A 25-year old African-American Male with Chronic Scalp Abscesses Resulting in Dissecting Folliculitis Requiring Systemic Therapy

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A 25-year old African-American male with chronic scalp abscesses resulting in dissecting scalp folliculitis with alopecia scarring requiring systemic therapy

OVERVIEW

An abscess is an infection characterized by a collection of pus underneath certain portions of the skin. Streptococcus and Staphylococcus aureus are the most common bacteria causing abscesses of the skin. Cracks and injury to the skin is the usual pathway of entry for the specified bacteria. Fever may be a direct result of the bacteria and the areas of the affected skin usually become swollen, red, tender and warm. Most abscesses resolve quickly once appropriately treated (skinsight.com).

Dissecting folliculitis is a rare chronic suppurative disease, usually affecting African American adult males causing alopecia scarring of the scalp (S. Sivakumaran et al, 2001). Many dermatologist and or pathologist receive little to no training is the evaluation of hair disease (Sperling, 2001).

This classification of scarring alopecia recognizes five fairly distinct diseases. However, many cases of scarring alopecia will demonstrate clinical and/or histologic features that are shared by more than one diagnostic entity. A sixth category (‘‘scarring alopecia, unclassified’’) is needed for cases of scarring alopecia that cannot be confidently identified. LPP½lichen planopilaris; DLE½discoid lupus erythematosus; CCSA½central, centrifugal scarring alopecia (Sperling, 2001).

According to the literature, there are two phases of alopecia scarring usually resulting in the earlier phases of hair destruction. The first being, that of primary alopecia scarring, where the
hair follicle is the target of the inflammation. Secondarily, “innoncent bystander”, is where the hair follicle is destroyed in a nonspecific manner during the disease process (Sperling, 2001).

INTRODUCTION

Andrew was initially seen in the clinic involuntarily for a recurrent scalp condition and wanted further treatment and care of his condition. The patient’s initial diagnosis was abscess, acute NOS, recurrent, scalp perifolliculitis, severe with psychosocial symptoms. The spread of inflammation with the formation of abscesses and partial destruction of hair follicles were noted.
The patient’s presentation was similar to that of dissecting cellulitis of scalp abscess, which is frequently reported in young adult black males (Deps, 2006). Universal symptoms of scalp disorders may include dryness, itching scaling, hair loss, pustules, and oozing. While hair has no particular purpose in human beings, its psychological significance is massive, so scalp conditions that are potentially scarring and may lead to permanent hair loss need to be recognized without delay so that effective treatment can be initiated (Hickin, 2008). This case is noteworthy of selection to write up on due to the lack of experience with chronic scalp abscesses I possessed at the initial time of assessment. This patient allowed the DNP-advance practice nurse student to do much research on how to treat chronic scalp abscesses resulting in dissecting cellulitis.

*When a patient presents to the clinic for an initial visit first and foremost is the assessment and accurate diagnosis to begin individualized therapeutic intervention. When a patient complains of scalp symptoms you need an efficient plan to make a diagnosis and recommend the correct plan of care regarding drugs and other health-related management. With some degree of time constraints in a consultation it is vital to know which questions will assist you to differentiate between the many scalp problems. After taking a history, examine the scalp thoroughly.*

**DEMOGRAPHIC DATA**

The patient is a 25-year old male who lives with his girlfriend and 8-month old daughter. The patient does have a high-school diploma. He has a year and a half of college, but he did not continue on with his undergraduate studies. The patient has been employed with Frito Lay as a machine operator for the last four years. The patient and his girlfriend are planning to get married soon.

*Folliculitis can be characterized by itchy, painful, discharging and crusting papules (Hickin, 2008), resulting in a bacterial infection in the designated area of the skin. It is most and commonly noted in the nuchal area (nape of the neck) in African-american skin. Management is with antibiotics by mouth.*

*Dissecting folliculitis fit into the group of principal neutrophilic cicatrical alopecia (Otberg et al., 2008). Male patients are almost exclusively affected by this bacterial infection and usually present with boggy confluent nodules. The hallmark of this disease is unified sinus*
tracts, releasing purulent drainage. Andrew was initially diagnosed by his presenting history. Whereas oral antibiotics, topicals, and intraleisional or systemic steroids are the current treatments of choice, current guidelines recommend that systemic antibiotics are indicated if the disease process is recurrent or severe (S. Sivakumaran et al., 2001).

