case reports
THE CARE GUIDELINES

CASE REPORT

Case reports are profesional narratives that outline the diagnosis, treatment, and outcomes of the medical problems of one or more patients. Information from case reports can be shared for medical, scientific, or educational purposes. They provide a framework for early signals of effectiveness adverse events, and cost. Case reports and the systematically collected data from which they are written also provide feedback on clinical practice guidelines.

21-year-old female with pruritic and atrophic skin rash

Abstract.

This case report explores a holistic approach to the treatment of a pruritic and atrophic regional skin condition. This 21-year-old female, A.M., began to experience a rash that was mildly pruritic in a region isolated to the lateral aspect of her left hand over the period of 2 months. The initial itching and redness had progressed to significant atrophy of the skin by the time she was seen at my clinic. It was her non-dominant hand, and there were no new environmental exposures of which she could think of. Although she worked in childcare, there was no one else with similar rashes. There was no significant personal history of rashes, allergies, or eczema. Her brother had developed a rash on his feet and had since been diagnosed with inflammatory bowel disease (IBD). Although A.M. was primarily interested in support for the resolution of her skin condition, she also experienced chronic gastrointestinal reflux, anxiety, and some mild chronic shoulder and back pain.

Idiopathic isolated rashes are a very common occurrence, seen in both the young and old. With a rash that is mildly pruritic one should rule out infection, thyroid, liver, or renal disease. The typical medical protocol for an idiopathic local region of pruritus is avoidance of exposures to irritants, topical moisturisers, stress reduction, and possibly the use of topical corticosteroids if there is evidence of an inflammatory aspect.

In this case, possible metabolic abnormalities were ruled out as potential contributors including coeliac disease, which may have symptoms of a pruritic rash known as dermatitis herpetiformis, and helicobacter pylori which may contribute to symptoms of chronic reflux or gastritis. Initial interventions focused on digestive repair, anti-inflammatories, and stress balancing, with the option of utilising a topical steroid cream if this was found to be necessary.

For 3 months, A.M. was lost to follow-up after laboratory findings were reported to be within normal limits, with the exception of a low normal vitamin D level. When there was an opportunity to have a follow up appointment, it was found that she had rapidly experienced healing to her skin with the supplements which were recommended. At one point, she elected to discontinue the gastrointestinal supportive supplements and found that the itching and rash came back fairly rapidly. By then she had become open to making dietary changes, and agreed to work with gluten and dairy avoidance to investigate if these foods were contributors to her skin rash, mild reflux, and chronic joint pain. Overall, significant improvements had been seen, but symptoms continued to wax and wane. A.M. was again lost to follow-up, as she returned to college.

Key Words.
Pruritis, skin atrophy, reflux, joint pain

Introduction.

A.M. is a 21-year-old woman who at the time of our initial visit was working in childcare, and attending school part-time. Overall, she felt happy, healthy, and active, but a new rash on her left hand had gradually worsened over the last 2 months and progressed to the point where it was bothering her considerably because the skin was frail and easily damaged. She had no known allergies, and no significant history of similar rashes or exposures to chemicals or infections, and the rash was primarily on her non-dominant hand. Her brother, recently diagnosed with IBD, had symptoms of a rash and a tooth that decayed prior to his diagnosis with this condition.

A.M. also experienced occasional digestive reflux for 7 years and a hiatal hernia which caused her to have symptoms of chest pain and asthma with exertion. She has noted that symptoms are worse with acidic foods and dairy. She has no other gastrointestinal symptoms. In addition to this, she also has some chronic back and shoulder pain. The pain in her left shoulder has been present for 5 years. The pain in her lower back has been an issue for less than a year. She dances and does activities such as yoga which at times make her pain worse. She is seeing a physical therapist to address these issues of pain, but is open to supplements which may support their improvement.

Presenting Concerns.

The primary issue which A.M. is seeking support for the atrophic, mildly pruritic, regional rash on her L hand. Additionally, she experiences digestive reflux and related chest pain and asthmatic symptoms, as well as shoulder and back pain which both have been chronic.

