**Identifying Data:**

Full Name: M.K.

DOB: 07/11/2006

Date & Time: 02:45PM on 10/14/2022

Location: Astoria, NY

Race/Nationality: Caucasian

Marital Status: Single

Religion: Greek Orthodox

Source of Information: Self

Reliability: Reliable

Source of Referral: Self & Mother

Transportation: Ambulated to clinic from home

**Chief Complaint:** burns on feet from pedicure x1 hour

**History of Present Illness:**

16 y/o male, no significant PMHx, presents with complaints of 7/10 painful burns on both feet after receiving a pedicure one hour prior. Patient states a cream used to soften the skin was applied to his feet and left on for approximately 15 minutes at which point he began to feel a burning sensation. The cream was then washed off and the affected area was then filed with a foot file. At this point the patient asked to stop the pedicure and left due to increasing pain and noticeable redness & blistering on both feet. Patient went home and mother applied Neosporin then promptly reported to this clinic for further evaluation and management. He states this is the same pedicure he normally receives without issues but this time the cream when left on longer than usual. Owner of nail salon texted patient a photo of the ingredient list of cream while in the clinic which showed active ingredient is calcium hydroxide. Patient states temperature of water was luke-warm. Tetanus vaccine is up to date. Denies chemical on other body parts or clothing, wound discharge, numbness, tingling, weakness, inability to bear weight on joint, puss, swelling, fever, fatigue, SOB, or chest pain.

**Past Medical History:**

* Denies
* *Hospitalizations*
  + Denies prior hospitalizations
* Up-to-date on immunizations
* Vaccinated against SARS-CoV-2 – Pfizer x3
* Influenza vaccine 2021
* Up-to-date on childhood vaccination schedule
* Last Tdap 2018

**Past Surgical History:**

* Denies

**Medications:**

* None reported

**Allergies:**

* NKDA, food or environmental allergies

**Family History:**

* Mother – living, 42 y/o, healthy
* Father – living 44 y/o, healthy
* Siblings – none

**Social History:**

* Habits – Denies alcohol, tobacco, marijuana or other illicit substance use. Denies drinking caffeine
* Travel – no recent travel
* Occupation – Student, high school
* Social History – Single, reports being an honors student with many friends and plays on soccer league.
* Diet – Reports eating 3 meals per day, Mediterranean and American diet, consisting of protein, fruits, & vegetables.
* Sleeps 8 hrs/night on school days (10:00PM-6:00AM) and 10 hours on weekends (11PM-8AM). Feels rested and sleeps through the night. Denies snoring.
* Exercise – High school soccer and private soccer league year-round.
* Safety measures – wearing seatbelt and uses helmet when riding a bicycle.
* Sexual History – Denies prior sexual activity.

**Review of Systems:**

* General
* Denies generalized weakness/fatigue, recent weight loss/gain, loss of appetite, fever/chills/night sweats
* Skin, hair, nails
* Denies excessive sweating, pigmentations, moles, change in hair distribution, pruritis, xerosis
* **Admits to burn and pain on both feet**
* Head
* Denies headache, vertigo, head trauma
* Eyes
* Denies visual disturbances, abnormal lacrimation, photophobia, pruritis
* Last eye exam 1 yr prior (No change in vision). Reported acuity 20/20
* Ears
* Denies deafness, pain, discharge, tinnitus, or feeling of fullness
* Nose/Sinuses
* Denies congestion and nasal discharge or epistaxis
* Mouth and Throat
* Denies bleeding gums, sore tongue/throat, mouth ulcers, voice changes, or dentures. Last dental exam 1 year prior, no cavities.
* Neck
* Denies swelling/lumps, stiffness, or decreased ROM
* Pulmonary System
* Denies SOB, DOE, cough, wheezing, hemoptysis, cyanosis, orthopnea, or PND
* Cardiovascular System
* Denies known murmur, chest pain, palpitations, irregular heartbeat, edema/swelling of ankles/feet, or syncope
* Gastrointestinal System
* Denies changes in appetite, intolerance to specific foods, N/V/D, dysphagia, pyrosis, flatulence, abdominal pain, jaundice, changes in bowel habits, hemorrhoids, constipation, rectal bleeding/blood in stool, or constipation. Last colonoscopy 5 years prior - normal per pt
* Genitourinary System
* Denies changes in frequency, nocturia, urgency, oliguria, polyuria, dysuria, abnormal color of urine, incontinence, or flank pain
* Sexual History – refer to Social Hx
* Nervous System
* Denies seizures, headache, loss of consciousness, sensory disturbances, ataxia, loss of strength, change in cognition/mental status/memory, or weakness
* Musculoskeletal System
* Denies muscle/joint pain, deformity, swelling, redness
* Peripheral Vascular System
* Denies intermittent claudication, coldness/trophic changes, varicose veins, peripheral edema, or color change
* Hematologic System
* Denies anemia, easy bruising/bleeding, lymph node enlargement, prior blood transfusions, or history of DVT/PE
* Endocrine System
* Denies polyuria/polydipsia/polyphagia, heat/cold intolerance, goiter, excessive sweating, or hirsutism
* Psychiatric
* Denies depression/sadness, anxiety, or obsessive/compulsive disorder. Never seen a mental health professional. Never taken psychiatric medications