Dissecting folliculitis (DF) is also known as perifolliculitis capitis abscedens et suffodiens (Hoffman), dissecting perifolliculitis, and perifolliculitis capitis (Wu et al., 2008). Dissecting cellulitis does have an unknown etiology, however there are three implicated facts noted within the literature: infection, follicular occlusion, and immune cell-mediated chronic inflammation.

Chief complaint: “I have these very painful, foul smelling sores in my head that are draining pus.”

Current evidence suggests that bacterial cultures and measurements of antibiotic resistance should be obtained from every patient (Wu et al., 2008). Treatment is often noted to be unsatisfactory. The first line of approach to eradication of the bacteria S. aureus via a broad-spectrum antibiotic varies in its effectiveness. After discontinued use of the antibiotics, relapse is often observed. In this case, looking at only the chief complaint may lead to ineffective interventions. Researchers have reported a good response to triple modality therapy, such as systemic antibiotics, intraleisional corticosteroids, and prednisolone.

HISTORY OF PRESENT ILLNESS

Andrew, a 25-year-old male, was assessed at a Texas dermatology clinic because of recurrent worsening of a scalp infection. His visit to the clinic was precipitated by his girlfriend consistently nagging him about the weeping and drainage of a foul smelling scalp. The girlfriend expressed concerns about his scalp condition after several attempts from other clinic offices with no improvement via other therapy interventions. So, the patient began to seek treatment elsewhere, having been coaxed by family, friends and co-workers to come to this urban underserved dermatology clinic to seek further care of his condition.

After taking a thorough history of the client’s condition, he started to describe his symptoms as sometimes reddened, swollen, pus-filled, foul smelling, very painful at times, knots on his scalp that has been worsening over the last five to six months, which were indicative of moderate to severe scalp abscesses. Andrew reported having difficulty working due to the
wearing of a hard hat for protection and not being able to sleep well during the night because of
the severity of the pain. The patient states that his appetite has decreased some and his symptoms
make him feel like not really being around people at times because of the many staring episodes
he receives. The patient denies any suicidal ideations or any attempts to harm anyone else.
However, the patient did state that he was tired of the mess in his head and was ready to get rid
of it, no matter how much it cost.

Dissecting folliculitis (DF) occurs predominantly in black men aged 18 to 40 years old
(Wu et al., 2008). Women and children are usually not affected, though it has been seen in other
ethnicities. The literature state the initial lesion is a follicular pustule and or papule usually
located on the vertex or occipital scalp. The expansion is noted to be in patches of perifollicular
pustules, firm or fluctuant nodules leading to abscesses.

Andrew was initially diagnosed by his presenting history. Whereas oral antibiotics,
topicals, and intralesional or systemic steroids are the current treatments of choice, current
guidelines recommend that systemic antibiotics are indicated if the disease process is recurrent
or severe (S.Sivakumaran et al., 2001).

Medications upon assessments: The patient states he using some topical medications from
another dermatologist, no sure of what they are. I advised patient to discontinue all other
medications and use only the Rx medications given on this initial visit.

Allergies: Patient denies any known drug allergies.

Clinic visits: Once per month visit to another dermatology clinic for the past 9-months.

Medical Hospitalizations: Denied.

ADULT HEALTH

The medical history and physical examination are performed by the Doctor of Nursing
Practice-advance practice nurse. The DNP student assessed the findings and provides follow-up
care.
Review of systems/medical history: Objective

Physical Exam: General: The patient is a well-developed, well nourished black male in on apparent distress.

Eyes: Conjunctiva and lids appear normal.

ENMT: Lips, tongue, and gums appear normal.