Rash. The rash began approximately 2 months prior, with small red bumps on her 5th digits bilaterally. The rash then localised on the lateral aspect of her L hand, as shown in Figure 1 below. The skin is atrophied and erythematous. It is mildly pruritic although does not always itch. Sometimes it appears as if there are blisters or vesicles within the rash. There are no signs of pus or infection. She had tried virgin coconut oil and Burt's natural balms but these have not helped. She has not seen a dermatologist or other medical provider, nor has she tried an over-the-counter steroid cream. She does not have a history of similar rashes, eczema, or allergies.
A.M also does not know of anyone else in the childcare setting she works in with a rash. She does not have any systemic symptoms of malaise or fever. Although she does not have a personal history of a rash, her brother had a rash on the plantar aspect of his feet, and had recently been diagnosed with IBD.

Reflux. A.M. has had mild acid reflux for 7 years. She also has been diagnosed with a hiatal hernia via endoscopic evaluation. She experiences symptoms of chest pain and shortness of breath with exercise. She has been evaluated for these symptoms and has been told her difficulty breathing is associated with her reflux, and that she does not have asthma or a cardiac condition leading to these symptoms. She experiences no other digestive symptoms and denies constipation, diarrhea, or having a coated tongue.

Shoulder and back pain. Shoulder pain has been a chronic issue for A.M. for about 5 years. She has seen a physical therapist (PT) for support with this. Pain is in her L shoulder and is aching at a level that ranges from 2 – 8. She has been seen by an orthopedic surgeon and has been told that it is a "snapping scapula" however PT thought the pain is coming more from the neck. She experiences a decreased range of motion and has increased discomfort at end-range. The back pain is a newer issue, and has been present for less than a year. She also has seen a PT for this. The assessment from the PT was that there is instability in all directions at the

level of L2 and L3. X-rays of shoulder and back are normal. Pain is worse with lateral movements. There are no peripheral symptoms of neuropathy or pain. In both regions, her muscle strength is unaffected.

Clinical Findings.

As stated by A.M., lateral aspect of her L palm was mildly erythematous and atrophic as shown in Figure 1. Skin texture, turgor and pigmentation appear normal in all other locations. Physical exam abnormalities of diminished bowel sounds, a mild coating on her tongue, and clear effusion behind her tympanic membranes bilaterally were found. There are no differences observed between L and R shoulder active range-of-motion.

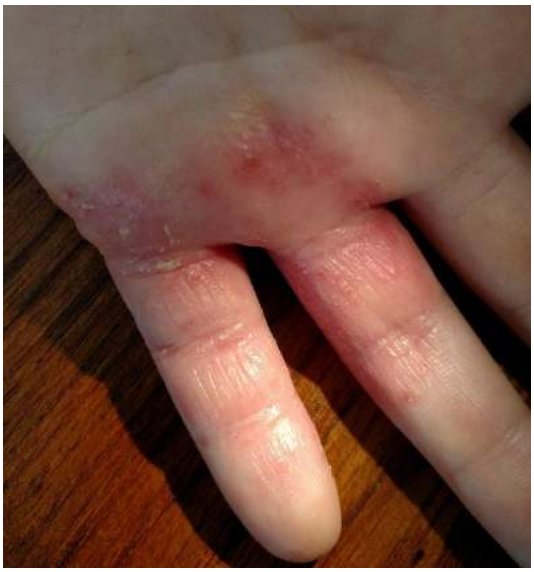

Figure 1: Rash on A.M.'s hand at initial presentation.

Testing was performed to assess for abnormalities with a complete blood count (CBC), comprehensive metabolic panel (CMP), thyroid stimulating hormone (TSH), coeliac panel, vitamin D, 25-hydroxy (OH), and H. pylori IgG testing.

Laboratory findings: CBC – all within normal limits and midrange. CMP – within normal limits. Fasting blood sugar is 81 mg/dL, and liver and kidney function are well within normal range. Thyroid stimulating hormone is WNL. Vitamin D, 25-OH is 31.7 ng/mL which is at the low end of normal range (30 – 80 ng/mL). Coeliac disease panel is negative, with total immunoglobulin A within normal range. H. pylori IgG is negative.

Timeline.

2009. Digestive reflux, and diagnosis with hiatal hernia. Had Swine flu and norovirus in this year shortly before these symptoms became an issue. She missed a lot of school in this year due to illness. A sensation of a stabbing chest pain also was an issue but workup revealed no abnormality other than the hiatal hernia and gastrointestinal reflux.

2010. L shoulder pain becomes an issue.

September, 2015. A.M. starts to experience low back pain.

February, 2016. A.M. begins to experience progressively worsening rash.

April, 2016 A.M. is first seen in my office.

