Vulvar Swelling and Bicyclist's Vulva

Background

1. General info
   - Swelling of external genitalia unilaterally (more common) or bilaterally in female cyclist
   - Generally mild symptoms
   - Responds to time off saddle
   - Pain minimal
   - Bicyclist's Vulva: observational study, British Medical Journal
   - Overuse injuries occur in cyclists who regularly ride, especially those involved in competition
   - Ensuring that bike fit is correct is major factor in preventing overuse syndromes

2. Definition:
   - Swelling of female external genitalia associated w/cycling

3. Described in 2002 as unilateral chronic swelling of labia majora in six high volume (avg 462.5 km per week) female cyclists

Pathophysiology

1. Pathology of dz
   - Thought to be due to external pressure on genitalia
   - May be lymphatic in origin d/t damage in inguinal region from compression from bent posture of racing position
     - Higher pressure and discomfort on female external genitalia when cyclist in a more bent position
       - Back 40° from horizontal
       - Versus more upright position of back 60° from horizontal
   - Some research suggests that saddle w/central cut-out creates higher focal pressures across female external genitalia than w/flat racing saddle
     - Such incr pressure may cause soft-tissue or lymphatic injury in female external genitalia

2. Incidence/ prevalence
   - Unknown

3. Risk factors
   - Cycling
   - Incr saddle time
   - Saddle design may play role

4. Morbidity
   - Minimal if any discomfort
   - Vulvar swelling
   - No documentation of long term risks

Diagnostics

1. History
   - Complaint of swelling of external genitalia
   - Fullness of genitalia
   - Discomfort
2. Physical examination
   - Unilateral or bilateral chronic swelling of labia majora
   - Painless
   - Firm, non-fluctuant

3. Diagnostic testing
   - For acute vulvar swelling r/t recent cycling, testing not warranted
   - For persistent swelling and edema typical of "bicyclist's vulva" it is unclear whether further testing needed
   - Lymphoscintigraphic studies used in research

**Differential Diagnosis**
1. Cellulitis
2. Abscess
3. Bartholin's duct abscess
4. Hematoma
5. Soft tissue mass

**Therapeutics**
1. Interventions
   - Decr saddle time and training volume
   - More freq standing during cycling
   - Raise handlebar for "relaxed geometry"
     - More upright back decr pressure on external genitalia
   - Switch saddle type
     - Try flat saddle if riding cut-out saddle
     - Try cut-out if riding flat saddle
   - Wear padded cycling shorts
   - Appropriate personal hygiene
   - Elevation of lower limbs and pelvis during rest may assist in lymphatic drainage
   - Cold compresses to vulvoperineal region after training
   - Physiotherapy to assist lymphatic drainage

**Follow-Up**
1. Return to office
   - As needed based on symptoms and progress
2. Refer to specialist
   - Consider gynecology if problem persists

**Prevention/ Screening**
1. See Interventions

**References**