**PHYSICAL EXAM**

Vital Signs:

BP: 110/68 mmHg – sitting & supine, L arm

RR: 12 breaths/min, unlabored

Pulse: 62 bpm, regular

T: 98.7F (oral)

O2 SAT: 100% room air

Height: 72 inches Weight: 160 lbs BMI: 21.7

General Appearance: alert, oriented, not distressed, appropriate development, well nourished, appropriate posture, appears stated age, well dressed. **Wearing shorts and rubber flip-flops without socks.**

Head: normocephalic, atraumatic

Eyes: Symmetrical OU. No strabismus/exophthalmos/ptosis. Sclera white, cornea clear, conjunctiva pink. No erythema of lacrimal sac. PERRLA. EOM intact with no nystagmus. Red reflex intact OU. Retinal vessels unremarkable (no AV nicking, hemorrhages, exudates, or neovascularization). Optic disc unremarkable (cup-to-disc ratio < 0.5 OU with appropriate color & contour), no papilledema.

Ear: Appropriate in size. Ear and tragus nontender AU. No lesions/masses/trauma visualized on external ear. No discharge/foreign bodies in external auditory canals AU. TM pearly white/intact with cone of light in appropriate position AU. Non-obstructing cerumen noted in the ears bilaterally.

Nose: Symmetrical, no masses/lesions/deformities/trauma/discharge. No tenderness/bogginess/step off to palpation. Nares patent bilaterally. Nasal mucosa pink & moist. Septum midline. **I**No ulcerations/foreign bodies visualized.

Sinuses: No tenderness to palpation over bilateral maxillary/frontal sinuses.

Mouth & Throat:

Lips: Pink & moist. No cyanosis, lesions, or ulcerations

Oral Mucosa: Pink, well hydrated. No masses/lesions noted. No leukoplakia.

Palate: Pink, well hydrated. No visible lesions/masses/scars.

Teeth: No dental caries, missing, or loose teeth. All teeth have appropriate shape.

Gingivae: No hypertrophy or recession. Unremarkable

Tongue: pink, well papillated. Frenulum intact. No masses/lesions/deviation.

Oropharynx: Well hydrated, no exudate/masses/lesions/foreign bodies noted.

Uvula pink, midline with no lesions or edema.

Neck: Trachea midline. No masses/lesions/pulsations noted. Neck supple, non-tender to palpation. Free range of motion. No stridor noted. No cervical adenopathy. No carotid pulses/thrills/bruits heard on auscultation. Thyroid is non-palpable, unremarkable. No goiter

Lymph nodes: Non-palpable, unremarkable preauricular, postauricular, submandibular, posterior cervical chain, anterior cervical chain, supraclavicular, and infraclavicular lymph nodes

Cardiovascular: JVP is 2.5cm above sternal angle with head of bed at 30 degrees. PMI located at the 5th ICS in midclavicular line. Carotid pulses are 2+ bilaterally without bruits. RRR. S1/S2 distinct with no murmurs or S3/S4 heard. No splitting of S2 or friction rubs appreciated.

Chest: Symmetrical with no deformities or trauma. No tenderness on palpation. Respirations unlabored, no paradoxical respirations or use of accessory muscles. Lat/AP diameter 2:1.