Diagnostic Focus and Assessment.

Other testing which is suggested but patient opts to not pursue due to cost are food sensitivity testing and a comprehensive digestive stool analysis (CDSA). Although an endoscopy has been done in the past, the possibility for a subsequent evaluation is discussed, as chronic reflux leads to a constant state of inflammation which promotes cellular damage and an increased risk of malignant changes.

Therapeutic Focus and Assessment.

11/4/16

A.M. presents at my office for support with her rash. She has tried many natural topical products to support healing such as virgin coconut oil and Burt's bee's balms which have not helped. The symptoms and course of the rash have been discussed in previous sections. In short, the rash initially presented with some papules on the 5th digits bilaterally and progressed to skin atrophy of the palmar aspect of the hand and 4th and 5th digits of the left hand. It is mildly pruritic and does not always itch. There appear to be small vesicles but no fluid is expressed. There is no pus, warmth, or signs of infection locally or systemically.

The back and shoulder pain have been managed moderately well with physical therapy but A.M. also is interested in support for these concerns.

The reflux and associated mild chest pain and asthmatic symptoms are mild, however noted in the visit. There are no other digestive symptoms. She has noted that her symptoms are somewhat worse with dairy and acidic foods.

Further discussion of some events in the medical history of A.M. and her family do raise some potential issues which possibly should be investigated further. Prior to experiencing the issues of gastrointestinal reflux and chest pain she had both the swine flu and norovirus in the same year. She missed a significant amount of school this year. She doesn't feel like her energy levels were negatively impacted by this more than in the isolated setting of having these illnesses, but did find that periodic episodes of fairly sharp chest pain began at that time. She did have extensive workup and only a hiatal hernia and gastrointestinal reflux was diagnosed. In her family, her brother was recently diagnosed with IBD, and prior to this experienced a rash on the plantar aspect of his feet.

Mentally and emotionally, A.M. does not appear to be overly stressed or concerned, but a mild level of overall anxiety is noted. Sleep is good, and she attains at least 7 hours a night without difficulty. She feels a bit stressed managing school part-time and work, and trying to find time for herself. Diet is irregular but does include a significant amount of fruits and vegetables. There are no food avoidances. There is no substance use, and she has caffeine about once a week. Her energy level is pretty good, and she finds exercise in dancing three times a week. She finds this also helps a lot with her stress levels.

A supplement protocol focusing on gastrointestinal mucosal repair with additional support for balancing adrenal function and parasympathetic balance under stress is the initial focus of treatment. Testing was

performed to assess for abnormalities that may contribute to symptoms including a complete blood count (CBC), comprehensive metabolic panel (CMP), thyroid stimulating hormone (TSH), coeliac panel, vitamin D, 25-hydroxy (OH), and H. pylori IgG testing. A.M. is recommended to follow up in 4-5 weeks.

First Supplement Programme	
Diet	**Avoid known triggers (acidic foods, dairy). Reduce gluten consumption after coeliac testing.**
Topical Cortisone 10 cream	**Over-the-counter hydrocortisone cream. Use as needed for itching and irritation.**
Unda 270 ointment (Seroyal)	**Use topically up to three times a day in region of rash.**
Bromelain Plus (BRC)	**2 capsules twice a day away from food by at least 1 hour.**
Perm A Vite (ARG)	**1 Tbsp 30 minutes before meals.**
Fig Bud (Seroyal)	**10 drops on the tongue before bed.**
Ashwagandha (Pure Encapsulations)	**1 capsule in AM on rising**

21/7/16

A.M. returns to clinic for a follow-up appointment. For some time, she was lost to follow-up, and after. Testing results has been reported to her since her last appointment, with the only abnormality being a low normal vitamin D level.

A.M. reports that the reason she had been lost to follow up was that the rash had significantly resolved. She had stopped by the office to refill the Perm A Vite supplement, as when she ran out of it she noted that the itching and rash began to re-appear. However, she also noted that she ran out of the Fig bud, another supplement which supports gastrointestinal repair, at the same time and found that they both had been contributing to the improvements she had seen. She states that since resuming both therapies her symptoms wax and wane somewhat. She also briefly had a bumpy rash on the back of her arms that was present for about a month, but was never itchy or bothersome.

The reflux symptom is very mild and only something she experiences if she dances too soon after eating. She also mentions that she experiences some nausea when she drinks liquid, and only drinks about 8 – 24 ounces of water a day.