Lymphatic: no evidence of lymphadenopathy in neck.

Extremities: Hands and nails appear normal

Neuro/Psych: Patient is oriented to person, place, and time and seemed interested in, although not severely depressed, anxious, or agitated concerning the skin condition.

SKIN: Large tender, painful, erythematous, subcutaneous nodules on the scalp. Many of the lesions have ruptured. There is weeping of a foul smelling pustular exudate noted.

Assessment:

Abscess, acute/chronic NOS, 682.9

Alopecia, 704.09

Dissecting cellulitis, scalp, 682.8

Pruritus general, 698.9

Perifolliculitis, scalp 686.00

New Patient Level 5, 99205

Intralesional Injection 11901

Fungal Culture-scalp, 87101

Insurance: United Health Care -HMO
**Plan:**

Explained to patient the infectious cause of abscesses.

Told patient some abscesses must be surgically removed to cure.

Oral antibiotics are often necessary for cure.

Hot compresses are effective in helping lesions to dry up.

Do not squeeze abscess, this may spread the infection.

Lancing the abscess may not cure it.

70 mg IM kenelog injection.

**Medications:**

Clobex 0.05% Shampoo: Disp: 4 oz  Sig: Massage into entire scalp, and leave in place for 15 minutes before lathering and rinsing. (Refills-4).

Olux Complete Pack: Sig: Apply to affected areas twice per day. Disp: 100 g  Refills-2).

Domeboro tabs or packs (Disp: # 90) Sig: Dissolve one in a pint of water and apply as a wet compress for 15 minutes three times daily (Refills-4).

Levaquin 500mg (Disp: 30) Sig: Take one tab by mouth daily. (Refill-1)

Darvocet-N 100 (Disp: 20) Sig: Take one tab by mouth every 4-6h as needed for pain.

**Follow up:**

Return to the clinic in 3 weeks.
CASE FORMULATION

Andrew is a 25-year-old otherwise healthy black male complaining of persistent red, tender, inflamed, painful draining scalp lesions that have been present for the past nine months. The patient has been using other prescribed meds. The condition of the problem is moderately severe and has not really responded to previous treatments. The nodules have been weeping odiferous exudates. He was afebrile. The lesions caused progressively worsening alopecia accompanied by drainage that is often purulent. The lesions have been excised and drained in the past; a recent culture grew gram-positive cocci. Examination of the scalp revealed several tender 2- by 4-cm warm fluctuant nodules with central alopecia overlying the skin. The patient is presently itching and excoriating the involved areas of the scalp. The patient does have a previous history of boils. There is a family history of skin problems in the mother or father or siblings. Past medical history is negative for skin disease. The patient denies cold or heat intolerance, constipation, or dry skin.

A comprehensive plan of care for the management of a patient with scalp lesions is mainly centered on pharmacotherapy. Dissecting folliculitis of the scalp can grow into a widespread, hypertrophic scarred lesion that is unresponsive to the usual treatment protocol (Bachynsky et al, 1992). If this happens, radical excision of the affected area and concurrent perioperative treatment is essential.

INITIAL PLAN

Weeks 1-3: 70 mg IM injection in office on initial visit. Start medications as prescribed. Clobex shampoo, olux complete pack, domeboro tabs, levaquin, darvocet. Return to office in 3 weeks for f/u care. Patient advised to call if having any adverse reactions to medications, especially any rashes of unknown etiology, patient verbalizes understanding.
The patient did not return to office after 3 weeks for follow-up care. The patient returned to clinic 3 months later. Upon assessment, the patient states scalp started to feel much better after the first visit and now the symptoms are re-occurring, “that is why I am back today.”

**Plan:** 70 mg IM kenelog injection, re-initiated the plan of care as stated above. Clobex shampoo, olux complete pack, domeboro tabs or pack, levaquin and darvocet, advises patient to return to clinic in 3 weeks for follow-up therapy, again patient verbalizes understanding.

**3 weeks follow-up:** Patient started on intralesional scalp injections and remains on current medication regime. Patient advised to return to clinic in 3 weeks, pt verbalizes understanding.

