DST-704 Cellulitis: Pediatric

DEFINITION

An acute, diffuse, spreading infection of the skin, involving the deeper layers of the skin and the subcutaneous tissue.

Nurses with Remote Practice Certified Practice designation (RN(C)s[1]) are able to treat children with non-facial cellulitis who are **2 years of age and older.**

POTENTIAL CAUSES

- Bacteria: most commonly *Staphylococcus* species
- In B.C., methicillin resistant staph aureus comprises over 25% of staph aureus infections.

PREDISPOSING RISK FACTORS

- Local trauma (e.g., lacerations, burns, insect bites, wounds, shaving)
- Skin infections such as impetigo, scabies, furuncle, tinea pedis
- Underlying skin ulcer
- Fragile skin
- Immunocompromised host
- Diabetes
- Inflammation (e.g., eczema)
- Edema secondary to venous insufficiency or lymphedema
- Known methicillin resistant staph aureus (MRSA) positive (family or household member)

Note: If human, cat or dog bite was the original trauma, see Pediatric Bites DST

TYPICAL FINDINGS OF CELLULITIS

History

- Presence of predisposing risk factor
- Area increasingly red, warm to touch, painful
- Area around skin lesion also tender but pain localized
- Edema
- Mild systemic symptoms – low-grade fever, chills, malaise, and headache may be present
- Known MRSA positive

Physical Assessment

- Local symptoms:
  - Erythema and edema of area
  - Warm to touch
  - Possibly fluctuant (movable and compressible – fluid-based)
  - May resemble peau d'orange
  - Advancing edge of lesion diffuse, not sharply demarcated

[1] RN(C) is an authorized title recommended by BCCNP that refers to BCCNP-certified RNs, and is used throughout this Decision Support Tool (DST).

  - Small amount of purulent discharge may be present
  - Unilateral
- Systemic indications:
  - Increased temperature
  - Increased pulse
  - Lymphadenopathy of regional lymph nodes and/or lymphangitis

Diagnostic Tests

Swab any wound discharge for culture and sensitivity (C&S)

MANAGEMENT AND INTERVENTIONS

Note: Do not underestimate cellulitis. It can spread very quickly and may progress rapidly to necrotizing fasciitis. It should be treated aggressively and monitored on an on-going basis.

Goals of Treatment for Mild Cellulitis

- Resolve infection
- Identify formation of abscess
- Check tetanus prophylaxis

Non-pharmacologic Interventions

- Apply warm or, if more comfortable, cool saline compresses to affected areas qid for 15 minutes.
- Mark border of erythema with pen to monitor spread of inflammation.
- Elevate, rest and gently splint the affected limb.

PHARMACOLOGIC INTERVENTIONS

Ensure recent weight obtained for medications where dose is dependant on weight

Analgesics

acetaminophen 10-15mg/kg/dose po q4-6 hours prn Do not exceed 75mg/kg in 24 hours, from all acetaminophen sources

OR

ibuprofen 5-10mg/kg/dose po 4-6 hours prn Do not exceed 40mg/kg in 24hr

Antibiotics

Oral antibiotics if MRSA not suspected:

cephalexin 25-50 mg/kg/day po divided qid for 5-7 days

OR

cloxacillin 50 mg/kg per day po divided qid for 5-7 days

Clients with penicillin or cephalosporin allergy (e.g. cephalexin):

clindamycin 25-30 mg/kg/day po divided tid for 5-7 days

Clients with known community acquired MRSA or purulent cellulitis:

trimethoprim-sulfamethoxazole 8-12 mg/kg/day po (dosing is based on trimethoprim component) divided bid for 5-7 days

Pregnant Women (dosing as above)

- Cephalexin, cloxacillin, and acetaminophen may be used as listed above.
- DO NOT USE trimethoprim-sulfamethoxazole or ibuprofen

Breastfeeding Women (dosing as above)

- Ibuprofen can be used in breast feeding after consultation with physician or nurse practitioner.
- DO NOT USE trimethoprim-sulfamethoxazole

POTENTIAL COMPLICATIONS

- Extension of infection
- Abscess formation
- Sepsis
- Necrotising fasciitis
- Recurrent cellulitis

CLIENT/CAREGIVER EDUCATION AND DISCHARGE INFORMATION

- Advise on condition, timeline of treatment and expected course of disease process.
- Counsel client about appropriate use of medications (dose, frequency, compliance).
- Encourage proper hygiene of all skin wounds to prevent future infection.
- Stress importance of close follow-up.
- If shaving is the cause, educate the client about shaving with the hair growth.

MONITORING AND FOLLOW-UP

- Follow-up daily to ensure that infection is controlled.
- Instruct parent or caregiver to return for reassessment immediately if lesion becomes fluctuant, if pain increases, if cellulitis spreads or if fever develops.

CONSULTATION AND/OR REFERRAL

- Consult with or refer to a physician or nurse practitioner if:
- New systemic symptoms present or progression of disease is rapid,
- no improvement after 48 hours of antibiotics,
- client is diabetic and /or immunocompromised,
- pain is out of proportion to the clinical findings,
- cellulitis is over or involves a joint, or
- any facial cellulitis.

DOCUMENTATION

As per agency policy

REFERENCES

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

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