Pain has continued to be a struggle. The supplement Bromelain Plus was not one which the patient elected to take, which as a proteolytic enzyme combination can be effective for pain. Her hips are also feeling tight, as well as her neck today.

She continues to eat all foods, but is very open to dietary changes as she is more aware that dairy contributes to her symptoms. Money continues to be an issue and food sensitivity testing is not something which she elects to do.

Stress levels have risen for A.M. unexpectedly. In the last month, her purse was stolen from her childcare workplace, and her car was also stolen. Fortunately, the vehicle had been found but it was in a significant

state of disrepair at this time as if someone had been doing drugs and living in it. She is moving to the nearby city about 45 minutes drive within the next month where she will be starting college on-campus. She is looking forward to this move and living in a different setting.

In this time A.M. has had more problems with sleep. Although she feels exhausted she finds she cannot sleep. She did not continue the Ashwagandha supplement when she ran out, and has not been taking it for at least a month.

Because A.M. will be moving to a new city, general supportive recommendations to help her function under the stress of academics and for skin health are provided. She is encouraged to follow up should symptoms worsen, or contact the office for a local referral if she is looking for further care.

Because she is open to making dietary changes, and has already realised how dairy contributes to her reflux symptoms, it is recommended that she work with a diet avoiding gluten and dairy for the next month. With the digestive symptoms of nausea and occasional heartburn with pain and skin changes it is recommended that if things do not improve with eliminating dairy and gluten that a small intestinal bacterial overgrowth (SIBO) breath test or comprehensive digestive stool analysis (CDSA) be done.

Physical examination in office reveals that her left hand is considerably better, with very minor loss of turgor in the region which had experienced the significant atrophy.

Second Supplement Programme	
Diet	**Please work on a diet that is gluten and dairy free for at least a month to see if this improves symptoms.**
Arthrosoothe (Designs for Health)	**2 - 4 capsules as needed once a day for pain.**
UNDA 270 ointment (Seroyal)	**Use topically up to three times a day in region of rash.**
Fig Bud (Seroyal)	**10 drops on the tongue before bed.**
Perm A Vite (ARG)	**1 Tbsp 30 minutes before meals.**
B complex with Metafolin (Douglas Labs)	**2 capsules in the morning with breakfast.**
Ashwagandha (Pure Encapsulations)	**Increase to 1 capsule in afternoon and before bed. Supports cortisol balance and sleep.**
Natural Calm Magnesium Powder	**1 scoop in water before bed. Supports sleep.**
Bio-D-Mulsion Forte (BRC)	**2 drops (4,000IU) once daily.**
Bio-AE-Mulsion (BRC)	**5 drops (10,000IU) once daily.**
Zinc Picolinate (ARG)	**1 capsule (25mg) once daily.**

Supplement Information

Perm A vite (ARG)
Perm A vite® powder provides a blend of natural substances that may participate in the normal structure and functions of the gastrointestinal tract. Provides fuel sources used by intestinal colonocytes and fibre.

Fig Bud (Seroyal)
Fig Bud is the primary remedy for treating digestive disturbances of an emotional origin ranging from esophageal dysphagia, hiatal hernias, reflux disorders and stomach cramps. Phytoembryotherapy is a branch

of phytotherapy that specifically incorporates plant embryological tissues (buds, young shoots, etc.) containing plant meristem, undifferentiated, fast dividing cells which contain the plants genetic blueprint and material. These embryonic tissues are rich in beneficial phyto-chemicals including: growth factors and plant hormones, enzymes, nucleic acids, oligoelements, and phytonutrients such as polyphenols and flavonoids.

Unda 270 ointment (Seroyal)
UNDA 270 Ointment contains Hypericum perforatum and Equisetum arvense to help relieve skin conditions by increasing elimination through the kidneys.

Bromelain Plus (BRC)
Provides proteolytic (decomposition of protein) activity in the form of Bromelain and Papain. Helps relieve muscle pain due to overexertion and inflammation-related pain by supporting the body's natural anti-inflammatory response.

Ashwagandha (Pure Encapsulations)
Helps to counteract the effects of occasional stress, may support cardiovascular, immune, cognitive and joint function.

Arthrosoothe (Designs for Health)
ArthroSoothe™ gives joints nutritional support for repair, lubrication, free movement, and healthy function. Joints, cartilage, ligaments, tendons and synovial fluid (for joint lubrication) undergo a continuous but slow turnover and remodeling process. Ingredients include boswellia, turmeric, glucosamine sulfate, green lipped muscle, and N-acetylcysteine.