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07/20/2009

**SUBJECTIVE:**

Andrew a 25-year-old black male return for follow-up of a red, tender, painful nodule on the scalp diagnosed as an Abscess. The problem has been treated for a few months. The patient has been taking the medications as prescribed and directed. The condition of the problem continues to be moderately severe but has only slightly improved and has been somewhat responsive to treatment. The patient has not experienced any side effects from the medication. There is a family history of skin disease. The patient continues to deny any cold or heat intolerance, constipation, dry skin.

**OBJECTIVE:**

Physical Exam General: The patient is a well-developed, well-nourished black male in no apparent distress.
Eyes: Conjunctiva and lids appear normal

ENMT: Lips, tongue and gums appear normal

Lymphatic: no evidence of lymphadenopathy in neck.

Extremities: Hands and nails appear normal

Neuro/psych: Patient is oriented to person, place and time and seemed interested in, although not depressed, anxious or agitated concerning the skin condition.

Skin: Large tender, painful, erythematous, subcutaneous nodules semi-covering the scalp. Many of the lesions have ruptured. There is weeping of pustular exudates.

ASSESSMENT:

Abscess, chronic NOS 682.9

Pruritus, 698.9

Alopecia, 704.09

Dissecting cellulitis, scalp 682.8

PLAN:

Explained to patient the infectious cause of abscesses.

Told patient some abscesses must be surgically removed to cure.

Oral antibiotics are often necessary for cure.

Hot compresses are effective in helping lesions to dry up.

Do not squeeze abscess, this may spread the infection.

Scalp injections 40mg kenelog

Start intravenous therapy in one month.
**Medications:**
Continue as ordered, until otherwise noted.

**Follow-up:** one month

08/03/2009

**SUBJECTIVE:** no change from previous visit

**OBJECTIVE:** no change from previous visit

**ASSESSMENT:** no change from previous assessment

**PLAN:** Incision and drainage of abscess (eg, carbuncle, suppurative hidradenitis, cutaneous or subcutaneous abscess, cyst, furuncle, or paronychia); simple

Patient will start intravenous therapy as soon as possible.

Patient referred to the Arlington Infusion center for Intravenous therapy- orders faxed.

**MEDICATIONS:**

Avelox 750 mg IV Q24 hours x 7 days.

Ceclor CD (cefaclor) 500g Disp: # 90 Sig: Take one tablet twice daily with food.

**FOLLOW-UP:** One week after intravenous infusion complete, patient verbalizes understanding.

08/24/2009

**PLAN:** 40 mg kenelog scalp injection

Start vancomycin intravenous therapy.
08/25/2009

Spoke with infusion nurse, states patient is better, but continues to have drainage. Orders faxed to place a PICC line for Vancomycin infusion. Infusion nurse states she will contact patient and set up payment arrangements to begin therapy.

Vancomycin 2 grams IV Q24 x10 days

Labs: Vancomycin peak and trough with 3rd dose.

08/31/2009

**LAB:**

Vancomycin, Trough 2.0 L Reference Range 5.0-10.0mg/L

09/01/2009

Discontinue Vancomycin

Start Cubicin 6mg/kg IV x 5 days

Patient weight: 230lbs

Telephone order to Arlington Infusion nurse.

Creatine Kinase Q Monday while on infusion of Cubicin, T.O. (telephone order).

09/07/2009

Spoke with infusion nurse states pt is now beginning to decrease the drainage with the last therapy, request to continue therapy for another 5 days; PICC may be discontinued at patients request or may continue throughout therapy treatment, T.O. (telephone order).

Continue Cubicin 6mg/kg for 5 days.
09/09/2009

Spoke with Dr. Rogers the infusion therapy medical doctor advised that patient was getting better, but needs to add solumedrol to decrease the inflammation.

**Labs:** Creatine Kinase, total 143: Reference Range 44-196 U/L.

**MEDICATIONS:**

Solumedrol 125 mg IVP x 3 days

Continue cubicin 6mg/kg as ordered.