Lungs: Lung sounds clear throughout on auscultation. No adventitious sounds. Chest expansion/diaphragmatic excursion symmetrical.

Abdomen: Abdomen symmetric and flat. No scars, striae, or pulsations noted. Bowel sounds are normoactive in all 4 quadrants. No aortic/renal/iliac/femoral bruits heard. Non-tender to palpation and tympanic throughout. No guarding or rebound tenderness. No hepatosplenomegaly to palpation. No CVA tenderness appreciated.

Skin: Warm and moist. Good turgor. Non-icteric. No tattoos noted. No moles. **First degree burns with erythema, warmth, tenderness, blistering, and desquamation noted along the medial malleolus, Achilles, and lateral malleolus crossing the joint lines bilaterally, sparing the dorsal foot. Second degree burn exposing the dermis approximately 2.5cm x 1cm located proximally to the medial malleolus of the left foot. No drainage, blood, purulence, foreign bodies, or signs of infection. Approximately 7% of total body surface area.**

Hair: Average quantity and distribution. No seborrhea/lice/dandruff noted

Nails: No clubbing, capillary refill < 2 seconds in upper & lower extremities, appropriate shape & color.

Musculoskeletal: Appropriate alignment of spine. Full ROM. No joint erythema or tenderness. Appropriate muscular development. Normal gait

Neurological: A&O x3. No tremors or fasciculations.

Psychiatric: Oriented to person, place, & time. Good affect, no hallucinations or abnormal behavior.

**Wound Care Procedure:**

Followed Calcium hydroxide safety data sheet (SDS) first aid measures.

Area irrigated with copious amounts of normal saline and soap and dried with gauze. Bacitracin applied and area covered with Xeroform dressing layered with gauze dressing on top and wrapped with kerlix bandage rolls on feet bilaterally. Sandals were irrigated with soap and water and dried as well. Patient tolerated procedure well.

**Assessment:**

16 y/o male, no PMHx, presents with first and second degree calcium hydroxide chemical burns on bilateral foot covering approximately 7% TBSA x1 hour.

*Differential Diagnosis:*

* ***Chemical Burn (1st and 2nd degree)***
  + Based on history gathered of calcium hydroxide being applied to the foot for an extended period at which point patient felt pain, chemical burn is most likely. Based on physical findings of affected epidermis layer and exposed dermis layer, it can be determined that burns are first and second degree in severity. Physical trauma from foot file likely worsened the underlying skin damage.
* ***Thermal Burn***
  + Patient’s feet were soaking in heated water, therefore, thermal burns must be ruled out. Based on history of burn symptoms occurring while out of water with “skin softener cream” applied, it is less likely caused thermal burn. Additionally, patient reports that the water was a tolerable, warm temperature.
* ***SJS/TEN***
  + Unlikely given that this condition is typically caused by systemic medications and patient denies taking any recent prescribed or OTC medications. Additionally, TBSA is less than 10% which rules out TEN. SJS unlikely given patient history and lack of other systemic symptoms such as fever, fatigue etc.
* ***Cellulitis***
  + Cellulitis unlikely given the acuity of onset from chemical exposure. Erythema and warmth likely attributed to acute nature of burn. No purulence or drainage at site. Signs and symptoms of cellulitis developing will be monitored during wound check in 48-72 hrs along with patient education.

**Plan:**

* Chemical Burn
  + Wound care risks/benefits/alternatives discussed with patient and mother, provided opportunity to ask questions, verbalized understanding and agreement of wound care, discharge, and follow-up instructions
  + Ibuprofen 400mg q4-6h as needed for pain relief; max daily dose 2400mg
  + Return in 48-72 hours for wound check, return sooner if condition worsens or new symptoms occur, call 911 or go to nearest ER if there is a significant increase in signs/symptoms or, fever, or neurovascular compromise: increased pain, decreased sensation, loss of color, numbness/tingling, weakness
  + Verbally instructed on wound after-care including using Xeroform dressings, application of vaseline once epithelialization occurs, and pat dry wound after showers
  + Advised to wear non-abrasive footwear such as sandals and avoid physical activity such as soccer until wound fully scabs over in 3-6 days.