B complex with Metafolin and Intrinsic Factor (Douglas Labs)
B-Complex is unique, including Metafolin®, Methylcobalamin Vitamin B12, and Intrinsic Factor in its formulation. Metafolin® contains only the S isomer of 5_MTHF and has been shown to be the only form of folate to be able to cross the blood_brain barrier. Studies indicate that methylcobalamin, a coenzyme form of B12, may be better utilized and better retained in the body. Intrinsic factor is a protein produced by cells in the stomach lining and is needed for the intestines to absorb vitamin B12 efficiently.

Natural Calm Magnesium (Natural Vitality)
Magnesium citrate in powdered form to add to water.

Bio-D-Mulsion Forte (BRC)
Supplies vitamin D3 (2000 IU per drop) in an emulsified form to aid in uptake and assimilation, especially important for those with malabsorption issues.

Bio-A-Mulsion (BRC)
Vitamin A in an emulsified form to aid in the uptake and assimilation. 2000IU of Vitamin A (as retinyl palmitate) per drop.

Zinc Picolinate (ARG)
Zinc is a trace mineral that is involved in more than 30 enzyme reactions in the body, and is an essential metal cofactor for one kind of superoxide dismutase (SOD), a major class of antioxidant enzymes.

Discussion.

Strengths and limitations of this case report including case management

A strength in the management of this case was the evaluation of other possible contributing factors to the skin and reflux, ruling out coeliac, and other abnormalities of basic blood chemistry. Assessment of vitamin D levels validated that it was low, and it may have been a contributor to having a rash of an inflammatory and destructive nature such as this. Oftentimes vitamin D supplementation is recommended at high doses without assessment of levels putting individuals at risk of hypercalcaemia.

Limitations in this case were the short duration of follow-up, non-compliance with some of the therapies, and cost of additional testing. These are common issues, and fortunately there was significant improvement despite doing further testing. However, if the rash should re-occur further assessment of additional labs may shed light on contributing factors.

The literature relevant to this case report

Low vitamin D levels are associated with increased risk of allergic skin diseases, as well as conditions of autoimmunity.[1,2] Supplemental vitamin D has been shown be effective for treatment of a variety of skin conditions such as psoriasis.[3,4] Vitamin A derivatives also have evidence for the treatment of psoriasis and eczema.[5,6]

Increased intestinal permeability has been shown to exist in individuals with atopic eczema.[7] Although this skin condition was not specifically diagnosed as eczema, with the concomitant issue of digestive reflux there was a high likelihood of damage to the digestive mucosa. Hence, the reasoning to select products such as the Perm A vite powder and Fig Bud which have potential healing properties for the digestive mucosa. Glutamine, found in the product Perm A vite, stabilises intestinal permeability and has evidence for reducing the incidence of atopic dermatitis in susceptible populations.[8,9] Epidermal Growth Factor (EGF) is a polypeptide that stimulates growth and repair of epithelial tissue. EGF has been shown to protect and support healing of ulceration of the small intestine, and promotes the healing of burns to the skin.[10,11]

Stress plays a role in the manifestation of many conditions including autoimmunity, viral reactivation, depression, hypertension, and insomnia. With a holistic approach, it is important to consider possible contributions from this factor. The botanical ashwagandha is commonly used in Indian culture for supporting function under stress as well as sleep.[12]

The rationale for your conclusions

There was not a distinct conclusion drawn in this case, however because the supportive therapies which were directed at healing the digestive mucosa were effective, it is speculated that some aspect of damage here was contributing to systemic inflammation and similar damage of the skin.

The main findings of this case report: What are the take-away messages?

Sometimes when a patient is lost to follow-up it is because initial therapies were very effective!

Patient Perspective. The patient should share his or her experience or perspective of the care in a narrative that accompanies the case report whenever appropriate.

At the follow-up appointment, it was clear that A.M. had a very positive experience in the resolution of her skin condition with minimal supplemental interventions.

Informed Consent.

The patient is not aware her case history is being used, and all identifiable data has been removed.

Case Report Submission Requirements for Authors

1. Competing interests.

None Known

2. Ethics Approval.

This case was not presented to an ethics committee.

3. De-Identification.

All patient data has been re-identified

4. Author.

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