often, we would pick laser treatment for the non-hair-bearing area. The benefit of laser treatment is removing less tissue and it preserves more of the architecture.

Sometimes we would consider medications, and the medication here of choice would be Imiquimod. This would be especially for patients with multiple lesions or who have had surgery and are keen to avoid surgery. Prior to using the medication, you have to be confident that there is no cancer there. For non-HPV-related VIN, surgery is usually a preferred option, mainly because they've got a higher risk of developing into cancer.

Anneliese: What is the prognosis for each of these premalignant or malignant conditions?

Hong: Unfortunately, we've got very limited data on this. With HPV, the thought is about 8% can actually develop into cancer despite ongoing surveillance. A third will have a recurrence, and usually, that recurrence would occur in the first year. There is emerging evidence that even after 15 years, they can also have a recurrence. Unfortunately, patients who have had HPV VIN would be recommended to have an ongoing follow-up. For the non-HPV VIN, they've got a higher risk of cancer, as well as a recurrence risk of up to 80%.

Sarah: This all really highlights the importance of both vulval self-examination presenting to your GP if you have any persisting or concerning symptoms and also keeping up to date with your cervical screening. On that note, we'll conclude our episode on female genital dermatosis.

Anneliese: Thank you, Emma and Hong, for your time and sharing your expertise with us.

Emma: Thanks very much for having us both.

Hong: Thank you

Anneliese: We would like to thank our producer and supervisor associate professor, Alvin Chong, at the Skin Health Institute. We'd also like to thank the education team at Skin Health Institute.

Anneliese: We hope you have enjoyed this episode of Spot Diagnosis. 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.

Sarah: For listeners who want more information on the subject, a transcript of this episode and links to other resources can be found on our website, spotdiagnosis.org.au.

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Anneliese: 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.

Sarah: The Skin Health Institute would like to thank our Institute Partner Melbourne Pathology, for their support of the whole Spot Diagnosis Podcast series and our partner Bristol Myers Squibb for supporting this episode.

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