

# **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**

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4. Frobose I, Baeyens L, Tofaute K. Ergonomics of two bicycle saddles. *Deutsche Sporthochschule Koln*. Germany. March 2003

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