**Labs:** Creatine Kinase, Total Q Monday while on cubicin, T.O to infusion nurse.

On 09/11/2009, the patient completed his treatment of cubicin on 09/11/2009. The PICC line was removed without difficulty, hub intact per infusion nurse.

09/14/2009

**SUBJECTIVE:**

Andrew a 25-year-old black male return for follow-up of a red, tender, painful nodule on the scalp diagnosed as an Abscess. The problem has been treated for a few months. The patient has been taking the medications as prescribed and directed. The condition of the problem continues to be moderately severe but has improved and has been responsive to treatment. The patient has not experienced any side effects from the medication. There is a family history of skin disease. The patient continues to deny any cold or heat intolerance, constipation, dry skin.
**OBJECTIVE:**

Physical Exam General: The patient is a well-developed, well-nourished black male in no apparent distress.

Eyes: Conjunctiva and lids appear normal

ENMT: Lips, tongue and gums appear normal

Lymphatic: no evidence of lymphadenopathy in neck.

Extremities: Hands and nails appear normal

Neuro/psych: Patient is oriented to person, place and time and seemed interested in, although not depressed, anxious or agitated concerning the skin condition.

Skin: Large tender, painful, erythematous, subcutaneous nodules semi-covering the scalp. Many of the lesions have ruptured. There is weeping of pustular exudates.

**ASSESSMENT:**

Abscess, chronic NOS 682.9

Pruritus, 698.9

Alopecia, 704.09

Dissecting cellulitis, scalp 682.8

**PLAN:** 20 mg kenelog scalp injection

Continue IV therapy as ordered via infusion center, pt verbalizes understanding

**Medications:**

Continue as ordered, until otherwise noted.
Follow-up: Return to clinic in two weeks.

09/29/2009

SUBJECTIVE:
Andrew a 25-year-old black male return for follow-up of a red, tender, painful nodule on the scalp diagnosed as an Abscess. The problem has been treated for several months. The patient has been taking the medications as prescribed and directed. The condition of the problem continues to be moderate, but has improved significantly and has been responsive to treatment. The patient has not experienced any side effects from the medication. There is a family history of skin disease. The patient continues to deny any cold or heat intolerance, constipation, dry skin.

OBJECTIVE:
Physical Exam General: The patient is a well-developed, well-nourished black male in no apparent distress.
Eyes: Conjunctiva and lids appear normal
ENMT: Lips, tongue and gums appear normal
Lymphatic: no evidence of lymphadenopathy in neck.
Extremities: Hands and nails appear normal
Neuro/psych: Patient is oriented to person, place and time and seemed interested in, although not depressed, anxious or agitated concerning the skin condition.
Skin: Large tender, painful, erythematous, subcutaneous nodules semi-covering the scalp. Many of the lesions have ruptured. There is weeping of pustular exudates.
ASSESSMENT:

Abscess, chronic NOS 682.9
Pruritus, 698.9
Alopecia, 704.09
Dissecting cellulitis, scalp 682.8

PLAN: 70 mg kenelog IM injection
Continue IV therapy as ordered via infusion center, patient verbalizes understanding.

Medications:
Continue as ordered, until otherwise noted.

Follow-up: Return to clinic in one month.

10/6/2009

I spoke with patient today as this ends another seven days of IV therapy, patient states he is doing much better, but thinks he should continue with medicines until clear.

I then preceded to call the infusion center spoke with the medical doctor he advised of the same, pt is doing well, but should continue with the current therapies, orders faxed to infusion nurse to continue therapy.

Medication Orders:
Solumedrol 125mg IV Q24h x 7 days
Cubicin 6mg/kg IV Q 24 h x 7 days
Rocephin 2gm IV Q24h x 7 days

Lab orders:
Creatine Kinase Q Monday while on cubicin IV.
10/19/2009

Labs: Creatine Kinase, 113

Medication Orders: Continue medications as ordered
Solumedrol 125mg IV Q24h x 7 days
Cubicin 6mg/kg IV Q 24 h x 7 days
Rocephin 2gm IV Q24h x 7 days

Lab orders:
Creatine Kinase Q Monday while on cubicin IV.

10/30/2009
Lab: Creatine Kinase, 130

Today, I spoke with the infusion nurse, reports that patient is doing well, at present there are no signs/symptoms of active drainage, pt advised to make follow-up with clinic office for evaluation the first week of November, 2009.

CASE CONCLUSIONS

Per conversation with infusion nurse and medical doctor overseeing this patient’s intravenous therapy, Andrew had a positive response to cubicin, with rocephin and solumedrol. His symptoms abated, the DNP-advanced practice nurse will see patient in clinic this week for evaluation of chronic abscesses causing dissecting cellulitis and alopecia scarring of the scalp.

Continuity of care: Follow-up is schedule within this upcoming week.
CLINICAL CONCLUSIONS

Dissecting cellulitis (perifolliculitis abscedens et suffodiens may wax and wane for years, eventually ending up with some hypetropic scarring and permanent hair loss (Sperling, 2001). Seldom does a diagnosis of dissecting cellulitis pose problems for the clinician. The etiology of dissecting folliculitis is thought to be associated with an atypical follicular occlusion with subsequent suppuration (S. Sivakumaran et al, 2001). The literature attributes dissecting folliculitis of the scalp to a rare chronic suppurative disease, affecting adult black males ages 18 to 40.

Pharmacotherapy is the mainstay of the comprehensive management of care for patients presenting with scalp abscesses resulting in dissecting cellulitis. The anti-inflammatory action of corticosteroids and its proven effectiveness in treating inflammatory responses, should provide a useful therapeutic modality in the management of dissecting cellulitis of the scalp.

Treatment of this relapsing condition leading to progressive scarring alopecia has been notoriously difficult (Powell, Dawber, and Gatter, 1999). According to the literature, vancomycin is effective against methicillin-resistant organisms, but only produces brief responses. Relapse is often observed after discontinuation of the antibiotics. Monthly scalp injections of triamcinolone acetonide into the hair covered areas of scarring alopecia can stop the progress of further spread of the disease and reduce symptoms of itch and burning.

CASE DISCUSSION

The following issues are raised in this case study:

1. Knowledge of evidence-based practice literature is critical in the practice of evaluation and treatment of scalp abscesses resulting in dissecting cellulitis.

After completion of assessment and evaluation, the patient was place on the conventional treatment of oral antibiotics with topical medications and intralesional injections. An accurate diagnosis was made however, the literature state that the numerous medical and surgical treatments proposed (topical, systemic antibiotics, and surgical excision of the scalp) clearly indicate the well known resistance of this disease to treatment (Scavo et al, 2002).
Therapy was started with oral antibiotics, topicals, intramuscular injection, which resulted in clearance of the small pustules and reduction in the size of the larger abscesses within the first month. New lesions continued to appear however, with an increase in frequency. After three months of therapy there was evidence of scarring alopecia.

Clinically, the condition is characterized by the formation of deep abscesses, comedones, and fluctuant nodules, discharging pus or semipurulent mucoid (Bachynsky et al, 1992). The disease process is almost seen exclusively in black African-American males, affecting women less often. According to the literature, dissecting folliculitis can result in permanent scarring alopecia that can be unresponsive to treatment.

There is no permanent eradication of this relapsing condition. Systemic antibiotics often produce only a brief response to management therapy J.J. Powell et al, 1999). Evidence-based medicine proves that corticosteroids show signs of inflammatory suppression with no lasting effects.

Questions:

1. Do you think this patient have incurred some psychosocial problems as the initial treatment regimes have been unsuccessful?

2. Why not start systemic antibiotics as an initial treatment regime for chronic scalp abscesses?
References


POWELL, DAWBER, & GATTER. (1999). Folliculitis decalvans including tufted folliculitis: Clinical, histological and therapeutic findings. *British Journal of Dermatology, 140*(2),

